

**Transactional sex among young women in rural
South Africa: socio-demographic factors,
motivations and association with HIV infection**

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I, Meghna Ranganathan, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Meghna Ranganathan

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ABSTRACT

Background: ‘Transactional sex’, is generally defined as a sexual relationship in which money or material goods are exchanged for sex. As this may entail sex with older or multiple partners, it is likely to be associated with young women’s increased vulnerability to HIV or HSV-2 infection. Existing research illustrates that the motivations for young women’s engagement in transactional sex are complex. This PhD study explores the socio-demographic factors that motivate young women to engage in transactional sex and the relationship with HIV or HSV-2 infection.

Methods: This thesis uses a combination of quantitative and qualitative methods. The quantitative analysis uses baseline data from HPTN 068, an ongoing randomised controlled trial (RCT) in rural Mpumalanga province, South Africa. Using both descriptive statistics and multivariable logistic regression analysis, I have quantitatively explored the relationship between household socio-economic status and socio-demographics, young women’s self-reported engagement in transactional sex, specific characteristics of her consumption patterns and the relationship between transactional sex and HIV and HSV-2 infection. I have also used qualitative methods to explore the strategies young women deploy for accessing money or gifts, the role that transactional sex plays in meeting these aspirations and the agency she exhibits in these encounters.

Results: Multivariable analysis shows that young women from low socio-economic status households who engage in transactional sex have higher odds of consuming a combination of both high cost essential items (such as school fees, transport to school and food and groceries) and entertainment related items (such as beer/alcohol, movie tickets and birth control/condoms) compared to young women who do not engage in transactional sex. In addition, after adjusting for age and household level socio-demographics, young women who report engaging in transactional sex had significantly increased odds of being HIV seropositive. No association with HSV-2 infection was seen. The association between transactional sex and HIV does not appear to

be mediated by any of the other dimensions of HIV risk that might ordinarily overlap with transactional sex.

Qualitative findings suggest that belongingness, peer acceptance and status were all factors that motivated young women to aspire for items considered needs or wants. In-depth interviews also showed how young women have a deep-seated need to feel financially independent and have aspirations for lucrative job opportunities in the future, which they hope to achieve through education. But, given their current context where economic opportunities are circumscribed, young women use the money received from transactional sex to fill gaps in their needs and wants. Most of them appear to be in “love” with their boyfriends and have romantic notions of what they want from the relationship, but underlying it all very clearly is the need to be provided for by the man, in the form of money. Thus, the balance between the emotional and transactional elements in a relationship is blurred. Young women appear to express considerable agency when it comes to partner choice, but not necessarily after the choice of partner is made; as within the relationship they invariably submit to male authority within unequal gendered power structures.

Discussion: Findings suggest that there is not a clear dichotomy between the survival sex of the passive victim and the consumption sex of the active sexual agent; rather, these distinctions are far more nuanced. Engagement in transactional sex seems to be driven by poverty and economic need, but also by aspirations within the context of a globalising emerging economy like South Africa. In addition, these findings also indicate the subtle position that transactional sex or sexual exchange occupies within a continuum of adolescent sexual relationships in South Africa where sexual exchange occurs within the context of loving peer relationships. This potentially weakens the negotiating or bargaining position of young women if they are receiving money or items, thus having implications on HIV prevention and programming.

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ABBREVIATIONS

HIV/AIDS	Human immunodeficiency virus infection / acquired immunodeficiency syndrome
HSV-2	Herpes Simplex Virus 2
DHS	Demographic and Health Surveys
HPTN	HIV Prevention Trials Network
RCT	Randomised Controlled Study
AHDSS	Agincourt Health and Demographic Surveillance Site
MSM	Men who have sex with men
ART	Anti-retroviral therapy
SES	Socio-economic status
HCE	High cost essentials
LCL	Low cost luxuries
EBC	Entertainment related and birth control

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CHAPTER 1: Introduction

1.1 Background

Adolescents¹ (aged 10-19 years) comprise almost one fifth of the world's population numbering an estimated 1.2 billion globally (1). Almost a quarter of these adolescents live in sub-Saharan Africa, and the number of adolescents in that region is expected to double by 2050 (2). In general, adolescence is considered to be a period of the lifespan involving significant physical, cognitive and psychological changes that mark the transition to adulthood (3). This is also a stage of life when social and gender roles are reinforced and adolescents face increasing pressure to undertake adult roles and responsibilities, often before they are physically and psychologically mature (4). Sexual maturation during adolescence not only brings fertility and the possibility of adult sexual relations, but also changed relationships with parents and peers (3). Consequently, along with social and economic pressures accompanying this transition to adulthood, adolescents can become particularly vulnerable to HIV infection, as they start becoming sexually active or begin to experiment with drugs and alcohol (5).

At the end of 2012, approximately 2.2 million (6.5%) of the estimated 33.3 million people living with HIV globally were adolescents; more than 80 per cent of them in sub-Saharan Africa² (see figure 1.1) (1,6,7). While the number of global AIDS-related deaths for all ages fell by 30 per cent between 2005 and 2012, deaths increased by 50 per cent among adolescents in that period (1,7).

Young adolescent women (hereafter referred to as young women) are especially affected among

¹ Historically defined by the World Health Organisation (WHO) as the period between ages 10 and 19 years. It is derived from the Latin *adolscere*—the present participle *adolescens* means growing up, whereas the past participle *adultus* means grown up. The age group for adolescents (10-19 years) and young people (15-24 years) is not standard across settings or research studies. In South Africa, for example, the age range of a young person is up to 35 years as outlined in the National Youth Policy (270). However, for the purposes of this study, since the age range of young women in the main trial is between 13-20 years, I have chosen to use the WHO definition of an adolescent (referred to as 'young women' in this study).

² UNICEF analysis of UNAIDS 2012 HIV and AIDS estimates

them. In 2012, approximately two thirds of new HIV infections in adolescents aged 15–19 years were among young women, mainly in sub-Saharan Africa (see figure 1.1) (6). In South Africa particularly, 82 per cent of adolescents aged 15-19 years who were newly infected with HIV were young women (1). Structural factors, such as social and economic inequalities, low social status, household poverty and food insecurity, poor quality education and violence limit opportunities for young women. Where HIV prevalence is high, these factors combine with increased biological vulnerability and limited knowledge about HIV to render young women more vulnerable to HIV infection (5,8).

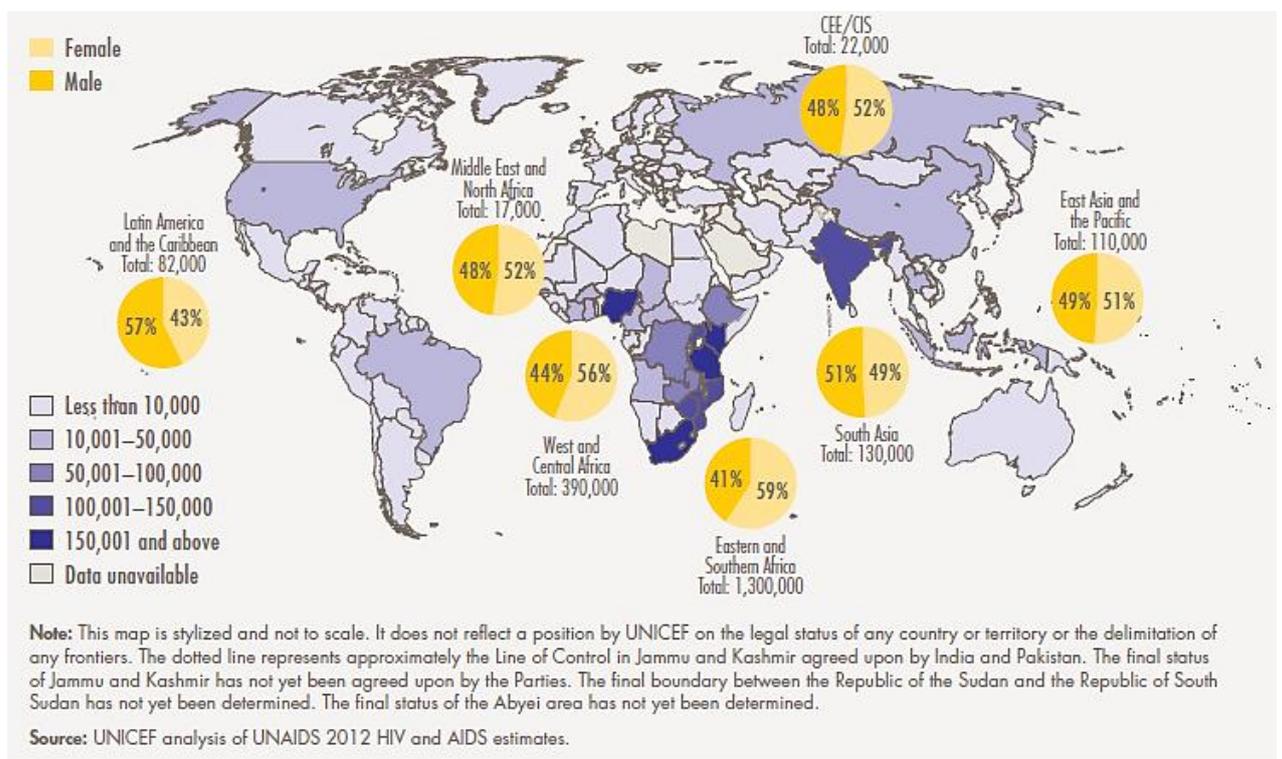


Figure 1.1 Estimated number of adolescents aged 10-19 living with HIV, by country, and male/female percentages (2012) ¹

1.2 Transactional sex in young women

One of the relationship dynamics that has been associated with young women’s increased vulnerability to HIV is transactional sex. (9–11). Based on evidence from the region, the term ‘transactional sex’, or sexual exchange, referred to in this thesis is defined as a sexual relationship whereby men and women exchange sex for, or in anticipation of, material possessions or favours (such as money, clothing, transportation, school fees, rent or status) (12).

It is considered to be sex framed outside of prostitution or sex work by those who participate in the exchange (12). Reflecting economic and social roles within many high HIV prevalence countries, it is predominantly men who provide and women who receive these material benefits in transactional sexual encounters (10,11,13,14). An analysis conducted on population-based DHS data of transactional sex in the past 12 months among men and women aged 15-49 years from 12 sub-Saharan African countries suggests that transactional sex among women is variable across settings (ranging from 2% – 26.6%) (15). This analysis also indicated that young men (aged 15-24 years) were substantially more likely to report transactional sex than men 25 years and older. This result was statistically significant in 7 of the 12 countries (15). The academic literature highlights that the motivations for young women's engagement in transactional sex are complex; economic reasons can be an important determinant, with young women using sex to access essential resources, including food, school fees or books. In addition, peer or family pressure or young women's aspirations for expensive goods may also be important motivating factors (16,17). In the subsequent literature review chapter (Chapter 2) I discuss further details on factors that motivate young women to engage in transactional sex.

There are a range of pathways through which transactional sex may increase HIV vulnerability among young women – including sexual relations between a younger girl and an older man (who is more likely to be HIV infected) (18–20), sex under the influence of alcohol or drugs (21,22), having multiple sexual partners or engaging in a relationship with a man who concurrently has other partners (23–25). Either together or separately these aspects of transactional sex may make young women engaging in the practice especially vulnerable to HIV infection. In addition, gender norms and unequal power between a young woman and her partner within relationships, undermines condom negotiation and increases the likelihood that her lover will have outside sexual partners, thus increasing her HIV risk (26–28). To inform and support policies that effectively address this vulnerability, more research on contextual factors that motivate young women to engage in transactional sex and the potential relationship with HIV is vital.

The thesis presented here sets out to further contribute to this evidence base.

1.3 Study setting

My PhD research is embedded in a large ongoing conditional cash transfer (CCT) trial in rural South Africa known as '*Swa Koteka*' (translated from Shangaan means 'it is possible') which is funded by the HIV Prevention Trials Network (HPTN 068). The trial is a collaboration between the University of North Carolina at Chapel Hill, USA and two South African institutions based at the University of Witwatersrand - Wits Reproductive Health and HIV Institute, (WRHI), South Africa (previously the Reproductive Health & HIV Research Unit (RHRU)) and the Medical Research Council/Wits Rural Public Health and Health Transitions Research Unit (MRC/Wits Agincourt Unit). The trial has evolved from the previous work of a multidisciplinary team of researchers who have conducted numerous epidemiological, behavioural and HIV prevention interventions and research both domestically and internationally (29,30).

The research was conducted in the sub-district of Agincourt in rural Mpumalanga Province, an area with high levels of poverty and unemployment (please see section 4.3, page 77 for details on the study setting). The MRC/Wits³ Agincourt Unit runs the Agincourt Health and Demographic Surveillance System (AHDSS) in this area. The overall purpose of this four-year randomised controlled trial which began enrolment in March 2011 is to determine whether providing cash transfers to young women and their households, conditional on school attendance reduces HIV incidence among young women. The intervention involves individually randomising young women aged 13 to 20 years to receive a monthly cash transfer, conditional on the young woman attending school. The AHDSS was used as a platform to identify eligible households and young women. The total sample size is 2533 young women and their households (one young woman per household). The eligibility criteria to participate in the trial included females aged 13 to 20 years, enrolled in grades 8, 9, 10 or 11 at the beginning of the study at schools in the AHDSS study site,

³ Medical Research Council (MRC)/Wits Rural Public Health and Health Transitions Research Unit (Agincourt), South Africa

intending to continue to live in the study site until the end of the follow-up period, willing and able to consent/assent to all study procedures including HIV and HSV-2 testing, parent/legal guardian who lives with young woman, willing and able to consent to all study procedures including HIV and HSV-2 testing. This is because even though the legal age for consent to sex in South Africa is 16 years, a person is considered to be a child, when he or she is under the age of 18. Hence, most South African research ethics committees have relied on the recommendations made in ethical guidelines which broadly require parental or guardianship consent for research plus the assent of the child until the participant is 18 years of age (31).

Young women in the intervention arm received a cash stipend if they attend school. The households of young women received a cash transfer of R200 per month (~USD 26) and the young woman receives R100 per month (~USD 13), conditional on the young woman attending at least 80% of school days per month. Monitoring of school attendance in the intervention arm takes place by using daily attendance registers and is assessed monthly to determine young woman's eligibility to receive the transfer.

Since my research is embedded in this trial, I have analysed the baseline survey and sampled from the baseline control arm for conducting focus group discussions and in-depth interviews. Due to ethical reason and conditions determined by the funder I could not sample young women external to the trial which resulted in certain limitations discussed in Chapter 4.

1.4 Thesis aim and research objectives

My PhD research is nested within the HPTN 068 trial and is exploring transactional sex among young women as one of the potential pathways through which young women are made vulnerable to HIV or HSV-2 infection.

The overall aim of my Ph.D. research is to explore what factors are associated with young women's engagement in transactional sex, the underlying motivations for their engagement, and the degree to which sexually active adolescents who report engaging in transactional sex, or having particular patterns of consumption, are more likely to be infected with HIV or HSV-2, in the context of the HPTN 068 ("Swa Koteka") trial in rural South Africa.

Specifically, the four objectives of the thesis are:

Objective 1: To quantify whether at baseline the young women's household's⁴ socio-economic status (SES) and other⁵ socio-demographic characteristics are associated with their reported engagement in transactional sex and the relationship between transactional sex and consumption patterns⁶.

Objective 2: To explore qualitatively, young women's perceptions about what consumption items they consider 'necessary' (need) or desirable ('wants), the motivations for acquiring these different items, and the potential role of transactional sex in their acquisition.

Objective 3: To quantify the association between young women's reported engagement in transactional sex and their HIV and HSV-2 status and whether the relationship is mediated by different aspects of sexual behaviour and/or relationship dynamics.

⁴ The concept of a household and family are technically different (household is defined as a group of two or more persons living together who make common provision for food or other essentials for living and family is defined as those members of the household who are related, to a specified degree, through blood, adoption or marriage (271)), However, in this trial they have been used interchangeably as in order to be eligible for this trial, the young woman has to have a parent or a primary caregiver who is the guardian and she resides with, hence both the household and family essentially serve the same care giving function for the young woman.

⁵ Other variables (e.g. number of household members, educational level of primary caregiver) have been chosen as they can be considered to be proxy variables for poverty levels in the household

⁶ Consumption patterns refer to 12-items in the consumption module of the baseline survey. These are: scented soap, skin creams or lotions; cell phone, airtime or ringtones; shoes, clothing or underwear; make-up or cosmetics; hairdressing; cool drinks, chips or sweets; food/groceries; movies or music; beer or other alcoholic drinks; birth control and/or condoms; school uniform or supplies; transport to work or school

Objective 4: To explore qualitatively young women’s perceived motivations for engaging in transactional sex, the degree of agency they perceive and exhibit in these exchanges, and their perceptions on the relationship between transactional sex and risk of acquiring HIV.

The figure below maps out the four objectives and how they relate to each other.

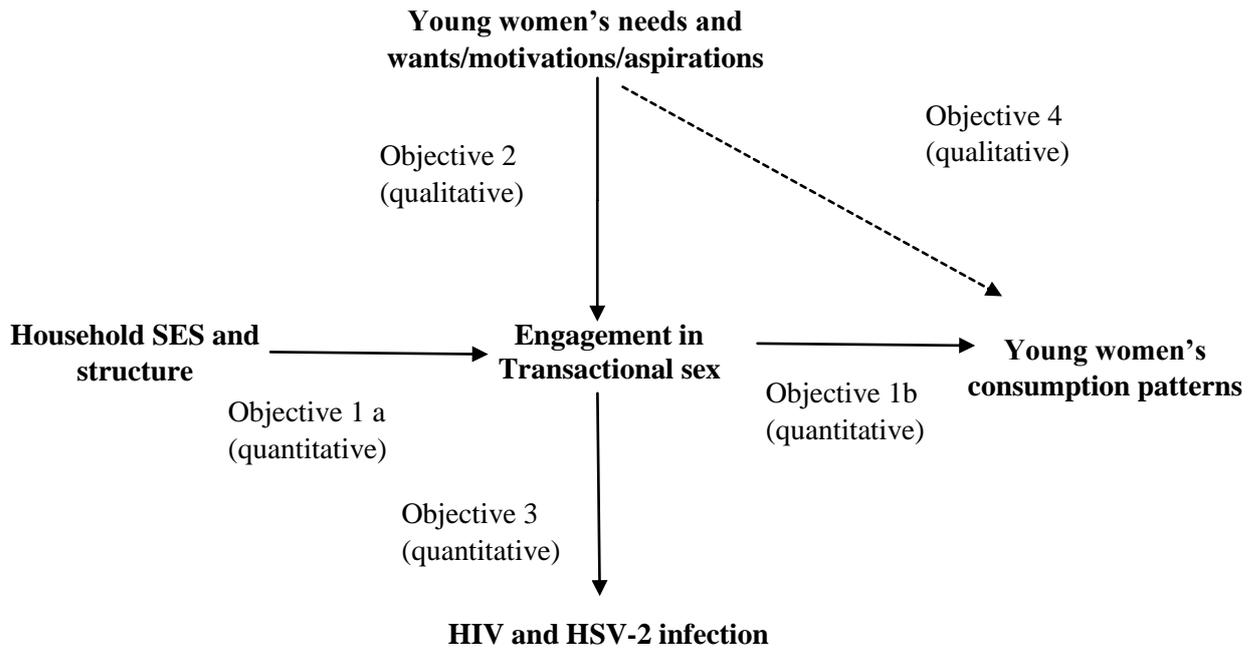


Figure 1.2 Diagrammatic sketch of objectives measured in this PhD 1

1.4 Structure of the thesis

This thesis is comprised of nine chapters. Chapters 1 through 3 provide an introduction, review of relevant literature, conceptual framework and the theoretical underpinnings. Chapter 4 presents a global overview of the thesis methods. Chapters 5 through 8 present separate pieces of analysis for the four research objectives, information on methods used that are relevant to the specific objective, the findings and a discussion of the chapter’s results. Chapter 9 presents a summary assessment of the thesis, including its main findings and their implications for future research and HIV prevention planning.

Specifically:

Chapter 1 presents the problem statement and provides an overview of the study aims and objectives;

Chapter 2 provides a review of the literature related to transactional sex and HIV risk for young women in South Africa and other contexts.

Chapter 3 describes the conceptual model for the study and details the theories that were used for this thesis.

Chapter 4 provides a detailed overview of the methods used for this PhD thesis.

Chapter 5 presents results from quantitative objective 1 that explores the relationship between household poverty, young women's engagement in transactional sex and consumption patterns.

Chapter 6 presents results from qualitative objective 2 that explores young women's perceptions on items they consider a need and a want, their strategies for obtaining these items and the role of transactional sex in meeting these aspirations.

Chapter 7 presents results from quantitative objective 3 that quantifies the association between young women's reported engagement in transactional sex and their HIV and HSV-2 status.

Chapter 8 presents results from qualitative objective 4 that explores young women's motivations for engaging in transactional sex, the degree of agency they exhibit in these sexual exchanges and their perceived relationship with HIV infection.

Chapter 9 synthesises the findings from both quantitative and qualitative objectives, discusses limitations, and presents the study's contribution and implications for policy and future research.

CHAPTER 2: Empirical Literature Review

2.1 Chapter Overview

The main objective of this chapter is to provide an overview of the literature on young women's engagement in transactional sex. The chapter begins with a brief outline of the HIV epidemic in Southern Africa (section 2.2) and South Africa (section 2.3) along with a brief description of the influence of South African history on the HIV epidemic. I then describe the HIV epidemic in young South African women (section 2.4). In section 2.5 I present an overview of transactional sex, the factors that are associated with young women's engagement in transactional sex and the potential relationship with HIV infection.

2.2 Global epidemiology of HIV and HSV-2 infection

Since the first reports in 1981 of a cluster of cases of *Pneumocystis Carinii* pneumonia in young gay men in the United States (32), HIV has become a global epidemic with an estimated 35.3 million adults and children living with HIV at the end of 2012. In the same year 2.3 million people became newly infected with HIV and 1.6 million people died of HIV related causes (33). Although rates of new HIV infections have seen a decline in recent years, the number of people globally living with HIV continues to increase, largely as a result of the scale-up of antiretroviral therapy (ART)⁷ and the consequent decline in HIV-related deaths (6).

Sub-Saharan Africa bears a disproportionate burden of the disease; this region is home to 70 percent of all new HIV infections (33). At the end of 2012, of the 2.3 million new infections globally, it was estimated that 1.6 million occurred in sub-Saharan Africa (33). Thus, although this region only constitutes around 13% of the world's population, it accounts for 35% of the world's population living with HIV (8). Prevalence⁸ is highest in parts of east and southern Africa, where the epidemic is generalised (34). While other regions in Africa have epidemics that

⁷ Antiretroviral therapy is the term for medication used to treat HIV.

⁸ The prevalence is the proportion of the population who have HIV infection

have stabilised or decreased, this is not the case for Southern Africa. In 2009, 31% of new infections occurred in the ten countries of Southern Africa, as did 34% of all AIDS-related deaths (8).

Evidence also demonstrates a substantial link between the epidemics of sexually transmitted HIV infection and herpes simplex virus type 2 (HSV-2) infection. A review of more than 30 epidemiologic studies, which includes studies with heterosexual men, women and men who have sex with men (MSM), shows that prevalent HSV-2 is associated with a 2- to 4-fold increased risk of HIV-1 acquisition (35). HSV-2 infection is also one of the most common infections among HIV-infected persons, partly because of the shared route of sexual transmission (36,37). HSV-2 affects 50%–90% of HIV-1—infected patients, with the highest infection rates among heterosexuals in sub-Saharan Africa and MSM in the Americas (37). HSV-2 acquisition rates among South African adolescents are estimated to be 10–20% per year after sexual debut, and 20% of HIV-1 seronegative and 80% of HIV-1 seropositive adolescents are HSV-2 seropositive (38).

2.3 HIV infection in South Africa

South Africa, in particular has one of the largest epidemics of HIV in the world, with a prevalence estimate of 12.2 per cent (6.1 million persons), although this obscures large variations by geographic region and locality (6,39). Based on the 2012 South African National HIV Prevalence Survey, HIV prevalence varies from 5.0 per cent in Western Cape to 16.9 per cent in Kwa-Zulu-Natal and 14.1 per cent in Mpumalanga, where my study is located (40) and rural informal area residents had a significantly higher HIV prevalence than did urban formal area residents (40).

The epidemic in South Africa is spread predominantly by heterosexual transmission (41), putting many of the sexually active population at risk for HIV and especially affecting young women of child-bearing age (5,42). Females have a significantly higher HIV prevalence than males. In

addition, the epidemiological curve has shifted from 2008 to 2012 possibly as result of increased ART coverage; peak HIV prevalence for females has shifted from the 25-29 year age group in 2008 to the 30-34 year age group in 2012 (please see figure 2.1).

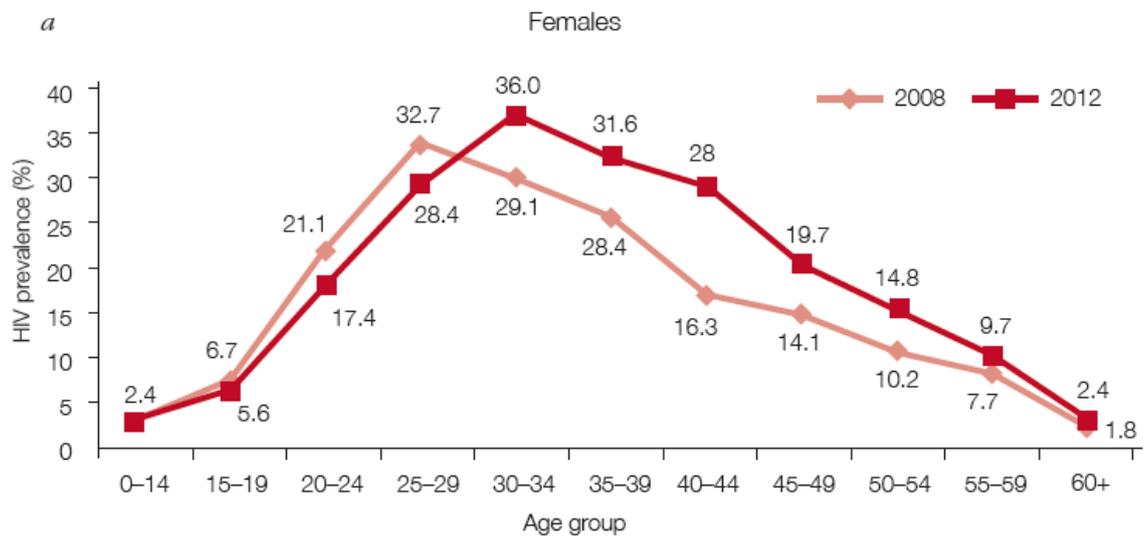


Figure 2.1 HIV prevalence in females in South Africa by age (2008-2012) based on the 2012 South African National HIV Survey (40) 1

HIV incidence⁹ data highlights the populations that continue to drive the epidemic in South Africa. Since different populations have been researched across a variety of studies — including urban residents, rural residents, sex workers and the general population — calculations of HIV incidence are varied and range from 1.8 to 17 per 100 person year (43). The 2012 South African National HIV Prevalence Survey indicates that 469,000 new HIV infections occurred in the population 2 years and older during 2012. Among adults aged 15–49 years, the number of new infections was 1.7 times higher in females than in males (40).

In responding to the HIV epidemic in South Africa, a basic understanding of the historical context of South Africa is important to help situate how the epidemic manifests itself today.

Influence of South African history on HIV

The first case of HIV infection was reported in South Africa in 1982 and this heralded the start of

⁹ HIV incidence is the estimated total number of new (total number of diagnosed and undiagnosed) HIV infections in a given period

the first wave of the HIV epidemic; at the time, the epidemic was limited to specific populations (e.g., the gay community and blood transfusion recipients) (44). This was also at a time when the country was in the midst of one of its most challenging and violent struggles against apartheid – the long-standing social, political and economic segregation of South Africans based on racial classification (44). After gaining this foothold in South Africa, the heterosexual HIV epidemic rapidly exploded in the mid-1990s – increasing from 0.76% in 1990 to about 10% in 1995 among antenatal clinic attendees (44) – at a time when the Republic of South Africa was emerging as a free democracy with the black majority population voting for the first time in the country’s history. Although many complex factors have played a role in creating one of the largest HIV epidemics in the world, the legacy of apartheid continues to frame the country’s HIV epidemic over fifteen years after the advent of political empowerment for all South Africans.

The public health response by the Apartheid regime in the early years of the HIV epidemic was inadequate because the government was not concerned with prioritising a problem affecting gay men and black people (44–46). In addition, the apartheid policy of institutionalised discrimination meant that black people in the country were systematically relegated to less important jobs, education, land and housing options, health and social services, natural resources and food security, which further exacerbated the inadequacy of the government’s HIV response. One enduring example of how the apartheid system aided the spread of HIV was (and still is) labour migration (45,47). Black families were separated by the apartheid economic system, in which only those who were employed were entitled access to urban economic centres and meagre residences in the surrounding townships, while unemployed spouses (typically women) and children were left behind in the traditional homelands¹⁰. This migratory system affected the community social cohesion that is protective for HIV (46) and encouraged migrant men to have multiple partners between their urban and rural homes (44).

¹⁰ Homelands were created by the Apartheid regime to relegate the majority of black African people to rural enclaves.

Even today, the residual effects of apartheid continue to promote the HIV epidemic in South Africa (5). The systems of labour and migration have not changed for a large portion of the South Africa population and young people develop relationship patterns influenced by the inequality and disruption that promotes the spread of HIV (41,48). Issues of gender inequality in South Africa, coupled with sexual norms and behaviour, has undergone rapid changes as a result of the social and political shifts into and then out of the apartheid system that occurred in the last half a century (49). The enduring elements of apartheid’s unequal social order continue to support gender inequality, masculine authority and gender-based violence, all linked to HIV infections in women (50).

2.4 HIV in young adolescent women in South Africa

HIV infection in South Africa especially for young South African women is predominantly spread through heterosexual intercourse. Pettifor et al’s 2005 HIV prevalence study in South Africa was one of the first to illustrate that young women (aged 15-19) were four times more likely to be infected with HIV in comparison with men of the same age (29); a reality that still persists today, as shown in figure 2.2.

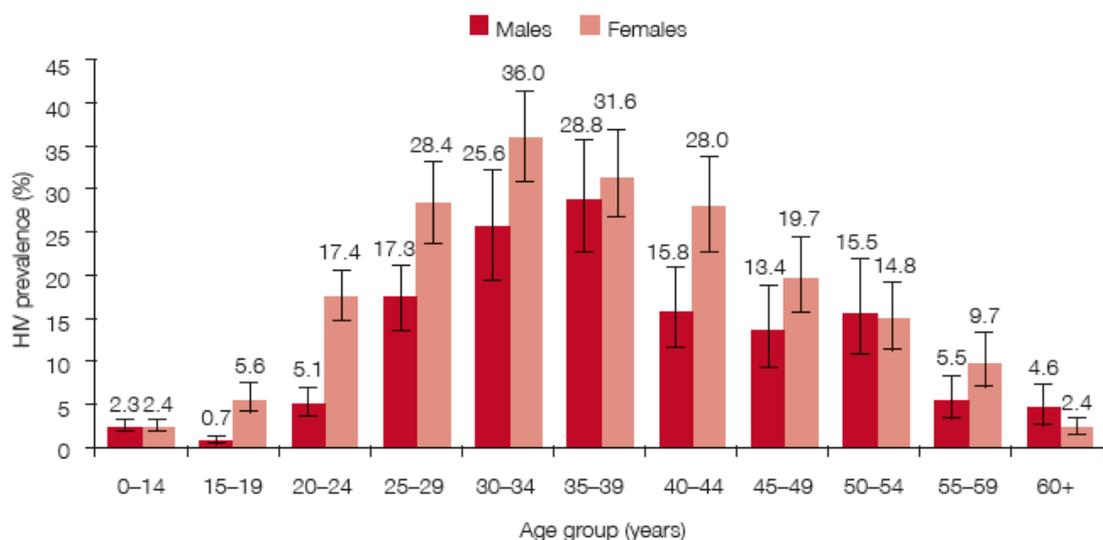


Figure 2.2: HIV prevalence by sex and age based on the 2012 South African National HIV Survey 1

In terms of HIV incidence, data from 2012 shows that HIV-incidence rate among young South African women aged 15–24 was over four times higher than the incidence rate found in males in this age group (2.5% vs. 0.6%) (40). Almost a quarter (24.1 per cent) of all new HIV infections occurred on young women aged 15-24 years (40). Young women’s increased risk of HIV could be partially attributed to factors such as: young women were significantly more likely than men to report using condoms (male condoms) inconsistently, to have relationships with older partners, to be in longer relationships with a main partner, and among 15–19 year olds, to have sex more often than their male counterparts (29). In addition, an increasing body of evidence suggests that HSV-2 infection is important for HIV infection. Meta-analyses have demonstrated that prevalent HSV-2 is associated with a 2- to 4-fold increased risk of HIV acquisition (226) suggesting that, in areas of high HSV-2 prevalence, a high proportion of HIV is attributable to HSV-2 (227). A recent study by Karim, Kharsany et al (2014) among high school students (male and female) in rural Kwazulu Natal, South Africa showed that HSV-2 infection increased the risk of HIV infection almost four-fold in female versus male students (228).

Interestingly, as a population, South Africans do not engage in significantly more risky sexual behaviours than people in other countries in the region. In fact, South Africans typically exhibit fewer risky sexual behaviours¹¹ than people in other lower prevalence settings (51). Men in South Africa on average engage in more risk behaviours than women, including having more partners and demonstrating less condom use with long-term and casual partners; yet despite the greater risks that young men report, young women have two to three times the chance of HIV infection compared to young men by the age of 21 years (29). There are many reasons for the gendered nature of the HIV epidemic in which women, and especially young women, carry the majority of the burden of HIV infection in the region. In addition to increased biological vulnerability of young women, relational risk factors, such as age disparate relationships, engagement in transactional sex and violence within partnerships make young women susceptible to HIV risk

¹¹ Risky behaviours in this study refers to sexual risk behaviours of young women, such as inconsistent condom use, early age of first sex (i.e. under 15 years), having multiple sexual partners in the past year or having concurrent partners

within partnerships which are grounded in the socio-historical context of the country. Structural factors¹² such as gender inequalities, particularly “*differences in social value, power, opportunities, and behavioural expectations of men and women*” (4, p 145) help to drive the HIV epidemic. In addition, individual risk behaviours – such as inconsistent condom use, number of partners and age at sexual debut – are associated with a young woman’s risk of infection, but the prevalence of the reported risk behaviours does not correlate to the prevalence of HIV at the population level. Within this debate, the issue of transactional sex has been identified as being potentially important and as the focus of my thesis is on factors associated with young women’s engagement in transactional sex and the relationship with HIV and HSV-2 infection, I elaborate on this in the next sections.

2.5 Overview of the concept of transactional sex

The concept of transactional sex or sexual exchange for material gain emerged in the 1990s in the context of anthropological research from sub-Saharan Africa as an effort to distinguish ‘prostitution’ from more informal exchange-based relationships (e.g., material exchange for sex or transactional sex). In addition, as a concept, it became relevant to HIV prevention efforts as repeated studies in sub-Saharan Africa demonstrated HIV prevalence rates were higher among commercial sex workers than others. Concern then developed around more informal forms of sex for material exchange alongside the related issue of ‘multiple concurrent partnerships’ (53,54).

There are a number of definitions of the concept or the notion of transactional sex with the most common being “*sexual exchange for material gain or support*” (15). Other definitions from the literature also exist which characterise transactional relationships and are framed outside of prostitution or sex work by those who participate in the exchange, such as “*material support combined with social interaction in a way that maintains and reinforces friendship relations*” (55) or a relationship primarily motivated by material gain: “*transactional sex was defined as*

¹² Gupta et al (2011) defined structural factors as the physical, social, economic, cultural, organisational, community, legal, or policy features of the environment that affect HIV infection (188)

occurring where a woman said that she had a sexual relationship (or act) motivated by him providing her (or her expectation that he would provide her) with food, cosmetics, clothes, transportation, items for children or family, school fees, somewhere to sleep, alcohol or a “fun night out”, or cash” (34, p1) For this study, the definition I have used when referring to transactional sex is: “a sexual relationship whereby men and women exchange sex for, or in anticipation of, material possessions or favours (such as money, clothing, transportation, school fees)” (11).

The literature describes how transactional sex functions as a resource available to young girls and women to fill in gaps in the household and personal economy (11,17,56). It has been documented primarily through qualitative research in many countries across sub-Saharan Africa, such as Tanzania, Mozambique, Kenya, Uganda, Nigeria and South Africa in a wide range of settings (56–61). Studies from across Africa report prevalence estimates for the exchange of sex by young women for money or gifts ranging from 2% to 28% (15,23,59,62). In Cape Town, South Africa, a study by Jewkes et al found that 21.1% of pregnant and 18.8% of non-pregnant teenagers reported having sex for money or presents (63), while a more recent study in Soweto, Johannesburg of women attending antenatal clinics found that 21.1% of participants reported having ever had sex with a non-primary male partner¹³ in exchange for money or material items (10).

Transactional sexual partnerships are usually non-marital relationships (64) and is believed to be an important contributing factor to the disproportionate prevalence of HIV/AIDS among young women in sub-Saharan Africa (11,60,64–66). Other terms used to describe transactional sex are “material exchange for sex”, “sexual exchange”, “informal exchange relationships”, “material support for sex”, “exchanging sex for gifts or goods”, “sex for money” and “sex for material gain”.

¹³ A non-primary male partner, as defined in the study is a secret sexual partnership which is concurrent with, and hidden from, a primary relationship.

2.5a Distinguishing between transactional sex and sex work

Transactional sex appears to be a common phenomenon in rural, peri-urban and urban South Africa (11,16,60). The definition of transactional sex has evolved over time and has generally been contested and continues to be a challenge for social scientists (16). The challenge arises because of the tendency to assume that the categories of ‘prostitution or sex work’ and ‘transactional sex’ used in the public health literature have self-evident meanings when in fact the meanings are very complex and highly contested (53) alongside the fact that it is common practice to exchange gifts in sexual relationships in a number of cultures around the world (16,67). Hence, there might be money or gifts exchanged after a single once-off sexual act or there may be exchange-like or transactional sexual encounters within the context of loving or trusting relationships. Moreover, expressions of romantic love can be closely linked to gift-giving, which is also a cultural courting practice (68,69). African cultural norms regularly dictate that men should provide for women, which is institutionalised through the practice of *lobola* (bride price) before marriage (11). Thus, it is predominantly men who provide the material benefits and women who receive these material benefits in transactional sexual encounters (14).

In most studies, study participants made clear in responses the distinction between sex work and sexual exchange. How study authors distinguished between what constituted sex work versus transactional sex however varied between studies. For example, Hawkins et al (2009) and Kaufman and Stavrou (2002) maintained that the primary distinction was between receiving cash versus other forms of gifts, whereas Nyanzi et al (2001) framed cash as an indicator of sexual exchange, noting that other forms of gifts did not necessarily secure sex. Jewkes et al discuss how both (transactional sex and sex work) could be thought of as lying on a continuum where at one end, are examples of transactional sex that have quite a number of similarities with sex work (53). This is particularly true when cash is given by a sexual partner after a single act of sex, but not negotiated up front, or where there is a ‘relationship’ involving multiple sexual encounters that is wholly sustained by the receipt of material reward. The boundaries between the two concepts are especially unclear when acts and context differ only slightly (53). It is only where

women are explicitly soliciting sex or embrace an identity as a 'prostitute' or 'sex worker', where the difference between the sex work and transactional sex is clear. Even then, an individual might self-identify as a sex worker and engage in different transactional sexual relationships concurrently or at different times in her life. Thus, it is potentially hard to distinguish between transactional sex and prostitution at this end of the continuum. However, there is usually no explicit negotiated exchange with transactional sex, and a wide range of goods or services may be received in transactional sexual encounters ranging from cash to money for airtime (53).

At the other end of the continuum, it can be very hard to distinguish transactional relationships from other relationships where there is a predominant expectation by both the man and the woman that one partner (usually the man) will fulfil a provider role (69). This is especially true as the role of romantic love in sustaining relationships is complex and may be very closely linked to expressions as gifts (70). Interpreting the continuum is rendered more difficult by the fact that in many parts of sub-Saharan Africa, it is sex given without material reward that is perceived to be demeaning to women (59,71). Luke (2003) suggests that in a number of countries, gifts have become a symbol of the young woman's worth and a man's interest and young women feel offended if they do not receive something in return for sex (57,72,73). For example, in qualitative research by Nobelius et al in Uganda, the study showed that exchange signifies several things: self-respect and a partner's willingness to wait for the relationships to become sexual and, therefore, that they are valued and respected by their partners. This demonstrates commitment from a partner, whose role is as a provider (69).

Figure 2.3 from Macpherson et al (2012) illustrates the spectrum between transactional sex, sex work and gift giving as part of romantic relationships (14). The concept of up front negotiation which is a characteristic of transactional relationships is missing from this diagram, as well as participants' own definition of being involved in sex work versus transactional sex.

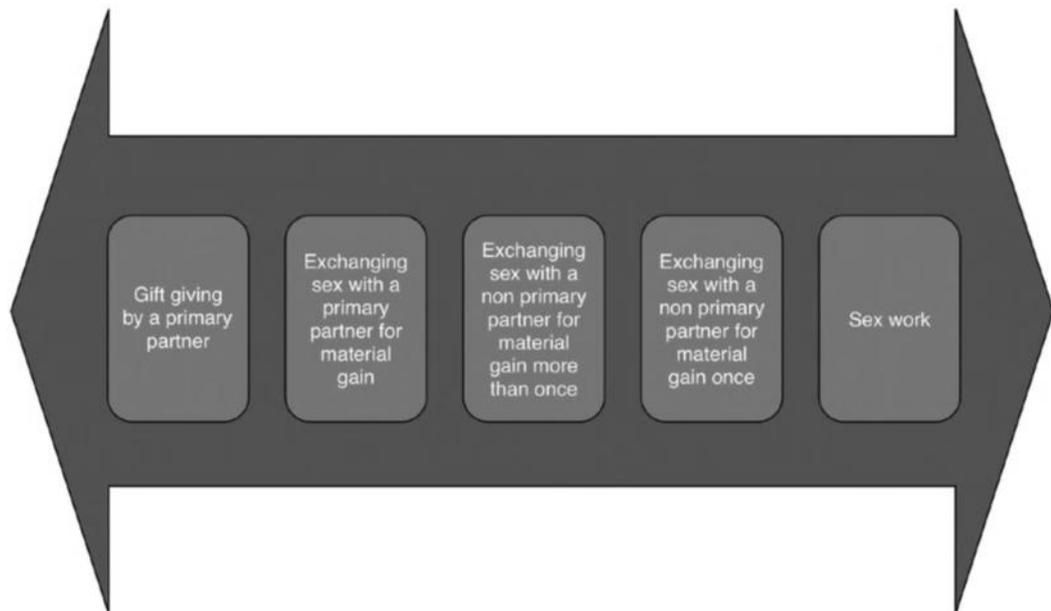


Figure 2.3: Continuum of transactional sexual relationships (from Macpherson et al (2012) 1

While gifts often form an integral part of courtship or expressions of care and affection within relationships (74), they are not always the motivating factor behind seeking a relationship or a particular sexual encounter (23,61,67). Qualitative research has addressed these nuances especially the different meanings ascribed to gifts and transfers in different kinds of relationships. But, similar nuance must be introduced to quantitative measures of transactional sex by disentangling transactional relationships with main versus casual partners to better understand motivations behind these relationships.

Also, contemporary discourse on transactional sex posits that sexual exchange is not prostitution if: the exchange is undertaken within the context of a relationship (no matter how ambiguous or temporary its nature); the negotiation of exchange items is neither explicit nor upfront; and those who engage in the practice determinedly differentiate their behaviour from prostitution (16). Overall, it is important to acknowledge that the commodification and instrumental use of sex is culturally normative in modern day South Africa (61,71) in a way that is unrecognisable in some

European and higher income countries¹⁴. Despite concerns about transactional sex and prostitution and growing recognition that they are both important in the HIV epidemic, there is still a need to better understand the underlying complex motivations for engaging in the practice.

2.5b Motivations for transactional sex

Historically, the literature emphasised that transactional sex is primarily motivated by basic survival and subsistence needs¹⁵ (13,61,75). However, there is more recent evidence that indicates that young women whose opportunities are severely limited may also use transactional sex to help achieve higher status in youth cultures that prioritise sexual success and conspicuous consumption¹⁶ (16,17). Moreover, there is recognition that these reasons are not mutually exclusive and that very often a combination of subsistence and consumerist desires motivate young women to engage in transactional sex (56,76). Thus, exploring the context and motivation for engaging in transactional sex is important in understanding risk, as well as risk perception in these engagements.

Both quantitative and qualitative studies have explored young women's motivations to engage in transactional sex, although the majority of these studies have used qualitative methods. This evidence suggests that young women are motivated to engage in transactional sex for a number of reasons. These include: economic survival, parental pressure, high demand for material 'goods' (gifts or money), high levels of peer influence and higher materialistic aspirations in a rapidly globalising economy. These factors – combined or taken individually – play a role in influencing young women's decision to engage in transactional sex (67) as well as their risk of

¹⁴ Over the last century, in sub-Saharan Africa, women have been increasingly dependent on men for economic support, whether through the practice of bride-wealth (*Lobola*) for marriage or through the exchange of gifts and money transfers for sex in pre-marital relationships. This implies that women's personal resources, including their sexuality had economic potential. This development has been labelled by some as the "commoditisation" or "commercialisation" of sexual relations, and ranges from commercial sex to more in- formal transactions between individual partners.

¹⁵ Subsistence generally refers to basic needs such as food, clothing and education related items.

¹⁶ Consumption refers to consumerist rooted, middle class futures, aspired towards acquiring items such as fancy underwear, better clothes, etc.

HIV. Provided below is a listing of the evidence behind young women's motivations for engaging in transactional sexual relationships:

Economic reasons: The evidence suggests that often it is economic survival that pushes women into having sex for money or material support. There are studies that suggest that transactional sex is primarily a survival-driven strategy -- the poor woman's means of "getting by in a world of poverty and disempowerment" (77). Also, with minimal education or income opportunities and because it is widely accepted as a man's role to financially provide for the family, his absence means that women often resort to using sex to gain resources (72,73). Bassett and Mhloyi's research in Zimbabwe showed that the country's historical situation, which included land expropriation, rural impoverishment and the forcible introduction of male migrant labour fostered new patterns of sexual relations, characterised by multiple partners. Thus, for many women, sexual relations with men, either within marriage (for the majority) or outside, become inextricably linked to economic and social survival (78). Meekers and Calvès in their research in Yaounde, Cameroon conducted focus-group discussions on young people's (aged 17-25) perspectives on pre-marital relationships and marriage. Study results show that for study participants, economic support was a major reason for premarital sex among girls, but also among some boys (who were seeing "sugar mummies"). Confirming the work of Bassett and Mhloyi on Zimbabwe, many young adults in this study had no means to support themselves except through gifts from boyfriends or girlfriends (62).

Related to reasons around impoverishment, narratives from existing and on-going studies also suggest that a lack of disposable cash to purchase adequate menstrual protection is another reason young women engage in transactional sex (79). In Uganda, money or transactional items are considered a 'token of appreciation', showing that girls were valued and respected by partners who provide for them (69). Similarly, in a qualitative study in rural western Kenya young women reported 'other young women' but not themselves participated in transactional sex to buy sanitary pads, and received sanitary pads from boyfriends (79).

There are some qualitative studies that suggest that young women with more family resources appear less likely to engage in transactional sex. A study by Barnett and Maticka-Tyndale points out how girls from wealthier families or with better grades were less likely as adolescents to engage in sex for material exchange (56). Machel found that young women attending school in a working class area were more likely to engage in transactional sex than young women from a high school in a middle class area in Mozambique (80).

In addition, there is some evidence that suggests that orphanhood due to AIDS and caregiver AIDS sickness predicted abuse and transactional sexual exploitation. A study on adolescents by Cluver et al in Cape Town, South Africa among AIDS-affected double orphans showed that adolescents “dually” affected by AIDS orphanhood and caregiver sickness showed a three-fold likelihood of severe emotional and physical abuse and, amongst girls, a six-fold likelihood of transactional sexual exploitation, compared with those in healthy families. Heightened risk of transactional sex amongst adolescents in AIDS-affected families was mediated by extreme poverty and abuse exposure. In combination, the effects of familial AIDS, food insecurity, and exposure to abuse raised prevalence of transactional sex amongst girls from 1% to 57% (81). Related to poverty is the issue of sexual coercion and physical abuse, where findings from a recent cross-sectional study of undergraduates in Uganda, suggested that being a woman, having poor mental health status, and experience of sexual coercion and physical abuse were significantly associated with reporting having accepted money, gifts or some other form of compensation for sex (82).

Parent/caregiver-child relationship: The literature also describes how some young women especially in rural areas report being pressured (actively or passively) by parents to secure needed goods for the household (76,83). This parental pressure to engage in transactional sex is often implicit rather than explicit and parents seek to obtain funds to finance their child’s educational-related expenses, luxury items and necessities for the household (59,84). Barnett and Maticka Tyndale (2011) show through qualitative methods that among youth in rural Nigeria, parents,

predominantly mothers, push their daughters to earn through sex, with the expectation that they contribute to the maintenance of the household and do not burden household finances, by taking care of their needs (56). Wamoyi, et al (2010) from their qualitative study in Tanzania show that parents tolerated their daughters' discreet relationships and a few actually encouraged them to support the household (57).

Aspirations for upward mobility or status: Even though poverty and household socioeconomic situation contributes to young women engaging in transactional sex, studies show that poverty is not always the overriding determinant (85,86). Young women may also use sex as a means to improve their social status and long term prospects by getting men to pay for school fees, beauty products and other desirable items they might not otherwise be able to access, as shown by Wamoyi and colleague in rural Tanzania (57). In a study in Cabo Delgado, Mozambique, for example, some men admitted to distributing their wealth to women who desire material goods and upwards social mobility (73). Thus, transactional sex is also used as a means for young women to fulfil their consumerist desires and pursue images of modernity and success ('consumption sex') (57,76,87,88).

Peer pressure: The literature also suggests that peer pressure or the need to fit in or belong to their peer group is another strong factor shaping young women's desire to obtain consumer items (such as clothes, shoes, scented body lotion). Studies suggest that by observing their older sisters and/or friends young women realise that items could be acquired through sexual partners (23,57,59). As Wamoyi (2010) shows in her ethnographic research in rural Tanzania, young women's desire for acquiring nice items and their readiness to have sex to acquire them is predominantly shaped by peer expectations and pressure to conform (57). This aligns with theory where in the context of adolescence the importance of peer relationships has been well-established (145,146). Erik Erikson (1968) describes adolescence as a phase in the life cycle when, "Young people are sometime morbidly, often curiously, preoccupied with what they appear to be, in the eyes of others as compared with what they feel they are..." (57; p 128). In

addition, how they are perceived in the eyes of their peer group is extremely important to adolescents – “....he would rather act shamelessly in the eyes of his elders, out of free choice, than be forced into activities which would be shameful in his own eyes or in those of his peers” (57; p 129). Thus, adolescence is a crucial period of life during which individuals place an increased value on being in the popular group and seek more conformity within their groups (148). During this time period, young adolescents are influenced by their peers with regard to relatively neutral behaviours, such as clothing choices, as well as more risky or anti-social behaviours, such as smoking or using drugs (149). Increasing interaction with the peer group provides interpersonal contact beyond family relationships, playing an important role in adolescents’ psychosocial development, contributing to their emotional needs and serving as an important source of information and opportunity for socialisation (150). Relationships within adolescent peer groups can be examined in terms of the degree to which an adolescent feels that he/she fits into the group (i.e., belonging), as well as in terms of how much an individual is liked or accepted by peers (i.e., acceptance) (151). Furthermore, affiliation with certain peer groups may necessitate identification with group values and norms. This is referred to as ‘peer conformity’ and is defined as a behavioural disposition related to individuals’ willingness to follow their peers (157).

Globalisation and consumerism: Ethnographic studies from Southern Africa have linked globalisation¹⁷, and the aspirations it cultivates, to young women’s engagement in transactional sex. These studies similarly challenge the notion that the primary motivation for transactional sex is basic subsistence and survival. Rather they argue that female aspirations and desire for a “modern lifestyle” can also drive young women’s pursuit of transactional sex (12,16). These studies explore the nature of globalisation, how processes of globalisation can transform

¹⁷ Globalisation refers to the idea of ‘global process’ and the term originally surfaced in the late 1960s as a conceptual device to help understand the growing perception that the world was becoming increasingly interconnected economically, financially, technologically, culturally, politically and environmentally (86). As it is generally defined in any standard dictionary, the term globalisation refers to ‘an umbrella concept that seeks to capture the growing interconnectedness and integration of human society at the planetary scale’ (176).

particular social contexts and activities pertaining to HIV/AIDS (89) and also how proceeds from sexual exchange are used to purchase symbols of global beauty and success that are propagated by the local and global print and visual media (16,61,87,90). Research also shows that the benefits and the detriments of globalisation are experienced differently in the world depending on populations' socio-economic status and access to resources, among other things. For example, in South Africa, globalisation-related consequences of the neo-liberal, Growth, Employment and Re-distribution (GEAR) policy¹⁸ which was adopted post-apartheid, has resulted in the massive influx of foreign, cheap fashionable clothing from Asia. Thus, these macro-economic changes have increased the consumption appetites of individuals from poor households without creating secure, economic pathways for satiating them.

A study by Zembe et al focused on transactional sexual behaviour of young women between the ages of 16-24 in the Mbekweni Township near Cape Town, South Africa. The study used ethnographic research methods to help understand factors that drive young peoples' pursuit of transactional sex and how these factors could be connected to or derived from, processes of globalisation. The findings suggest that young women engaged in transactional sex to meet both survival and consumption needs. In addition, the study indicated a strong connection between young women's aspirations for a modern lifestyle in line with popular images of global modernity and a rationalisation of HIV risk in order to fulfil materialistic desire (16). Stoebenau et al sought to understand the relationship between an interest in the consumption of designer goods and young people's self-reported sexual behaviour in two regions of Madagascar: an urban and peri-urban area. She used both quantitative and qualitative approaches to explore how youth (ages 15-24) understood 'symbols' of modern life and the relationship between transactional sex and accessing these items. Overall, the study found an association between transactional sex and interest in modern goods, or modern lifestyles and that these processes were shaped by culture and conditions of economic uncertainty (17). To the best of my knowledge, Stoebenau's study is

¹⁸ The Growth, Employment and Redistribution (GEAR) policy was adopted by the post-apartheid government in South Africa and stressed openness, trade liberalization and privatization.

one of the only quantitative studies to explore the relationship between transactional sex and young women's consumption patterns.

Apart from globalisation and aspirations for a better lifestyle, peer influences (along with some parental influence) or peer pressure is often cited as the reason why adolescents value material goods and popular brands (164). Research with adults (predominantly in high income settings) has identified a strong relationship between self-esteem and materialism and that that material possessions provide a way to cope with insecurity and feelings of low self-esteem (163,165,166). It seems likely that adolescents too are affected in this manner (164).

In summary, the literature demonstrates that young women's motivations for engaging in transactional sex are complex. While economic survival is certainly critical, factors such as improved status, peer pressure and aspirations for a modern lifestyle in the context of globalising economies are also seen as playing a pivotal role. But, there is a paucity of quantitative evidence on young women's engagement in transactional sex and their motivations, as majority of the studies are qualitative. There is a need for future research to use quantitative methods to measure young women's engagement in transactional sex and their motivations for engaging in transactional sex.

2.6 Relationship between transactional sex and HIV infection

In the past decade there has been a growing focus on transactional sex in the academic literature particularly because of the associated risk with HIV infection (11,27,60,61). In a forthcoming review¹⁹ paper on the relationship between transactional sex and HIV infection, the literature search surprisingly revealed only 13 studies that explore this relationship in sub-Saharan Africa. Of the 13 studies, eight were among females aged 15-49 years and two were with men. Of the

¹⁹ Bobrova et al (2014) Transactional sex among young women: review of the quantitative data. In process

remaining four quantitative studies on young women²⁰ only two studies showed a statistically significant association between transactional sex and HIV (10,11,65). Both studies are from South Africa. The first study used a quasi-experimental community-based survey in Kwa-Zulu Natal and Eastern Cape provinces with 2624 young women who were 15-24 years. Results showed that young women who report ever having engaged in transactional sex have almost twice the odds of being HIV seropositive (CI 95% 1.10-3.12) (65). Another study by Jewkes et al (2012) in a cohort of young South African women (n=1077) aged 15-26 years who reported having transactional sex with a once-off partner (RR 3.29 95% CI 1.02, 10.55, p=0.046) or with an ongoing secondary concurrent partner (IRR 2.05 95% CI 1.20, 3.52, p=0.009) had higher HIV incidence than those not engaging in transactional sex (this was after adjusting for number of partners and age). These studies provide epidemiological evidence of the link between transactional sex and HIV infection, however there is a need for more quantitative evidence to further support this assertion. Details of my search strategy including search terms are provided in *Appendix 1*.

It is important to emphasise that it is not just the transactional aspect per se that makes sexual encounters risky for HIV. Transactional sex may be associated with an increased risk of HIV because young women may agree to sexual encounters or situations they would not have sought otherwise, and often do so on men's terms (21,60). These encounters or situations include: age mixing or sexual relations between a younger girl and an older man (who is more likely to be HIV infected) (18–20,27), having multiple sexual partners or engaging in a relationship with a man who concurrently has other partners (23–25), using condoms inconsistently (91,92), having sex under the influence of alcohol (26,93) or having an unequal power dynamic within a relationship after receiving items or money (94). Together and/or individually, these encounters or situations contribute to making young women vulnerable to HIV infection.

²⁰ As the target population for my thesis is young adolescent women, I decided to focus on studies with young women between 13-25 years of age.

Age-mixing or “sugar daddy” relationships: The age disparity between younger women with older men is called age-mixing or age asymmetry. Although there is no standard measure of what warrants an “older male partner” or “sugar daddy”, typically the cut-point is set at a five or more years age difference. That the HIV prevalence profile of 15-19 year old young women mirrors men ages 20-24 is generally attributed to age-mixing, and is believed to be a major factor for why young women are thought to be at higher risk of HIV than their male peers (19,72).

The evidence is mixed on whether age-disparate sexual relations increase young women’s risk of HIV infection. Pettifor et al showed that in South Africa, young women with older partners are significantly more likely than young women with same-age partners to be at risk for HIV infection, and age differences of as little as a year can increase the likelihood of HIV acquisition (29). Conversely, Jewkes et al (2012) in their prospective study conducted in the Eastern Cape region, South Africa on young women (aged 15-26) showed that age-disparate relationships was not a significant mediator of the relationship between young women’s engagement in transactional sex and HIV incidence (11).

The reasons that young women appear to pick older partners may be varied and include men’s ability to provide gifts and money to the young women, for their social and educational maturity, for the belief that they are better sexual partners, for their material advancement that younger men have not yet attained, and they may be perceived as more marriageable (72,87,95). Young women do not always have a choice when it comes to partner selection; men have been shown to desire young partners because of the perception that they are less likely to have HIV, an STI, or other male partners with whom to contend (96). There is usually an established power dynamic between these older men and young women, such as male teachers who exchange good marks in school for sex; bankers who may offer access to banking facilities in exchange for sex (9).

The underlying assumptions for the associated HIV risk in young women partnering with older men are: many of these older men are married or in relationships with other women (84); older

men are more likely to have HIV than same-aged male peers given the epidemic profile of HIV by gender and age (72); age mixing in relationships may heighten gendered power inequalities, in turn making it more difficult for young women to negotiate safe sexual behaviour. Furthermore, young women's sexual inexperience and vulnerability make it harder to communicate with their male partners (72), they may accept or withstand more coercion and violence than would otherwise be acceptable in a relationship (97), they may be less able to hold their male partners accountable regarding wives or other sexual partners (84), they may be seduced or coerced into starting sex earlier (98) and it is more likely that these relationships are characterised by financial or material transaction (99).

Even though there is an emphasis, particularly in popular discourse on the older men/sugar daddy relationships as a dominant pattern in HIV risk, this assertion is not adequately supported by the literature. There is also recognition in the literature that transactional relationships also occurs among youth of equal or near equal age as well (9,15). For example, a study by Nyanzi and colleagues among school-going adolescents demonstrates that in some cases, sex is in the context of casual partnerships, where the exchange of gifts and money is a regular pattern in these relationships (59). Poulin's work in Malawi showed that relationships among young women and men were largely among peers (70) and more often than not tend to be more enduring relationships. In addition, male-to-female transfer of money was interpreted as loving gestures (and not just as alleviation of female partners' economic constraints) (70). Thus, there is a need to recognise that the concept of intergenerational sex between young women and older partner as a risk factor for HIV infection might be overstated. The evidence appears to be mixed and further studies are needed to determine the accuracy of this assumption.

Partner concurrency and type of partnership: Concurrency, or having multiple sexual partnerships that overlap in time, can drive the HIV epidemic in high prevalence settings like South Africa. About a quarter (24.7 per cent) of South African young men and 4.7 per cent of young women ages 15-24 report having multiple, concurrent partnerships (100).

Women who report engaging in transactional sexual encounters generally have a higher number of sexual partners than women who do not report (11) and these relationships may be commonly part of webs of concurrency, although not all secondary sexual relationships are transactional (60,101). The wider the sexual network, the greater the chance to pass HIV among network partners. The spread of new cases of HIV is aided by concurrency; when new, acute infections enter the sexual network, they are especially contagious and easily spread to the entire network (102). Concurrency in Southern Africa, where the HIV epidemic is the largest, is higher than other parts of the world and has been partially attributed to systems of labour migration that takes men away from their families for extended periods of time (103). Furthermore, evidence shows that young women in concurrent relationships are at higher risk of HIV than men. For example, young women in South Africa are two times less likely to report concurrent partners than men (104), but among those young women with more partners and concurrent sexual partners, they have been shown to be at higher risk for HIV than their peers with fewer partners (29). However, men's concurrent partnerships are not significantly associated with HIV, whereas young women in concurrent relationships are at significantly higher risk of HIV acquisition. This is because females in concurrent relationships reported less consistent condom use and are more likely to report transactional sex and problems negotiating condoms and refusing sexual intercourse (100).

Conversely, there is also evidence that some types of concurrency limit the spread of HIV (105). For example, a quantitative study by Lagarde et al (2001) tested the association between concurrent sexual partnerships and prevalence of HIV infection in five African cities and were unable to find evidence that concurrent sexual relationships are a major determinant of the size and spread of the HIV epidemic. Similarly a quantitative study by Luke, Goldberg et al (2011) testing the relationship between transfers from alternative sexual partners and likelihood of condom use demonstrated that larger amounts of transfers young women received from their concurrent partners increased the likelihood of consistent condom use with these alternative partners (64). The interpretation they provide is that young women with multiple partners take

steps to protect one or both of them through the increased use of condoms. However, simply engaging in concurrent partnerships was not significantly related to the outcome; rather, it was the amount of transfers young women received from these men that significantly affected condom use in the primary relationship (64).

Apart from concurrency in partnerships, the nature of the partnership (e.g., once-off, casual ongoing, main partnership) can also potentially contribute to increased HIV risk among young women. In particular, there is a dearth of quantitative empirical evidence demonstrating the association between the nature of partnerships and HIV risk. Jewkes' (2012) study showed that young South African women who reported having transactional sex with a once-off partner or with an ongoing secondary concurrent partner had higher HIV incidence than those not engaging in transactional sex independent of number of partners and age of partner. The results here indicate that in relationships that are considered transactional, it is not only the number of partners that matter, but the type of partnership such as whether it is casual or a once-off partner which has implications for understanding power dynamics surrounding sexual decision making (11).

Inconsistent condom use: Young women who engage in transactional sex are also considered to be at risk for HIV infection because of inconsistent use of condoms. Within sexual partnerships, women who do want to use condoms compete against common South African masculine norms promoting flesh-to-flesh sex (106,107). Asking for a condom during sex is often likened to admitting HIV positive status to a partner or insinuating that the partner is HIV positive and/or philandering (106). Young women may fear their partners will retaliate with violence for broaching the topic of condom use and expressing the desire for protection (91). Furthermore, trust and love in the relationship are demonstrated by forgoing a condom; condoms are perceived as only for the beginning of relationships and once the couple has been together for a while they can demonstrate their love and trust for each other by abandoning condom use (108). Similarly, condoms are considered more appropriate for casual relationships (91). The more intimate or the

more time that partners have been together, the less likely they are to use condoms; long-term partners are trusted to be faithful so condoms are only appropriate for quick hook-ups and one night stands (109). Once condom use ceases in a relationship, it is difficult to restart for fear of being seen as unfaithful (109). Young women may lack the power to negotiate condom use, and women's limited negotiating power is weaker if there is a larger age differential with an older male partner or if something is being transacted in exchange for sex (92,110).

In relationships with older men, young women often receive something in exchange for sex so they may feel even less empowered to insist on protection (111). Indeed, in a quantitative study of condom use among young women in South Africa, young women in relationships characterised by greater gender equality²¹, are more likely to use condoms consistently with their partners than young women in unequal relationships (112). Inconsistent condom use was, in turn, significantly associated with HIV infection (OR 1.58, 95% CI 1.10–2.27). In another study in Kenya, Luke (2006) attempted to quantify the relationship between the role of transfers (monetary and non-monetary) in transactional sexual relationships and condom use. Using an individual fixed-effects regression model of transfers on condom use, the study examined various levels of transfers and condom use across relationships for the same man. Those relationships with greater value of transfers were associated with lower condom use (74).

Sex under the influence of alcohol: Combining transactional sex with alcohol consumption may heighten HIV risk, as there is substantial evidence that alcohol use is associated with HIV sexual risk behaviours in sub-Saharan Africa, including frequency of sexual activity, more casual sex partners, unprotected sex and STIs (113). Alcohol consumption in South Africa is reported to be episodic and heavy, occurring primarily on the weekends (114). Historically, drinking venues were established exclusively for men, with the only female attendees being sex workers, but over

²¹ Gender equality measured with a four-point sexual relationship power scale (SRPS) and by a woman's experience of forced sex with her most recent partner.

time they have become more accessible to women. Recent studies have documented that venues remain places where people go to meet new sexual partners (115,116).

The combination of heavy drinking and the desire to meet new sex partners nested in an environment of poverty and gender inequality provides a setting conducive for risky transactional sex. Townsend et al. (2011) explored the dynamic interaction between alcohol and transactional sex in Cape Town townships through interviews with men who have concurrent female sexual partners. Their research revealed the centrality of alcohol in these men's social lives and how alcohol served as a currency for securing sexual partners (93). Qualitative research that has taken place in different parts of South Africa have centred on the perspectives of women who report involvement in sexual exchange relationships (13,87). These studies highlight the normality of the alcohol sexual exchange, in which a woman who accepts alcohol from a man is seen as accepting a sexual relationship. Unlike transactional sex arrangements where women receive gifts or resources after sex, in the alcohol sex exchange, women receive their compensation (alcohol) prior to sex. As a result, women who accepted alcohol from men were seen as consenting to sex, and therefore had little ability to refuse or negotiate the terms of sex (21). A study by Watt et al (2012) in alcohol-serving venues in a township in Cape Town showed that both men and women accepted the expectation that buying alcohol implied an agreement to have sex, and if sex was not reciprocated, then violence was possible and in some cases justifiable (22).

Unequal partnership dynamics: Power imbalances in relationships either due to its transactional nature or economic asymmetry contributes to young women's vulnerability to HIV infection (14,75). Young women in transactional relationships might be particularly vulnerable to HIV as men who take on a provider role may feel entitled to decide the terms of sex including whether or not to use condoms (53,117). Some studies suggest that the greater the financial disparity between partners, or the greater the value of a good or service exchanged for sex, the less likely the sex will be protected (27,110).

However, some research documents the sense of ‘agency’ and power that some females express in their ability to use their sexuality to get what they want (56,61). Agency is defined as “an individual’s ability to make and enact considered choices in the pursuit of particular ends. Although possessed by the individual, agency is structured by a person’s socially shaped sense of self and is constrained in expression by their social, political, and economic circumstances”(53, p 350). Several authors have reported that due to an understanding of sex as valuable, some females find sex without exchange to be devaluing and claim that they would still expect gifts even if they had sufficient money. They felt like exchange is a way to obtain validation of their worth from their partners (59,69). For example, Barnett and Maticka-Tyndale’s (2010) qualitative study in Nigeria illustrates the power dynamics and agency present in youth accounts of their sexual relationships. They postulate that material gain is the primary motivation for sexual intercourse among young women, but acknowledge that there is power on both sides, depending on how the relationship forms. Using the framework of ‘sexual scripting’²² the study highlights that even though young women’s agency is diminished because they do not have money and boys do, the act of sexual exchange gives girls power. Their analysis points to the value of focusing on the form of the payment in sexual relationships. So for example, they show that if the payment looks more like a gift, it reflects the young woman’s disadvantage in controlling the sexual encounter and if it looks more like compensation, it is more reflective of agency on the part of the woman (56).

Another qualitative study by Jewkes and Morrell (2012) in South Africa observed that whilst constrained by patriarchy, poverty and limited support, during the initial dating phase, women exercised agency during partner selection, but then once they were in the relationship they became caught in the “powerful matrix of heterosexual masculinities that constrained their

²² Sexual scripting developed by William Simon and John Gagnon (1986, 2003) (272)(273), defines sexual activity as “a social interaction in which....actors mutually shape each other’s’ conduct”. This theorization is based on the premise that sexuality is, at its most fundamental, a social interaction (56).

agency” (101). In the same vein, a study by Dunkle et al in the Eastern Cape region of South Africa suggests that transactional sex in both main and casual relationships should be viewed within a broader continuum of men’s exercise of gendered power and control and that HIV prevention efforts should also address issues of masculinity that equates heterosexual success with the control of women (23).

In terms of the influence of material transfers and expressed agency, a quantitative study by Luke, Goldberg et al (2011) explored how material transfers from male partners, as well as young women’s independent resources, affect sexual activities within premarital relationships (64). Results showed that young women’s own income decreased their dependency on male partners and increased the likelihood of safer sexual activities, including delaying sex and using condoms consistently. However, material transfers from the male partner displayed the opposite effect, wherein transfers that were received within the relationship decreased young women’s negotiating power within the relationship (64). This suggests that the provision of material transfers would impact on young women’s ability to negotiate safer sex within relationships.

2.7 Strength and limitations of existing literature

Despite substantial progress in the past five years, the evidence base on transactional sex, its determinants and the relationship with HIV has some limitations. The most obvious deficiency is a lack of sufficient quantitative studies measuring the relationship between transactional sex and HIV infection in young women in sub-Saharan Africa²³ (as indicated in section 2.6). In addition, transactional sex has been subject to overly simple measures and somewhat subjective definitions, for example conflating material gain and age difference between partners (11,65,72). In addition, there has also been some confusion among researchers about the intersections of ‘prostitution’ or ‘sex work’ and ‘transactional sex’ as these are complex (11). Also, while there is general recognition that transactional sex is ubiquitous in Africa (ranging from 5% to 28%), there

²³ It is important to acknowledge that the literature review focused primarily on studies from sub-Saharan Africa since this research is based in rural South Africa.

is huge variability in its actual prevalence and population-based prevalence studies of women have not shown it to be admitted by the majority of respondents (65). Studies, likewise vary in terms of the women included, such as their age range and geographic setting (rural versus urban). Related to variability in age range, the age group for adolescents (10-19 years) and young people (15-24 years) is not standard across research studies making it challenging to compare results. Nor are there sufficient studies on the influence of macro-level factors such as globalisation or consumer culture on young women's engagement in transactional sex making it difficult to compare across cross-sectional surveys.

2.8 Conclusion

In this chapter I have provided an overview of the epidemiological profile of HIV and HSV-2 infection and HIV among young adolescent women in South Africa. I also present literature relevant to thematic areas of the research topics, young women's motivations for engaging in transactional sex (which includes economic survival, parental or family pressure, high demand for material 'goods' (gifts or money) for upward mobility, peer influence and higher materialistic aspirations in a rapidly globalising economy) and the relationship and potential pathways between transactional sex and HIV infection. I document the challenges of defining transactional sex versus sex work and the nuanced meanings that underpin sexual exchange practices and gift-giving. Overall, this review necessitates an appreciation of the subjective social, environmental and cultural dynamics of young women's engagement in transactional sex and the way that gift-giving and sexual exchange in relationships overlap with risky sexual behaviours for HIV. I conclude with strengths and limitations of existing literature. The next Chapter 3 presents my conceptual framework and theoretical models that underpin this research.

CHAPTER 3: Conceptual Framework and Theoretical Frames

3.1 Chapter Overview

In chapter 2 I provided an overview of the empirical literature on the determinants of transactional sex and the relationship with HIV infection. The larger trial (HPTN 068) that embeds this research is guided by the *social ecological theory of behaviour*, which conceptualises individual behaviour as a result of the social contexts in which the individual is situated. This highlights that an individual's ability to practice safer sex is influenced by multiple factors beyond the individual including the dyad/peer group, the community, and the cultural/social contexts (111). This perspective is important and underpins my conceptual framework (see section 3.2).

In addition, as my PhD is focused on young women's engagement in transactional sex or sexual exchange for money or gifts, I summarise three main theoretical frames (see section 3.3) that inform my qualitative narratives and the overall discussion of findings. These are:

a) *Social exchange theory* postulates that individuals are motivated by a mental accounting aimed at maximising rewards and minimising costs from social interactions (118). Interdependence is thus central to relationship maintenance and these are characterised by reciprocal and negotiated arrangements. In the context of sexual relationships in sub-Saharan Africa, many young women engage in sex in exchange for material support as an alternative strategy to obtain economic resources and some enter into multiple relationships to increase this support. I have elaborated on the concept of social exchange theory further in the chapter and described the link with sexual exchange (see section 3.3a);

b) *Abraham Maslow's hierarchy of needs framework*. As young women appear to engage in transactional sex in order to fulfil their basic needs and consumerist desires, there is a need to better understand their conceptualisation of these items (as needs versus wants). In the context of

transactional sexual relationships, I use Maslow's framework as a lens through which to analyse young women's needs and desires and motivations behind their consumption patterns (see section 3.3b).

d) Agency in relationships. A small section of my thesis focuses on young women's agency within sexual relationships. Recognising that the concept of agency, power and relationships is extensive, I have summarised the sections that are relevant for this study (see section 3.3c)

3.2 Conceptual framework

A conceptual framework represents relationships in a simplified communicable form (119) and can serve as a 'map' to inform research studies. To guide my PhD research, I looked to existing conceptual frameworks for understanding factors that influence engagement in transactional sex and the associated HIV risk. Remarkably, there were none I could identify explicitly for transactional sex or material exchange for sex; however parts of the social ecological framework appears best suited to capture the phenomenon this thesis aims to study.

Poundstone et al's (2004) social ecological model of HIV risk presented a heuristic framework of the social epidemiology²⁴ of HIV that highlights the social and structural determinants of the HIV epidemic (120). Figure 3.1 distinguishes determinants of HIV/AIDS at three levels: individual, social, and structural. Individual factors include biologic, demographic and behavioural risk factors that may influence the risk of HIV acquisition and disease progression. Social-level factors include critical pathways by which community and network structures link persons to society. These structures are central to understanding the diffusion and differential distribution of HIV/AIDS in population subgroups (120). Structural-level factors include social and economic factors, as well as laws and policies. These factors, in turn, affect HIV transmission dynamics and

²⁴ Social epidemiology is defined as the study of the distribution of health outcomes and their social determinants. It builds on the classic epidemiologic triangle of host, agent, and environment to focus explicitly on the role of social determinants in infectious disease transmission and progression.

the differential distribution of HIV/AIDS. As depicted in the figure below, the dotted lines separating the levels (HIV infection, individual factors, social and structural factors) illustrate the porous nature of the distinctions made between levels of analysis. In reality, there are extensive linkages between factors at all levels that give rise to observed HIV epidemic patterns (120).

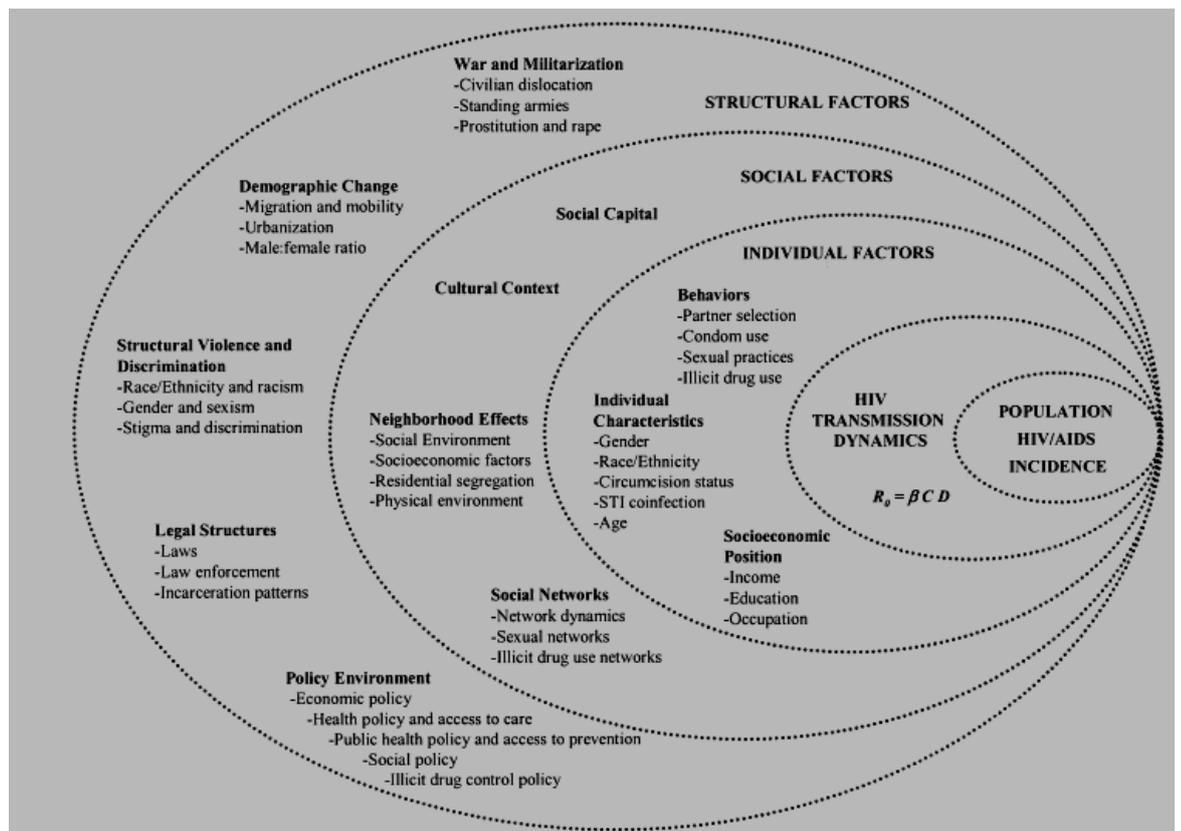


Figure 3.1: Poundstone's social ecological model of HIV risk 1

For my PhD I use elements of this social ecological framework for understanding socio-demographic factors that motivate young women to engage in transactional sex and make them vulnerable to HIV/HSV-2 infection (see figure 3.2). This framework acknowledges the macro and micro level structural factors that contribute to HIV risk, depicted in Poundstone's conceptual framework, but presents them in a format that allows for testing of relationships between these factors.

The red solid arrows in this framework represent potential relationships that will be tested in this thesis. The black dotted arrows represent potential relationships that are recognised, but that will not be tested in this thesis. The blue solid arrows acknowledge reverse causality that exists, but cannot be tested in this thesis. As mentioned earlier the risk environment is broadly comprised of all the HIV-related risk factors beyond the level of the individual, and includes macro-level risks that are more distal to individuals and the micro-level risks that are more proximal (121).

Similar to Poundstone's framework, my framework recognises the possible influence of social factors such as household characteristics and socioeconomic status (SES) on young women's engagement in transactional sex and, and how certain individual level sexual behaviours or partner dynamics might potentially mediate the relationship between transactional sex and HIV infection. Thus, young women who engage in transactional sexual relationships, whether for subsistence or consumerist reasons, might be at risk for HIV infection because they engage in sex with an older partner, or a partner who has concurrent partners, or they have unprotected sex or the power dynamic between partners is unbalanced. In addition, it also goes further to acknowledge the potential effect of macro level structural factors such as globalisation on young women's desires or aspirations, hence her desire for certain types of items that might motivate her to engage in transactional sex (consumerist or materialistic motivation). It also includes the potential effect of household poverty, and the need for food or items for subsistence, which may motivate young women to engage in transactional sex. *Although, included in the framework, the macro-level factors are beyond the scope of this thesis and are not explored. Thus, although potentially important, the effect of globalisation is not directly analysed (as I do not have data on this).*

My conceptual framework also recognises the potential reverse relationship between transactional sex and young women's consumption patterns (e.g., are young women's desire for items making them engage in transactional sex or are the money received from transactional sex influencing their consumption patterns). However, due to the cross-sectional nature of the

quantitative data available for this thesis, any reverse causality cannot be tested. I have attempted to address some of this through my qualitative work.

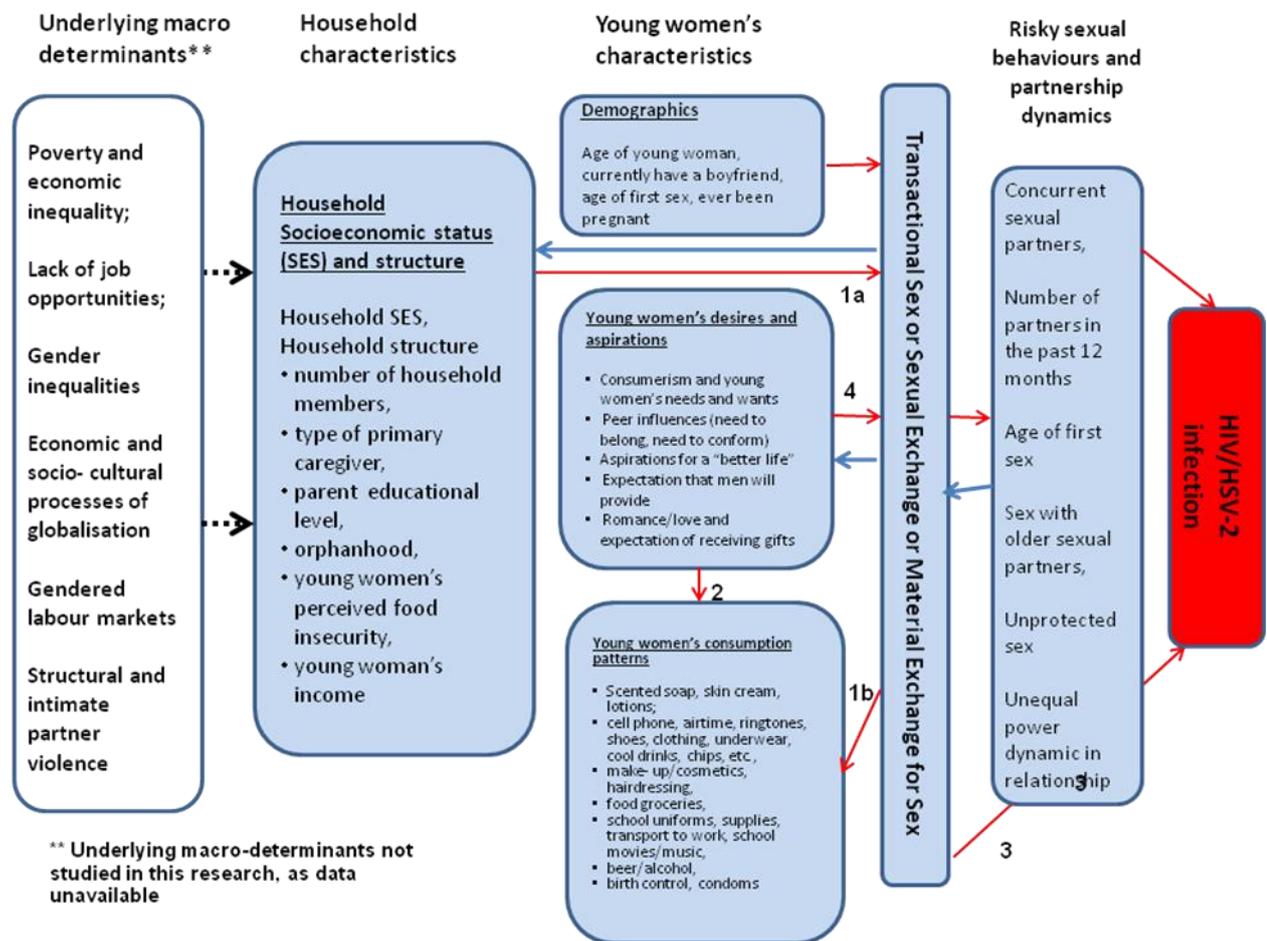


Figure 3.2: Conceptual framework of potential factors that may influence young women's engagement in transactional sex and the relationship with HIV infection. 1

It is important to mention that I also considered the applicability of complexity theory to help explain the multi-level interactions between socio-demographic factors, such as poverty, household socio-economic factors and individual level behaviours, such as young women's motivations to engage in transactional sex, their desires and aspirations and their risk for HIV infection in my research. Complexity is the study of complex adaptive systems and has been defined as 'a collection of individual agents with freedom to act in ways that are not always totally predictable, and whose actions are interconnected so that one agent's actions changes the context for other agents.' (122,123). This concept emphasises the shortcomings of a reductionist approach, i.e. people are not just random collections of cells or molecules, and populations are

not just random collections of individuals. Complex adaptive systems have significance that is more than the sum of their component parts (122).

In epidemiological terms, the health of a population can be viewed as a complex adaptive system. Risk factors for disease do not operate in isolation, but occur in a particular population context. Individual 'lifestyle' can only be understood in the historical, cultural, and social context in which it occurs (124,125). Thus, although the occurrence of disease can be studied at many different levels including ecosystems, populations, individuals, and molecules, it has been argued that the population level is fundamental for epidemiology (124). In addition, the interactions between the variables that determine the transmission of infections in populations are often complex and non-linear (122). Arguably, the social ecological framework provides a simplistic view of the different factors that influence individual level risk for HIV, whereas complexity research requires a systems-based approach that not only integrates information from several fields of research (i.e. demography) in order to address the population context in which infectious disease occurs, but also considers the interactions and feedback loops between adaptive agents. In particular, although a focus on the population level, and the socio-cultural context does not necessitate the use of the complexity theory, it makes its value and potential more apparent (126).

3.3 Conceptual framework, research objectives and theoretical frames

My conceptual framework (figure 3.2) presented above serves to 'map' the key ideas of my thesis and guide my research questions. The importance of different factors acting at different levels is recognised in this framework. The quantitative analysis is testing the relationship between proximal factors (household and young women's characteristics) and transactional sex; the relationship between transactional sex and consumption patterns and how that might vary by household socioeconomic status (Objective 1 and b); as well as the relationship between

transactional sex and HIV and whether certain risky sexual behaviours and partnership dynamics mediate this relationship (Objective 3)²⁵.

In addition, using Maslow's hierarchy of needs as a theoretical lens, I qualitatively explore adolescent young women's needs and wants in the context of macro-level influences such as globalisation and circumscribed employment opportunities in rural South Africa and the strategies young women use to obtain these items and how transactional sex fits in (Objective 2). I also use Social Exchange Theory to further understand gift giving in relationships and exchange dynamics between young women and their partners, how it ties together with transactional sex and young women's expressed agency in these transactional relationships (Objective 4). The results of this thesis, will take one step towards understanding the complicated processes involved in young women's engagement in transactional sex.

As mentioned earlier, I used both quantitative and qualitative methods to meet my research aim and objectives. However, since I conducted a secondary analysis of my quantitative data (hence had no control over the data collection) and had collected my own qualitative data, I was able to use three theoretical frames to describe the various aspects of my qualitative research. These theoretical frames have been described below:

3.3a Social exchange theory and adolescents

I apply social exchange theory as a framework to further understand motivations behind young women's engagement in transactional sex. Social Exchange Theory (hereafter social exchange) can be traced back to the 1920s bridging such disciplines as sociology, psychology and behavioural economics. (127). It was introduced in 1958 by the sociologist George Homans who defined social exchange as the exchange of tangible or intangible items that are either rewarding or costly, between at least two persons (118). From the sociological perspective, social exchange

²⁵ Please note that I've marked out each of the objectives as numbers in the diagram of the conceptual framework.

theorists such as Emerson (1976), as well as Blau (1964) agree that most intimate interactions depend on gaining a reward or profit from the relationship and that social exchange involves a series of interactions that potentially generate obligations through interdependence that eventually arises (127,128). Thus, partners tend to expect certain rewards from their relationships and remain in them primarily if they receive those rewards, and if there is no better way of obtaining those same rewards elsewhere. Within social exchange, these interactions are usually seen as interdependent and contingent on the actions of another person (127,129). Interdependence, which involves mutual and complementary arrangements, is considered a defining characteristic of social exchange (129). Thus, reciprocal interdependence and negotiated interdependence are the two types of exchange that are generally discussed in exchange relationships.

Reciprocal interdependence emphasises ‘dependent interpersonal transactions’ whereby an action by one person leads to a response by another. If a person supplies a benefit, the receiving person should respond in kind (129,130). Thus, in this tradition, a “reciprocal exchange” is understood as one that does not include explicit bargaining (131,132). By specifying that something is given in return for something else, reciprocity is made the key element of the exchange (133). Thus, one person’s actions are contingent on the other’s behaviour. Because of this, interdependence reduces risk and encourages cooperation (134) although it might induce a sense of obligation. Formal obligations are generally not necessary for an exchange to occur. Nevertheless, an informal obligation might be felt and a psychological debt incurred when a still-unreciprocated gift is received. As Mauss (1966) suggested if an obligation is not felt then the gift is not considered to be part of an exchange; reciprocity and gift exchange are both required to build relationships (135,136). Typically romantic relationships are organised around maximising mutual benefits in reciprocal arrangements (137).

Negotiated interdependence is when parties of exchange may also negotiate rules in the hope of reaching beneficial arrangements (138,139). Negotiated agreements tend to be more explicit than

reciprocal exchanges. In addition, the duties and obligations exchanged are fairly detailed and understood. Negotiated exchanges are often a part of economic transactions (140).

In general, reciprocity produces relationships that are more suited to romantic relationships than negotiations and allows for individuals to be more trusting of and committed to one another (141). Furthermore, negotiated exchanges might incite more unhelpful power use and less equality (141,142). Hence, reciprocal arrangements are considered equitable and mutually beneficial social exchanges that promote interdependence, whereas negotiated social exchanges disrupt interactions and threaten interdependence (137).

When social exchange theory is applied to adult romantic relationships, it assumes that adult romantic relationships are organised around interdependent behaviours and outcomes (137). Interactions between romantic partners become exclusive and committed as interdependence deepens, increasing each participant's investment in the continuation of social exchanges. Thus, in the beginning when individuals are less interdependent, they strive to maximise their own individual gains. As interdependence develops, new patterns of social exchange emerge where participants strive to maximise joint outcomes by expanding rewards for each participants (i.e. personal gain is subsumed by relationship advantage). However, adolescent romantic relationships are surrounded by social sanctions, which includes approval from parents and peers (137). Furthermore, adolescents experience profound changes related to intellectual advances and interpersonal skills that are likely to shape their behaviour in romantic relationships. In addition, compared with adult affiliations, adolescent romantic relationships are transitory and fleeting, as well as less exclusive and intimate (137).

Thus, sources of variance in social exchange that pertain to adolescent relationships (in comparison to adult relationships) can be ascribed to *proximal* and *distal* mechanisms and have been described below:

- Proximal mechanisms influencing resource exchange show that similar social interactions and outcomes maybe interpreted in a different manner depending on the specific resource and its meaning to participants (143). Thus, the relative value of different types of social exchange varies according to individual, relationship and setting characteristics. Two dimensions of proximal mechanism distinguish resources provided by social exchanges according to their value to participants: *particularism* and *concreteness* (143). Particularism describes the *significance* of the relationship providing the resource and the *value* attached to receiving it from a specific source. Resources low in particularism has value regardless of their origin, whereas resources high in particularism usually are cherished only if received from certain individuals. Concreteness describes the type of social exchange and the outcome provided. Concrete commodities and behaviours differ from symbolic ones in that the latter afford meaning beyond the material value of the item or act (137).

On the basis of these differences, Foa (1971) identified six types of resources: status, love, service, goods, money and information. Those resources that are high in particularism range from concrete (service) to symbolic (status) and points in between (love). Those low in particularism also vary from the concrete (goods) to the symbolic (information) and points in between (money) (143). Different resources are likely to be salient in different relationships. Particularistic exchanges are generally limited to close relationships (e.g., friends, romantic partners and family members). Concrete resources are exchanged in all relationships. As interconnections between participants increase, so does the variety of resources exchanged and their relative significance (144). Relationships that are not close tend to be linked to a specific resource (e.g., teachers provide information, beauticians provide a service). Close relationships include most resources with a differing value. Love tends to be the most important resource exchanged in a romantic relationship, followed by information and service (137). Principles that govern social exchanges depend on the resources exchanged and the relative significance of a relationship resource maybe specific to an age period. Thus, peer social exchanges become increasingly important across

adolescence – resources provided by friends and romantic partners expand or remain constant from childhood through adulthood, whereas those provided by parents and siblings decline (145).

- Distal mechanisms influencing resource exchange describe specific social interactions from an evolutionary perspective and emphasises rewards based on psychological mechanisms that evolved over time to ensure adaptation and survival (146). An evolutionary perspective suggests that romantic relationships are driven by reproductive needs, and results in an exchange of resources on both proximal and distal levels (137). Thus, distal mechanisms tempered by proximal constraints influence romantic exchanges and preferential mate choices may be linked to evolutionary pressures.

Given that romantic relationships exchange different resources, the extent to which proximal and distal mechanisms influence social exchanges depends upon individual preferences (e.g., some romantic relationships emphasise intimacy and closeness, others demand passion and sexual attraction), cultural norms (e.g., in some societies love is requisite for marital commitment, but not in all cultures), types of resources exchanged (e.g. money or gifts) and age across the life span (137).

However, there are some limitations of social exchange that need to be acknowledged for research with adolescent young women: First, social exchange can appear to be excessively rational in that it portrays interpersonal behaviour as a result of calculations concerning investments, outcomes and available alternatives (147). Love and romance in relationships are not easily captured by social interactions. Second, as this study is concerned with adolescents, there is a need to extend this framework to adolescent romantic relationships, which are also heavily influenced by environmental factors, such as values and expectations of parents and peers (137,148). Likewise adolescents differ socially, cognitively and physically, both from one another and from adults and they undergo developmental changes that are unique to certain age periods.

3.3b Maslow's Hierarchy of Needs

For my qualitative chapter (chapter 6) I draw on Abraham Maslow's Hierarchy of Needs theory as a framework to further understand young women's conceptualisation of 'needs' versus 'wants' and their motivations behind acquiring these items. Abraham Maslow²⁶ created his five-level hierarchy of needs framework (please see figure 3.3) to describe human motivation. His theory held that individuals possess a set of 'motivation pathways' unrelated to rewards or unconscious desires and that generally people are motivated to meet certain needs and when one need is fulfilled, a person seeks to fill out the next one (i.e., human needs arrange themselves in hierarchies) (149).

The earliest version of Maslow's hierarchy of needs consists of a five-stage pyramid, which describes the hierarchy of human needs. This can be divided into biological drives or physiological needs (at the lowest level); safety needs; belongingness and love needs; esteem needs and self-actualisation (at the highest level).

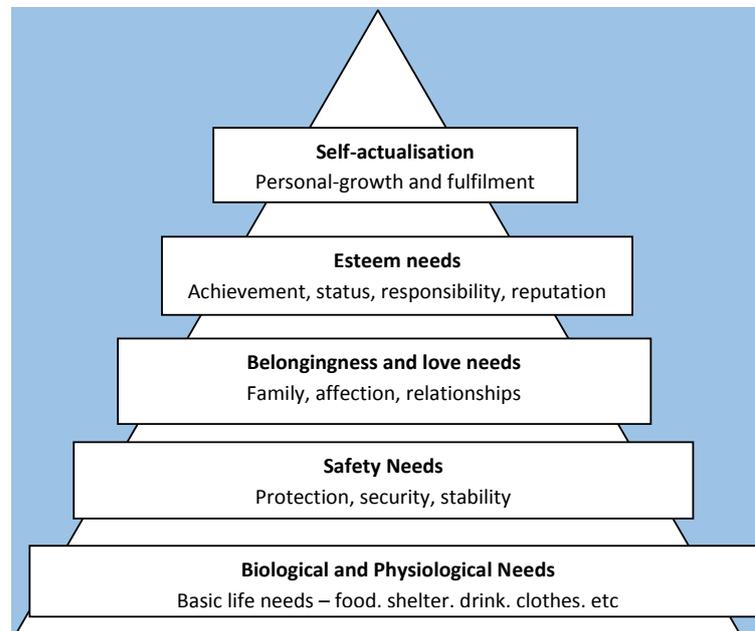


Figure 3.3 Maslow's hierarchy of needs 1

²⁶ Maslow is a humanistic psychologist. Humanists do not believe that human beings are pushed and pulled by mechanical forces, either of stimuli and reinforcements (behaviourism) or of unconscious instinctual impulses (psychoanalysis). Humanists focus upon potential. They believe that humans strive for an upper level of capabilities. Humans seek the frontiers of creativity, the highest reaches of consciousness and wisdom. This has been labelled "fully functioning person", "healthy personality", or as Maslow calls this level, "self-actualising person." (274).

The lowest level or most basic of all needs are *physiological needs*. Thus, a person who is lacking food, safety, love, and esteem would most probably hunger for food more strongly than for anything else. If all the needs are unsatisfied, and the organism is then dominated by the physiological needs, all other needs may become simply non-existent or be pushed into the background (149). The next level of needs (after physiological needs have been satisfied) can be categorised as *safety needs* (security, stability, dependency, protection, freedom from fear, anxiety and chaos, need for structure). Adults have little awareness of their security needs except in times of emergency or periods of disorganisation in the social structure (such as widespread rioting). Children often display the signs of insecurity and the need to be safe and in such situations, parents and family provide an organised set-up for children to develop their sense of security (150).

If both the physiological and safety needs are fairly well gratified, then the *love and affection and belongingness needs* will emerge. One thing to clarify is that love is not synonymous with sex; sex may be studied as a purely physiological need. Ordinarily sexual behaviour is determined not only by sexual but also by other needs, chief among which are the love and affection needs. Also, not to be overlooked is the fact that the love needs involve both giving and receiving love (149). Belonging is usually thought of as an individual's perception of his/her acceptance within a social group, while acceptance is more objective, reflecting the level of acceptance that members of the peer group express towards a given individual (152). In a study from the United States, Resnick et al. found that an adolescent's sense of belonging to family and school was significantly associated with lower rates of emotional distress, violence, substance abuse, and sexual activity (153). While peer acceptance is associated with positive social behaviour, peer rejection is consistently associated with anti-social behaviours, including withdrawal and aggression and psychological distress (154). Bukowski, Hoza and Bovin (1993) found that students (aged 10-11) who were not well accepted felt a lower sense of belonging, and also reported greater loneliness than their better accepted peers (152). Also, sense of belongingness and acceptance with peers is also associated with greater self-esteem (154).

Although even a single positive peer relationship can have beneficial effects, relationships with groups of peers seem to be particularly important in adolescence (155). In order for individuals to gain social approval, they may need to allow themselves to be influenced by their peers and similarly, they may need to accept peer influence in order to gain group membership (156). Furthermore, affiliation with certain peer groups may necessitate identification with group values and norms. This is referred to as 'peer conformity' and is defined as a behavioural disposition related to individuals' willingness to follow their peers (157).

The next level is the need for *self-respect or self-esteem and esteem of others*. These can be classified into two subsidiary sets: the first is the desire for strength, for achievement, for adequacy, for mastery and competence, for confidence in the face of the world and for independence and freedom. Second is the desire for reputation or prestige (thus respect from other people), status, fame and glory, dominance, recognition, attention and appreciation. Satisfaction of the self-esteem need leads to feelings of self-confidence, worth, strength, capability and adequacy, of being useful and necessary in the world. In general, thwarting of these needs produces feelings of inferiority, of weakness and of helplessness.

The theory is that people must satisfy lower level basic needs before progressing on to meet higher level growth needs and once these lower needs have been met or reasonably satisfied, one maybe able to reach the highest level of self-actualisation (149,150). As stated by Lea et al. (1987: 31): "the basic tenet of Maslow's theory is that humans strive to actualise, or realize, their individual potentials, that is, to grow and enhance the self" (151). Needs are therefore objective and are there to be fulfilled by individuals in their struggle to be human (49: p 402)

Maslow specifies that the hierarchy is not necessarily in a fixed order and for some individuals, self-esteem might rank higher than belongingness or love, and that even across cultures or societies, basic needs or unconscious needs are universal and that differences are usually

superficial, e.g., differences in hairstyles, clothes or taste in food. However, he does argue that only when basic physiological needs and those of safety and security are met, can humans aspire to be motivated by higher goals such as status and self-respect. Maslow held that as we come to feel satisfied with our accomplishments and sense of social worth, we take another step. He referred to this urge as self-actualisation (149).

One of the criticisms of Maslow's work is that his theoretical work lacked substantial empirical evidence. However, one of his main contributions to the psychology literature is the notion that individuals do not act on the basis of uncontrollable or unconscious desires; their behaviour is not just influenced by external rewards and reinforcement, but by internal needs and motivations (e.g., their need to fulfil status or self-esteem needs). (153). Previous research that has been done on the topic of adolescence, aspirations and materialism using Maslow's framework have been done in the context of high income countries (154,155). To the best of my knowledge, my PhD study is one of the very few that has been done in a low income setting that applies Maslow's framework to understand young women's discourse of needs and wants in the context of transactional sex.

3.3c Agency in relationships

The literature on agency, power and relationships is wide-ranging. Since a small section of my thesis focuses on young women's agency within sexual relationships, I have summarised relevant theoretical literature to provide context. Different disciplines have generated different perspectives on agency. In the international development literature, agency essentially refers to a process whereby individuals are able to visualise various paths of action, decide among them and then choose where they want to act (156). In the human geography literature, agency in young people has been defined as:

“...an individual's own capacities, competencies and activities through which they navigate the contexts and positions of their life worlds fulfilling many economic, social

and cultural expectations, while simultaneously charting individual/collective choices and possibilities for their daily and future lives” (185, p 135).

From both these perspectives, sexual agency may be best understood as the realisation, acknowledgement and acceptance of sexual feelings and the choice and ability to act, or not to act, on those feelings (158). Furthermore, Stephen Bell (2011) used the term sexual agency to refer to ‘processes where young people become sexually active and the strategies, actions and negotiations involved in maintaining relationships and navigating broader societal expectations’(159). This definition also captures the temporal nature of sexual agency by exploring the consequences of young people’s sexual relationships in contexts where sexual activity tends to be discouraged.

Maxwell and Aggleton (2010) using data from young people at a private secondary school in England showed young women’s reflections on power and experiences of power within relationships and their expressed agency in these situations (160). Findings from this study tried to connect attitudes and emotions that motivate young people’s sexual relationships, the processes they undertake to maintain relationships, as well as the consequences that arise when relationships become public knowledge (160). Stephen Bell’s (2011) analysis of young men and women (aged 11 -24 years) in rural Uganda supports Maxwell and Aggleton’s definition of agency (terming it ‘agency in action’) and his findings demonstrate how young people are able to be social agents, taking some control over their own lives when small opportunities arise for them to navigate social expectations that constrain their agency in sexual relationships (159).

Literature that identifies and analyses the concept of young women’s sexual agency in the context of HIV risk is still sparse (101). Carol Vance’s (1989) ground-breaking volume noted the contradictory location of women’s sexuality and how its expression in pursuit of pleasure, particularly in contexts of danger resulted in them being placed at risk, by the very actions they took to affirm femininity such as asserting what they want from relationships and strategies they

deploy to get it (161). Mostly in the literature around transactional sex, young women have multiple partners as a way of accessing services, goods, cash, as well as prestige, in a context where having ‘rich’ boyfriends is a mark of success (61,87,101). Thus, in these situations, women negotiate their sexuality under conditions of male-controlled inequality, conditions of economic inequality, poverty, but are still not passive, even when young (101,107). Jewkes and Morrell (2012) in their study on sexually-active teenage women, aged 13-20 years from a rural site in South Africa showed that whilst constrained by patriarchy, poverty and limited family support, when initiating dating, young women exercise agency. However, this seldom remained once in the relationship (101).

Furthermore, it is important to mention that in the context of post-apartheid South Africa with the dismantling of apartheid-era laws and with the formation of a new legal and policy framework, there was a shift in gender identities. For women, there has been a conspicuous emergence, primarily in urban settings, of “modern girl” femininities, associated with the exercise of independence and the use of specific fashion commodities (162). This was an ideal of womanhood that is chiefly the domain of those women with access to (at least some) material resources. Whether these girls and young women sought economic or sexual independence, the emergence of this phenomenon has drawn attention to the question of feminine agency. (50). Thus, developing a more nuanced understanding of young women’s motivations to engage in relationships and their perceived agency within these relationships is important to help contextualise young women’s engagement in transactional sex.

3.4 Gaps this thesis aims to address

In the context of the HPTN 068 trial in rural South Africa, this thesis specifically aims to fill existing gaps by:

- Using descriptive and multiple regression analysis to determine the relationship between household socio-economic status (measured using household consumption per capita) and

household structure and young women's engagement in transactional sex, as there is a lack of quantitative data on the role of household socio-economic status/household structure and young women's engagement in transactional sex;

- Using factor analysis to group young women's consumption patterns and then regression analysis to explore the relationship between young women's engagement in transactional sex and groupings of consumption patterns, as there is a lack of quantitative data on the association between transactional sex and consumption patterns;
- Using descriptive and mediation analysis to explore the relationship between young women's engagement in transactional sex and HIV and HSV-2 infection, to support the growing, but still sparse quantitative evidence on the relationship between transactional sex and HIV and HSV-2 infection in young women;
- Using qualitative methods to further expand on young women's conceptualisation of needs and wants; categorise these using Maslow's hierarchy of needs framework and explore strategies young women use to access these items including transactional sex;
- Using qualitative methods to better understand young women's motivations to engage in transactional sex by using social exchange theory as the theoretical lens, to further discuss reciprocal and negotiated arrangements in transactional relationships and to also explore young women's perceived agency in these encounters.

3.5 Conclusion

In this chapter, I present my conceptual framework which maps out the relationships I plan to explore in the four empirical chapters (chapters 5-8). I also provide an overview of the three theoretical frames which I use to analyse my qualitative data. These are: the developmental model of social exchange theory adapted for adolescent relationships; Maslow's hierarchy of needs framework; and agency in relationships. I conclude by describing how this thesis aims to address evidence gaps.

CHAPTER 4: Overview of Methods

4.1 Chapter Overview

In Chapter 2, I situated this thesis within existing knowledge of young women's motivations for engaging in transactional sex and on structural drivers of HIV infection. The review encompassed literature from both quantitative and qualitative research traditions, highlighting the contribution both approaches make in understanding the complex role of young women's motivations to engage in transactional sex. The review and the theoretical underpinnings of my research, along with the conceptual framework (discussed in section 3.4) set the stage for this chapter, where I give a description of the study setting and provide an overview of the methods I have used in this thesis. In section 4.2, I introduce the rationale for using a combination of quantitative and qualitative methods for my PhD. In section 4.3, I describe the setting for this study, and then proceed to provide an overview of the quantitative (section 4.4) and qualitative (section 4.5) methods and analytical approaches I used. I have not explained the analysis for each quantitative objective in detail, as this is explained more fully in the individual results chapters (chapter 5 and 7).

4.2. Multi-methods research

The overarching aim of this thesis is: *To explore what factors are associated with young women's engagement in transactional sex, the underlying motivations for their engagement, and the degree to which sexually active adolescents who report engaging in transactional sex, or having particular patterns of consumption, are more likely to be infected with HIV or HSV-2, in the context of the HPTN 068 ("Swa Koteka") trial in rural South Africa.* The complex meaning of the phenomena (e.g., transactional sex) studied disrupts a simple dichotomy of quantitative and qualitative methodologies. Instead, I have deployed an approach that uses a combination of quantitative and qualitative research methods to address this aim. If only one or the other method were used, it would provide a limited understanding of the issue. For example, definitions of transactional sex vary in different settings (i.e. in sub-Saharan Africa economic exchange is considered integral to a wide range of sexual relationships, from marriages to long-term

relationships unlike settings where the exchange of sex for money takes place within the context of prostitution rather than a feature of an enduring relationship). Thus, measuring the meaning of transactional sex is challenging using only quantitative survey questions where the nuances of these relationships are not always captured. I use a combination of quantitative and qualitative methods in order to try to gain both a breadth and depth of understanding of young women's motivations for engaging in transactional sex and the processes that potentiate HIV risk²⁷.

4.2.1 Combining quantitative and qualitative methods: Triangulation

Combining quantitative and qualitative components in the study of the same phenomenon is broadly known as triangulation (163). Triangulation of methods can achieve various aims, including corroborating findings, generating more complete data and using results from one method to enhance insights attained with the complementary method (164).

Combining quantitative and qualitative methods can be dismissed as an attempt at putting unrelated items together; in particular methodological purists advocate the *incompatibility thesis*, which posits that qualitative and quantitative research paradigms, including their associated methods should not be combined (165,166). However, there is an established body of knowledge about multi or mixed methods research, particularly in the last 20 years that confirm that combining methods can answer a broader and more complete range of research questions than quantitative or qualitative approaches alone (167,168).

Quantitative research is usually associated with a positivist stance and a belief that reality can be observed and measured numerically. Most often, it sets out to test an a priori hypothesis and is therefore usually described as deductive (169). Strengths of quantitative research include its techniques to minimise confounding and the potential to generate generalisable findings if based on samples that are both large enough and representative. It remains the dominant paradigm in

²⁷ As my PhD research is embedded in a large randomised controlled trial, I did not have any flexibility around baseline questions, which were pre-determined, hence I could only conduct a secondary analysis. I, however, did have flexibility around the qualitative questions, as I collected my own data.

health research. However this deductive approach is less suited to explaining complex social or cultural phenomena (170).

Qualitative methods can be used to understand complex social processes; to capture essential aspects of a phenomenon from the perspective of study participants (constructivist perspective); and to uncover beliefs, values and motivations, which underlie individual health behaviours (3, 6, 44). Qualitative research uses multiple methods that are interactive where the researcher collects open-ended data and explores emergent themes (6, 14). It can generate robust theory that is applicable to contexts outside of the study area in question, helping to guide practitioners and policy-makers (171). However, for research that aims to impact on policy and public health practice, the findings of qualitative research can be limited by the small samples sizes that are necessary for in-depth exploratory work and the consequent lack of generalisability (172).

Combination of methods therefore has the potential to harness the strengths and counterbalance the limitations of each strategy. Within the field of HIV, a number of studies have illustrated the value of research that uses both methods to help engage with the complex nature of HIV prevention and HIV care (166,173–176). It is often the case that there is a need to examine both the number and nature of the phenomenon. Especially if the phenomenon is too complex or sensitive to be captured fully in statistical enquiry, qualitative research is needed alongside to provide the detail or understanding that is required. (177,178). Thus, combining methods is now accepted as a useful approach in addressing and better understanding complex and sensitive questions and can be especially powerful when addressing multifaceted objectives such as those posed in this thesis.

4.2.2 Overview of methods used for this PhD

Both the quantitative and qualitative approaches used in the present study were given equal weight. I used a parallel or concurrent approach (169), where a preliminary quantitative²⁸ analysis was alongside the collection and analysis of qualitative data. I then completed the final analysis of the entire dataset of quantitative data. My literature review, conceptual framework and quantitative findings informed my sampling and methods used for the qualitative data collection and the qualitative data contextualised the quantitative results. Figure 4.1 shows how a combination of quantitative and qualitative methods was used in parallel in this study.

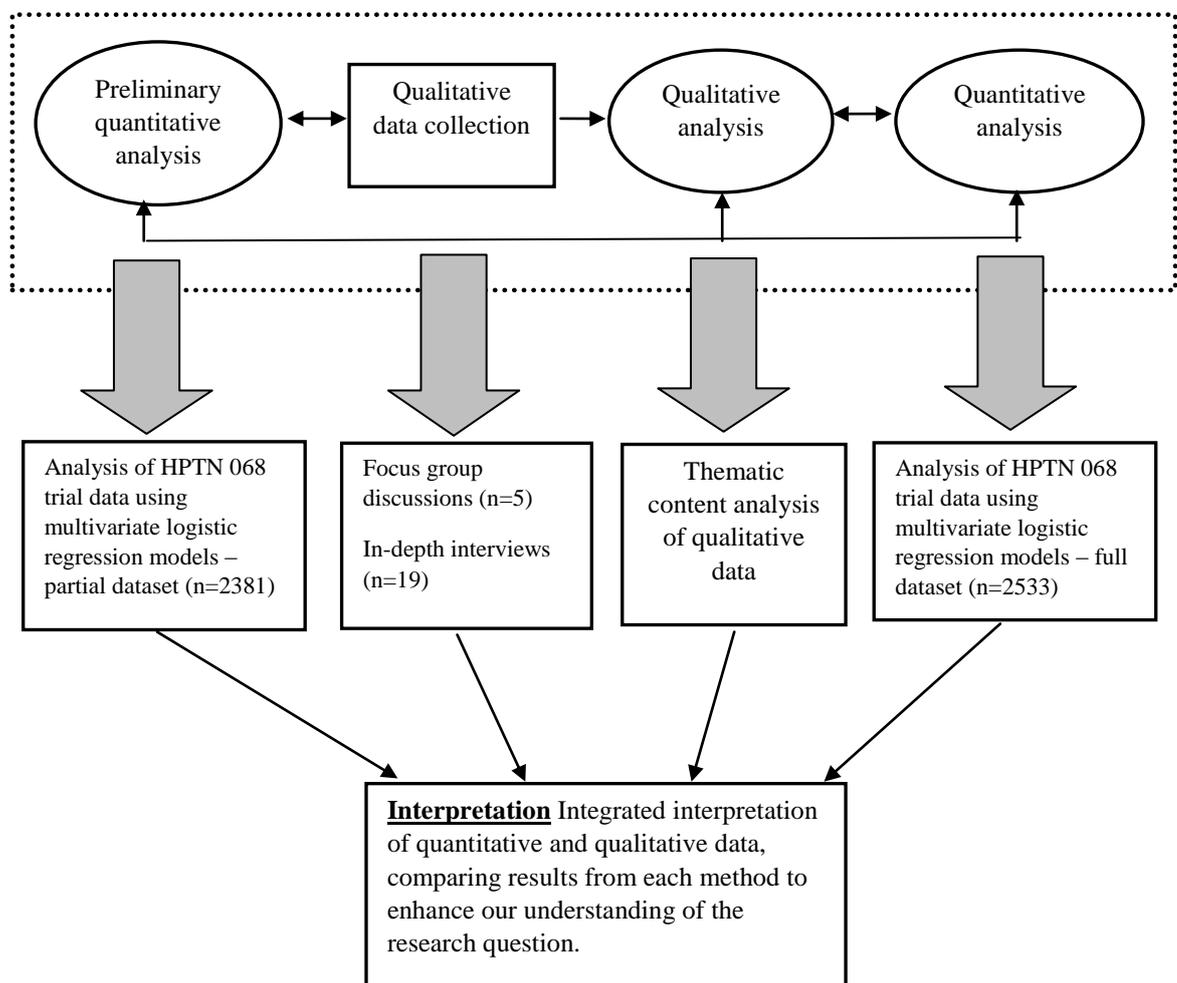


Figure 4.1: Design that uses a combination of quantitative and qualitative methods for this study (adapted from Tariq et al, 2013) 1

²⁸ The quantitative analysis for my PhD comprises of secondary analysis of epidemiological data from the baseline survey of the HIV Prevention Trials Network (HPTN) 068 trial, which is a large ongoing conditional cash transfer (CCT) trial in rural South Africa of 2533 young women and households.

In reference to the figure above, for the first quantitative phase of my PhD I analysed the partial baseline dataset²⁹ from the HPTN 068 trial in which my research is embedded. This was done from April 2012-December 2012. Guided by my conceptual framework, I used regression analysis to understand key influences such as household socio-economic status and structure (e.g., type of primary caregiver, educational level of primary caregiver, household size) on young women's reported engagement in transactional sex and their consumption patterns, as well as the relationship between transactional sex and young women's HIV and HSV-2 status.

The qualitative data collection comprised five focus group discussions (FGDs) and 19 in-depth interviews (IDIs) with young women from the baseline control arm of the trial (*Details of the study setting of the main HPTN 068 trial is described below in [Section 4.3](#) of this chapter*). This was conducted from November 2012 – March 2013. Both FGDs and IDIs were conducted to further understand young women's needs and wants, the strategies young women use to access money and gifts including transactional sex, perceived motivations for engaging in sexual relationships, the agency exhibited in these encounters and perceived risk of HIV and HSV-2. FGDs were chosen to understand the dominant discourse and social norms around sexual behaviours that were shaped by conversations with peers within a group setting. In contrast, IDIs were used to collect data on young women's 'true' behaviours and beliefs as they were conducted in a private setting. Since I had almost completed my preliminary quantitative analysis I had begun to see patterns around consumption patterns and the relationship with transactional sex. This influenced some of the questions during the in-depth interviews and focus group discussions. Coding of the qualitative data was an iterative process during data collection. This was followed by thematic content analysis of data that emerged from the data collection from March – July 2013.

²⁹ As baseline enrolment was still ongoing thus the complete dataset was not ready at the time

I then completed the quantitative analysis of the full baseline dataset (n=2533 young women) with a focus on sexually active young women (n=693) from August 2013 – December 2013 and finally drew on findings from all four objectives to interpret and write findings.

This PhD study methodology was embedded within a framework of structural determinants of HIV risk among young women, social exchange theory and Maslow's hierarchy of needs framework to interpret my qualitative findings. I have used qualitative methods in an effort to engage with and document young women's perspectives and experiences, while recognising the importance of quantitative research in producing generalisable findings that may inform practice. By combining quantitative and qualitative approaches in this study, my aim was to not only identify factors associated with transactional sex and young women's consumption patterns and the relationship with HIV/HSV-2 infection, but to also understand how young women conceptualise their different relationships, their needs and wants, their understanding of the concept of transactional sex, their motivations for engaging in transactional sex and the agency they exhibit in these relationships. This would not have been possible using one methodological approach alone.

4.3 Study context

In this section I provide a description of the study setting in rural Mpumalanga province, South Africa and a description of the main HPTN 068 trial.

4.3.1 Study setting

My PhD research is embedded in a randomised controlled trial (HPTN 068) which is a large ongoing conditional cash transfer (CCT) trial in rural South Africa. The research was conducted in the sub-district of Agincourt in rural Mpumalanga Province (*please see figure 4.2a*) an area with high levels of poverty and unemployment.



Figure 4.2a Location of Agincourt HDSS and sub-district South Africa, near the border with Mozambique (179) 1

The MRC/Wits Agincourt Unit runs the Agincourt Health and Demographic Surveillance System (AHDSS) in this area. The study setting is 500 km northeast of Johannesburg in Mpumalanga Province and is a semi-rural area which was part of a former homeland³⁰ under apartheid, close to South Africa's border with Mozambique. To the east, the Agincourt area borders on the Kruger National Park, one of the largest game parks in Africa; to the west are the Drakensberg Mountains (please see figure 4.2b).

³⁰ Homelands were created by colonialism and the apartheid regime to relegate the majority of black African people to rural enclaves.

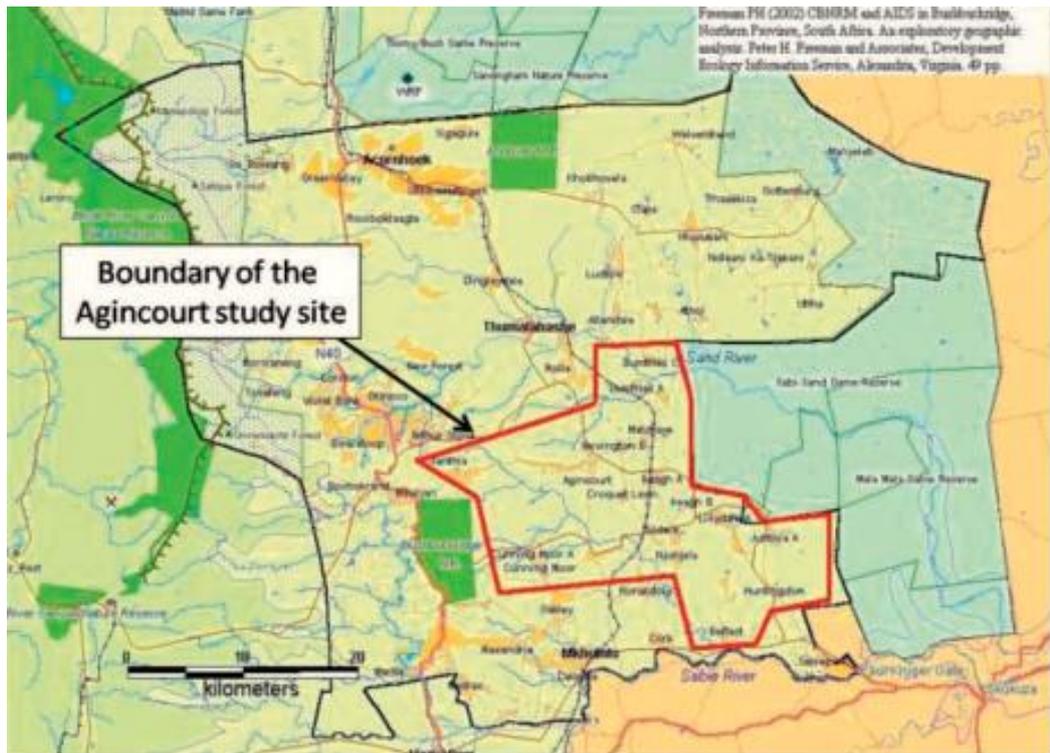


Figure 4.2b: Boundary of the Agincourt HDSS study site adjacent to the Kruger National Park, South Africa (179) 1

High population density and low rainfall make the area inadequate for subsistence farming and more suitable for cattle or game rearing (179). The area is poor and in need of infrastructure. Government-led development initiatives since democratic change in 1994 have been slow: some roads are tarred and all villages have access to electricity; however few households can afford electricity, so reliance on fuel wood persists, water supply to village stand-pipes is also erratic and sanitation rudimentary (179,180). People rely on a cash economy supplemented in important ways by state-sponsored, non-contributory social grants, particularly the old age pension, disability and child support grants (181). Poorer households and those experiencing the death of a breadwinner lack food security, with some 20–30% of children under 2 years of age stunted (182). Although primary education is virtually universal, quality is poor and progress often delayed. Employment opportunities in the area are few, with younger women increasingly migrating to cities for work (183). Thus, older women (predominantly grandmothers) play a vital role in child care, feeding and schooling.

In 1992, 57,600 people were recorded in 8900 households in 20 villages; by 2006, the population had increased to 70,000 people in 11,700 households. This increase is partly due to Mozambican in-migrants in a new settlement established as part of the post-apartheid government's Reconstruction and Development Programme (183). The civil war in Mozambique in the 1980's resulted in refugees from Mozambique re-settling in this area. However, as a consequence of their history, they are less able to acquire property, engage in the labour market or access government services, resulting in higher levels of poverty compared to South African households (184).

The most common language spoken in this area is XiTsonga and the most common ethnic identity is Tsonga, though sizeable minorities identify as Pedi, Sotho, Swazi, and Zulu. Mozambican immigrants to the area speak a dialect of XiTsonga and tend to be classified as Tsonga (185). There are 27 secondary schools in the AHDSS catchment area (please see figure 4.2c). Although all villages have primary schools and attendance is near universal, school progress lags, with half of 20-year-olds still enrolled. Employment opportunities are scarce, made evident by unemployment rates of 29% for men and 46% for women (186).

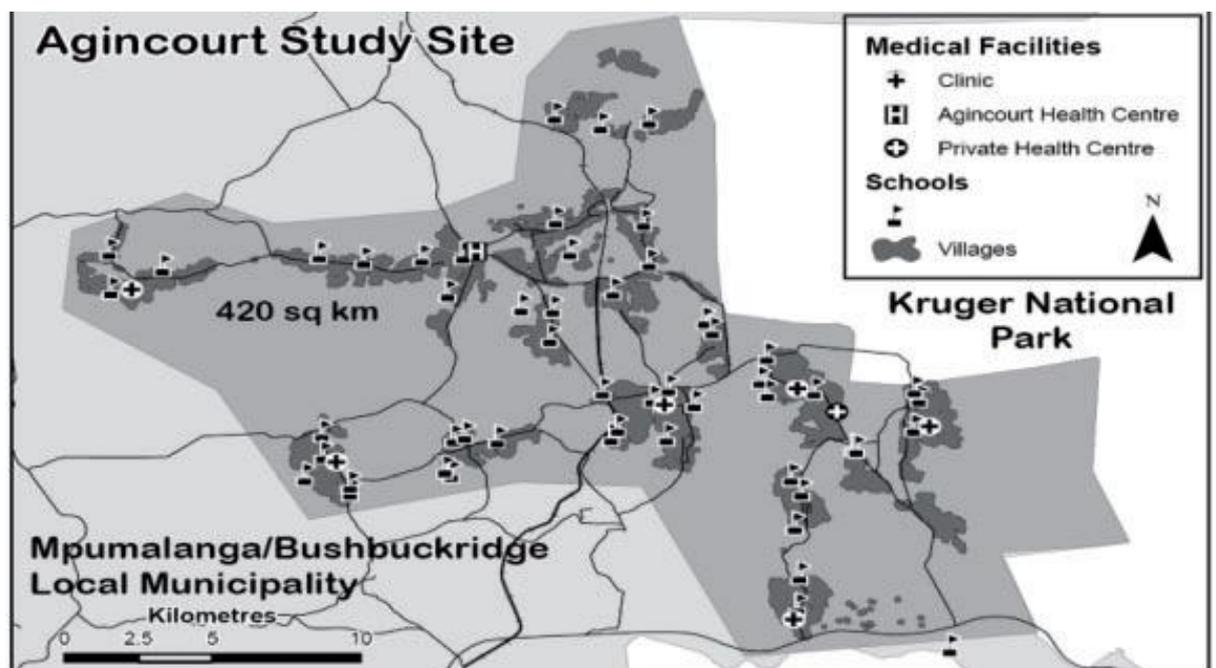


Figure 4.2c: Agincourt HDSS study site and sub-district indicating positions of villages and health and education facilities (179) 1

Also, labour migration has always been high and increasingly involves women. The province has a HIV-prevalence rate (based on antenatal survey data) of 32.1%, making it one of the worst-affected areas in the country (187). HIV prevalence using a cross-sectional biomarker survey in 2010-2011 was 5.5% among 15-19 year old females and 0.4% among males in the same age range, 27% in 20-24 year old females and 6.1% among same age males and approximately 38% among 25-29 year-old females and 21.7% for same age males (188).

The AHDSS was established in 1992, to support district health systems development led by the post-apartheid ministry of health. Community surveys and research done by the MRC/Wits Agincourt unit in this setting indicates that rural South Africa is in the midst of multiple inter-related transitions that have led to marked changes in population structure over the past two decades, fuelled by fast-declining fertility and by the HIV/AIDS epidemic causing an increase child mortality (184,189). Spatial patterns of mortality reflect inequalities between former Mozambican refugees and South African host communities (190). Non-communicable disease has placed an additional burden on a community that already suffers from the traditional diseases of poverty. Lifestyle, dietary and occupational changes have made obesity, hypertension and diabetes major public health issues and that these problems are most severe in older women (191).

More rural women are migrating for work than ever before. Mortality, mainly from AIDS and tuberculosis, is highest among recently returned migrants of both sexes, imposing high demands on local health services and communities (186). Older women play key roles supporting child care and schooling while having to meet health care and funeral costs (179). Thus, over recent years, average household size has decreased, the proportion of female-headed households has increased and the proportion of households with at least one maternal orphan has doubled (184). Food security among poorer households remains precarious, with harvesting of natural resources acting as an important buffer against 'shocks' such as death of a breadwinner (183). Among the poorest households, reliance on natural resources is high, no matter what the specific cause of

adult death. In the Agincourt area there has been a consistent decline in fertility over the past 25 years, including amongst adolescents (184). The reasons for declining fertility are complex, including increased use of contraception. Migration has certainly played a role and HIV/AIDS has probably been responsible for about 20% of the fall.

4.3.2 Description of the HPTN 068 (*Swa Koteka*) trial

The main conditional cash transfer (CCT) trial known as '*Swa Koteka*' is funded by the HIV Prevention Trials Network (HPTN 068). The overall purpose of this four-year randomised controlled trial is to determine whether providing cash transfers to young women and their households, conditional on school attendance reduces HIV incidence among young women. Baseline enrolment began in March 2011. The intervention involves individually randomising young women aged 13 to 20 years to receive a monthly cash transfer, conditional on the young woman attending school. Young women in the intervention arm received a cash stipend if they attend school. The households of young women received a cash transfer of R200 per month (~USD 26) and the young woman receives R100 per month (~USD 13), conditional on the young woman attending at least 80% of school days per month. Monitoring of school attendance in the intervention arm is taking place by using daily attendance registers and is assessed monthly to determine young woman's eligibility to receive the transfer.

4.4 Overview of quantitative and qualitative study methods and analytical approach

For my PhD, I conducted a secondary analysis of the baseline survey from HPTN 068 trial and also collected my own qualitative data to further explore aspects of young women's engagement transactional sex, a pathway hypothesised to be associated with HIV infection.

Prior to describing the two methodologies I used for this PhD and my analytical plan, please see Table 4.1 that provides an overview of the different methods used and my analytical plan for all four objectives of this PhD.

Table 4.1: Overview of Methods and Analysis Plan

Research Objectives	Key Data Sources and Data Collection Methods*	Modules of Focus/Themes of focus	Variables [#]	Analysis Plan
<p>1. To quantify whether at baseline, young women's household's socio-economic status (SES) and other socio-demographic characteristics are associated with their reported engagement in transactional sex and the relationship between transactional sex and consumption patterns (Ch 5)</p>	<p>Household and young women's questionnaire (merged file)</p>	<ul style="list-style-type: none"> • Household demographics • Young women's demographics • Partner grid • Consumption module • Employment and finances 	<p>HH SES/HH structure >> Transactional sex</p> <ul style="list-style-type: none"> • Outcome variable – transactional sex (sex exchange for money and/or gifts); • Exposure variables - HH SES, number of household members, type of primary caregiver, educational level of primary caregiver, young women's perceived food insecurity, young women's employment status and being an orphan; • Confounder - age of young woman <p>Transactional sex>>consumption patterns</p> <ul style="list-style-type: none"> • Outcome variable – Consumption patterns (high cost essentials (HCE) and entertainment related (ENT) compared to low cost luxuries (LCL) • Exposure variable – transactional sex (sex exchange for money and/or gifts) • Confounder: age of young woman, number of household members, type of primary caregiver, young woman's employment status, orphan, past 12 months sexual partners, currently have a boyfriend • Effect modifier: Household SES 	<p>1. Describe the types of items girls are purchasing and explore how patterns vary by poverty and household characteristics. Also to explore young women's engagement in transactional sex, the characteristics of young women who are engaging in it and the types of items they exchange with their partners.</p> <p>2. Bi-variate and multi-variable logistic regression to explore associations such as:</p> <ul style="list-style-type: none"> - Relationship between HH SES/HH structure and young woman's engagement in transactional sex - Relationship between transactional sex and high cost essentials and entertainment related items - Relationship between transactional sex and merged variable (high cost essentials and entertainment related items).
<p>2. To explore qualitatively, young women's perceptions about what consumption items they consider 'necessary' (need) or desirable ('wants), the motivations for acquiring these different items, and the potential role of transactional sex in their acquisition (Ch 6).</p>	<p>Qualitative topic guides using in-depth interviews and focus group discussions</p>	<ul style="list-style-type: none"> - Participatory exercises from FGDs <ul style="list-style-type: none"> - Needs and wants exercise - Ranking exercise - Source of items - Relationships with boys/men - Young women's spending or consumption patterns - Strategies to access items 	<p>Not applicable as qualitative data</p>	<p>Thematic content analysis:</p> <ul style="list-style-type: none"> ○ Create coding framework – both inductively and deductively ○ Code documents ○ Identify themes and central ideas extracted ○ Create content framework ○ Identify relationships among themes or concepts identified from the analysis

Research Objectives	Key Data Sources and Data Collection Methods*	Modules of Focus/Themes of focus	Variables [#]	Analysis Plan
<p>3. To quantify the association between young women's reported engagement in transactional sex and their HIV and HSV-2 status and whether the relationship is mediated by different aspects of sexual behaviour and/or relationship dynamics (Ch 7)</p>	<p>Household and young women's questionnaire (merged file)</p>	<ul style="list-style-type: none"> • Household demographics • Young women's demographics • Partner grid • HIV and HSV-2 biological data (not in survey) 	<p>Outcome variable – HIV and HSV-2 Exposure variable – Transactional sex</p> <p>Mediating variables <i>Risky characteristics:</i> Age difference with the partner; condom use at last sex; sex after alcohol and drug use; young woman's partner concurrency; number of sexual partners in the past 12 months</p> <p><i>Risk perception:</i> Perception of whether the partner has other concurrent partners</p> <p><i>Power imbalance in the relationship:</i> Perceived power dynamic in the sexual relationship</p> <p>Confounders – Household SES, type of primary caregiver, number of household members, age of young women, have boyfriend, orphanhood, young women's employment status</p>	<ul style="list-style-type: none"> - <i>Mediation analysis</i> to explore the relationship between young women's engagement in transactional sex and HIV/HSV-2 infection, and assess whether this relationship is mediated through certain risky behaviours, such as sex with an older partner, condom use at last sex, sex after alcohol or drug use, her own multiple concurrent partnerships, number of sexual partners, her risk perception in terms of partner's concurrency and the perceived power dynamic in the sexual relationship. - Analysis two-fold to assess <ul style="list-style-type: none"> ○ Total effect by constructing regression model of association between transactional sex and HIV/HSV-2 adjusting for all confounders in this pathway. ○ Direct effect of transactional sex on HIV/HSV-2 developed by adjusting for all variables, which included the exposure, mediating and confounding variables
<p>4. To explore qualitatively young women's perceived motivations for engaging in transactional sex, the degree of agency they perceive and exhibit in these exchanges, and their perceptions on the relationship between transactional sex and risk of acquiring HIV. (Ch 8)</p>	<p>Qualitative topic guides using in-depth interviews and focus group discussions</p>	<ul style="list-style-type: none"> • Gifts/money for items • Typology of relationships • Relationships with boys/men • Transactional sex related • Social norms and power in sexual relationships involving exchange 	<p>Not applicable as qualitative data</p>	<p>Thematic content analysis:</p> <ul style="list-style-type: none"> ○ Create coding framework – both inductively and deductively ○ Code documents ○ Identify themes and central ideas extracted ○ Create content framework ○ Identify relationships among themes or concepts identified from the analysis

*Questionnaires and topic guides have been included as appendices. # Please note that the construction of specific variables used for analysis have been described in individual chapter

4.5 Quantitative Methods

The quantitative approach is one where the investigator primarily uses postpositivist claims for developing knowledge (i.e., cause and effect thinking). This approach is ‘reductionist’ as it involves the testing of theory by specifying the hypotheses and the collection of data to support or refute the hypotheses (169). The strategies of analysis are observational studies, experiments and surveys where data is collected on instruments that yield data that can be analysed statistically (192). In this section, I briefly describe the study sample and recruitment of participants for the main HPTN 068 trial, as well as a description of the instruments and the modules analysed for this PhD. I then provide definitions and a short description of the different methods that I use in the quantitative analysis. Further details on the construction of each variable used in my analysis are provided in the relevant chapters (Chapters 5 and 7).

4.5.1 Study sample and recruitment

The AHDSS was used as a platform to identify eligible households containing young women. The entire sample consists of 2533 young women and their households (one young woman per household). To be eligible for the study, young women had to be between 13-20 years, enrolled in grades 8, 9, 10 or 11 at one of the 27 schools in the AHDSS study site, intend to continue to live in the study site until the end of the follow-up (1-4 year) period (1-4 years depending on grade at enrolment). Young women also had to be living with a parent or legal guardian who was willing to consent to all study procedures, including blood draws for HIV and HSV-2 testing. Young women who were found to be HIV infected during study recruitment were not excluded for enrolment. Exclusion criteria included young women being pregnant by self-report, married or if she did not live with a parent or legal guardian at the time of enrolment (193).

The analysis for my PhD includes young women who had self-reported as being sexually active on the baseline survey i.e. young women who answered ‘yes’ to the question of ever having had

vaginal or anal sex (n=693 or 27.4% of the total sample) before accounting for missing data. I chose to restrict myself to sexually active young women, primarily for sample size reasons (the prevalence of transactional sex was ~4 % in the entire sample, but 14% for sexually active young women). In addition, most questions which were related to partnership characteristics and risk behaviours were among sexually active young women.

In terms of missing data, almost all the exposure variables had less than 3% missing data. This include cases where young women have 'refused to answer' or "skipped the question"; 'don't know' was also coded as missing, as the percentage of this response code was exceedingly small. No attempt was made to replace missing data and they were not included in the final models. For further details on missing data and final sample included in the analysis, please refer to individual chapters 5 and 7.

4.5.2 Instruments for data collection

Two questionnaires were fielded at baseline: household-level and young women's questionnaires. Computer-based household questionnaires, programmed using QDS (Questionnaire Development Software) were individually conducted with the parent/guardian at the home and data entered by trained fieldworkers. The CAPI (Computer-Assisted Personal-Interview) method was used. The young women's questionnaire was also programmed with QDS, but a majority of the survey, due to the personal nature of the questions (i.e. sexual behaviours), was completed by the young woman, on her own at the study offices using the ACASI (Audio Computer-Assisted Self-Interview) method. The respondent both viewed the questions on the computer screen and also heard them via headphones.

Both the household and young woman's interviews were conducted in the language preferred by the participant - in the local language, Shangaan or English. The questionnaires were translated into Shangaan by bilingual researchers and checked for linguistic appropriateness, comprehension and cultural relevance and then back-translated from Shangaan into English to

ensure accuracy and meaning of constructs. After the young woman completed the questionnaire, she provided blood to test for HIV and HSV-2 (with pre- and post-test counselling) and then was randomised into the control or intervention arm. My research was a secondary analysis of the baseline data and I was not directly involved in the data collection. I have described this in order to provide contextual information on the sampling strategy and recruitment of participants. However, the sampling strategy of the main trial has implications on my study, especially in terms of the characteristics of young women as I could only analyse data on young women who are enrolled in school and of a specific age range (13-20 years) hence my results are not generalisable to out of school adolescents who might have different motivations for engaging in transactional sex. For this PhD, I am only using a sub-set of the data from the baseline round as there were some limitations related to the data analysis of the baseline survey due to policies set by the funder. This has been discussed further in [section 4.6.6, page 119](#).

The overall modules within the questionnaires are described below:

Household Questionnaire. The questionnaire comprised of 12 modules that captured living standards and the design followed the structure of the World Bank's Living Standards Measurement Surveys (LSMS). The overall modules or domains included in the questionnaire are:

1. Household-level demographic information,
2. Food and non-food spending and consumption,
3. Durable goods,
4. Negative and positive events in the household,
5. Household decision-making, transfers and credits received and sent,
6. Agriculture-related, health history and labour market participation.

The household baseline questionnaire is provided in *Appendix 2*.

Young women's questionnaire. The baseline questionnaire was completed by the young woman just before she completed the randomisation process. This questionnaire comprised 16 modules and covered a range of items. The questionnaire was structured so that early sections collected information on less sensitive issues, such as demographic or education related information, with more sensitive topics, including questions on sexual partnerships later. The overall modules or domains included are:

1. Demographics
2. Education
3. Partner grid
4. Health and fertility
5. Consumption
6. Sexual relationship power scale
7. Gender power scale
8. Intimate partner violence
9. Employment and finances
10. HIV knowledge
11. Family
12. Self-efficacy
13. Children's manifest anxiety scale
14. Children's depression index
15. Hope
16. Friend grid

The young women's baseline questionnaire is provided in *Appendix 3*.

Operationalising transactional sex: As the main focus of this PhD is on transactional sex, the questions from the sexual partner grid of the young women's questionnaire which were used to construct the variable "transactional sex for money and/or gifts" is listed below.

- Has [partner initials] ever given you money?
- Did you feel like you had to have sex with [initials] because they gave you money?
- Has [initials] ever given you things, like groceries, clothes or airtime, that help you get by?
- What type of things has he given you? (Pick all that apply)
Airtime, cell phone, groceries, clothes or shoes, perfume or lotions, make-up, cool drink, sweets or chips, CDs, DVDs or videos, alcohol or drugs, flowers, other (specify)
- Did you feel like you had to have sex with [initials] because they gave you things?

The questions above were asked for the young woman's three most recent sex partners starting with the most recent that could include a boyfriend or a short-term sex partner or anyone she has had a sexual relationship.

The construction of all other exposure, confounding and mediating variables have been discussed in detail in the individual chapters (Chapters 5 and 7).

4.5.3 Data management

As the main trial is funded by the HIV Prevention Trials Network (HPTN), procedures for use of the data and data management had to comply with HPTN guidelines developed at the start of the project. The Statistical Centre for HIV/AIDS Research & Prevention (SCHARP) provides statistical collaboration and data management support to HPTN. Thus, after baseline enrolment was completed and data quality³¹ processes were checked, the data was stored in a central database administered by SCHARP.

The dataset that I received for this analysis was prepared by Carolina Population Centre at the University of North Carolina, Chapel Hill and SCHARP and was cleaned to make sure outlier and inappropriate values were accounted for, skip pattern violations were addressed and interviewer notes were included in the dataset.

2.5.4 Analysis

In the next two sections, I provide an overview and rationale for the methods that I use for my analysis in chapter 5 and 7. For details on the construction of each variable used in my analysis, please see individual chapters I have described the construction of young women's consumption

³¹ UNC staff developed and set up a system to track all questionnaires and associated study forms; the local South Africa team were trained in the use of these systems. As the completed data arrived at UNC during each wave of data collection, quality assurance tests and data cleaning was done in coordination with the South Africa data-collection staff. A unique study ID was assigned to each study participant and used throughout the study. Questionnaire data from young women was linked to questionnaire data from household. Young women and household questionnaire data were linked to the AHDSS data. Importantly, the identification number will allow linking of the behavioral data and the biological (HIV/HSV-2) data

patterns in this chapter primarily to provide details on the rationale behind factor analysis. Some of this information repeats in Chapter 5 and 7.

4.5.4. A Analytical methods for Chapter 5

To explore how household (HH) socio-economic status and other HH related factors are associated with young women's reported engagement in transactional sex; and how their consumption (or spending patterns) are potentially influenced by their engagement in transactional sex.

Chapter 5 has two sub-parts that are: a) the relationship between household SES/structure (exposure) with young women's engagement in transactional sex (outcome); and b) the relationship between young women's engagement in transactional sex (exposure) and consumption patterns (outcome). The identification of exposure³² and confounding³³ variables were a priori guided by the conceptual framework I discussed in chapter 3 and by the dataset. Even though the relationship between some of the variables (e.g. number of household members or household socioeconomic status) was statistically weak when tested with transactional sex in the bi-variable analysis, I included the chosen variables, as they were guided by the conceptual framework.

4.5.4. A (i) Descriptive Analysis

Initially, tabulation of all essential variables was done to explore their distribution in the dataset. I generated simple frequency tables in order to get a better understanding of the overall sample (n=2533 young women and households), such as the household's socio-demographics (number of household members, type of primary caregiver, orphanhood status (either parent or both deceased), educational level of the primary caregiver, perception of food insecurity in the household and whether or not she earned income), as well as the young woman's socio-

³² Exposure variables are household SES, number of household members, type of primary caregiver, educational level of primary caregiver, young woman's perceived food insecurity, young women working for money and orphanhood (single or double)

³³ Confounder is age of young woman

demographics (age, if she currently has a boyfriend, ever been pregnant, her age of first sex), her sexual behaviours (lifetime sexual partners and sex partners in the past 12 months), and consumption patterns (type of items she purchases). I also conducted descriptive analysis to explore young women's engagement in transactional sex, the characteristics of young women who are engaging in it and the types of items they receive from their partners.

4.5.4. A (ii) Factor analysis for grouping consumption patterns

Young women's consumption (or spending) patterns is the outcome variable for the regression analysis between transactional sex and consumption patterns. The consumption module in the young women's questionnaire attempts to measure the spending patterns of young women on a list of items. This module was adapted from a survey done in rural Malawi³⁴ (194), which asked similar consumption related questions of young women. The question in the module asks, *"whether the young woman has bought for herself any [...item name...] in the past month and how much money in South African Rands did she spend on [...item name...] for herself in the past month"*.

The 12-items in the consumption module are: scented soap, skin creams or lotions; cell phone, airtime or ringtones; shoes, clothing or underwear; make-up or cosmetics; hairdressing; cool drinks, chips or sweets; food/groceries; movies or music; beer or other alcoholic drinks; birth control and/or condoms; school uniform or supplies; transport to work or school. Each of the questions around the items in the young women's consumption module are binary (yes/no) variables.

In order to group these items according to a similar correlation pattern, I chose the statistical method that helps in data reduction, factor analysis (FA).

³⁴ A similar conditional cash transfer trial known as the Schooling Income HIV Risk (SIHR) study was conducted in Zomba, Malawi in 2007-2008.

Factor analysis is a collection of methods used to examine how underlying constructs influence the responses on a number of measured variables (195). It is used to explain correlations among a given set of variables in terms of more fundamental units called factors. According to the factor analytic perspective, variables correlate because they are determined in part by common, but unobserved influences. These influences should be stronger than the variables that are actually measured as they account for individual differences in the tests (196,197). Thus, the overall goals of factor analysis are: to determine the number of fundamental influences underlying a domain of variables, to quantify the extent to which each variable is associated with the factors, and to obtain information about their nature from observing which contribute to performance on each variable (196,198). Ultimately, the objective of factor analysis is to partition variables into subsets that are hopefully distinct from those of other groups and homogeneous within the groups (195).

The figure 4.3 below illustrates how the model works. The model proposes that each observed response (measure 1 through measure 5) is influenced partially by underlying common factors (factor 1 and factor 2) and partially by underlying unique factors (E1 through E5). The strength of the link between each factor and each measure varies, such that a given factor influences some measures more than others (195).

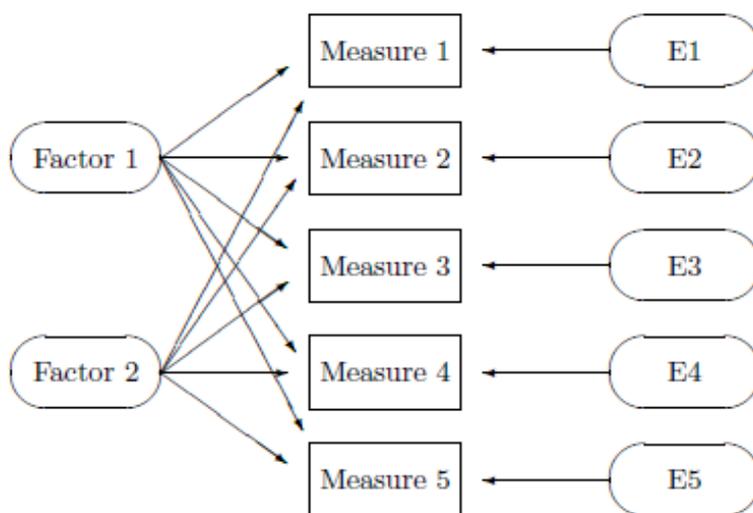


Figure 4.3: Factor analysis model (adapted from DeCoster, 1998) 1

A correlation matrix where the inter-correlations between the studied variables are presented is the starting point for factor analysis. The dimensionality of this matrix can be reduced by “looking for variables that correlate highly with a group of other variables, but correlate very badly with variables outside of that group” (195). With respect to the correlation matrix, two things are important: the variables have to be inter-correlated, but they should not correlate too highly (extreme multi-collinearity) as this would cause difficulties in determining the unique contribution of the variables to a factor. (199).

The specific type of factor analysis that I used for this analysis is Exploratory Factor Analysis (EFA). EFA helps determine the number of common factors influencing a set of measures and the strength of the relationship between each factor and each observed measure. Common uses of EFA include: identifying the nature of the constructs underlying responses in a specific content area; determining what set of items “hang together” in a questionnaire; determining which features are most important when classifying a group of items; and generating “factor scores” representing values of the underlying constructs for use in other analyses.

Once the factors are selected for inclusion, STATA runs the factor analysis, creates a correlation matrix and then extracts the factors using general maximum likelihood extraction (MLE) method. For each of the items, the highest factor loading in each row was chosen. After this was done for all the items, groups based on columns they belonged to were created. Before rotation, the extracted readings are such that the first factor accounts for the maximum part of the variance; this will often ensure that “most variables have high loadings on the most important factor, and small loadings on all other factors” (197). Thus, interpretation of the factors can be very difficult.

A solution for this challenge is factor rotation. Factor rotation alters the pattern of the factor loadings, and hence can improve interpretation. After rotating the factors (also done through STATA), each measure is linearly related to a factor and the strength of the relationship is

contained in the factor loading. Factor loadings that are closest to 1 are then grouped together. Results of my factor analysis and the subsequent groupings of the consumption module are explained in [Chapter 5](#).

4.5.4. A (iii) Bi-variable Analysis

After constructing the variables that I chose for the analysis (details in Chapter 5), I then examined bi-variable associations between household level socio-demographics with ever having had transactional sex (among sexually active young women) and then with transactional sex and consumption patterns among sexually active young women. This was done to obtain unadjusted Odds Ratios (OR) as well as the p-values (using Pearson's chi square for categorical variables). 95% confidence limits were also calculated using standard methods for estimating confidence intervals from survey data. In addition, linear test of trend was done for ordered categorical variables.

4.5.4. A (iv) Multivariable logistic regression

Logistic regression employs binomial probability theory in which there are only two values to predict: that probability (p) is 1 rather than 0, i.e. the event/person belongs to one group rather than the other. Logistic regression forms a best fitting equation or function using the maximum likelihood method, which maximizes the probability of classifying the observed data into the appropriate category given the regression coefficients. Logistic regression involves fitting an equation of the form to the data:

$$\text{Log (p)} = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4\dots$$

p=the probability that the outcome is in a particular category,

a=the constant of the equation and,

b=the coefficient of the predictor variables

x1, x2..= exposure variable

I used multivariable logistic regression to examine associations between household socioeconomic status and household structure and transactional sex where I constructed two logistic regression models; and constructed another two models to explore the relationship between transactional sex and consumption patterns.

A likelihood ratio test (LRT) was done to determine fit of models and the p-value was noted. The likelihood ratio (LR) test is commonly used to evaluate the difference between nested models and to test whether the model fits well. In addition, it can be used to do hypothesis testing. One model is considered nested in another if the first model can be generated by imposing restrictions on the parameters of the second. Most often, the restriction is that the parameter is equal to zero. In a regression model restricting parameters to zero is accomplished by removing the predictor variables from the model. I used likelihood ratio test instead of Wald test because of the ease with which the calculation and interpretation of likelihood ratio statistics can be carried out in more complex situations. (200)

For the estimation of odds ratios (ORs) in ordered categorical variables, the category with the least risk was taken as baseline and overall p-value was calculated using the LRT test. Test of linear trend was done for ordered categorical variables. For all models, clustering at the school level was accounted for by using cluster-robust standard errors (“vce (cluster schoolname)”). The robust estimator of variance has one feature that the conventional estimator does not have, which is the ability to relax the assumption of independence of the observations (200). That is, by specifying the “vce (cluster clustvar)” option, it can produce “correct” standard errors (in the measurement sense), even if the observations are correlated.

4.5.4 B Analytical methods for Chapter 7

Objective: To examine the association between young women's reported engagement in transactional sex and their HIV and HSV-2 status and whether the relationship is mediated by certain sexual behaviours and relationship dynamics.

For chapter 7, I conducted a traditional *mediation analysis*, as we hypothesise that the relationship between transactional sex and HIV/HSV-2 is mediated by certain “risky” partnership characteristics and relationship dynamics, such as age difference with partners, condom use at last sex, sex under the influence of alcohol or drugs, number of sexual partners in the past 12 months, young women's own partner concurrency, perception of her partner's concurrency and perceived power dynamic in the sexual relationship. The choice of mediators in this analysis was determined from my literature review (chapter 2) and conceptual framework (chapter 3). Details of the construction of each variable have been described in quantitative chapter [\(chapter 7\)](#).

4.5.4. B (i) Descriptive and bi-variable analysis

In order to get a better understanding of sample characteristics, I first calculated summary statistics to explore the distribution of HIV/HSV-2 status by socio-demographic information (i.e. HH structure and the characteristics of her sexual partnerships) among sexually active young women. Bi-variable analyses were done to obtain unadjusted Odds Ratios (OR) and p-values (using likelihood ratio test) for: (i) the relationship between a given set of socio-demographic variables, self-reported transactional sex and mediators with HIV and HSV-2; and (ii) self-reported transactional sex and mediators discussed above. 95% confidence limits were calculated using standard methods for estimating confidence intervals from survey data. In addition, linear test of trend to obtain a p-value for ordered categorical variables.

4.5.4.B (ii) Mediation analysis

In epidemiological studies it is often necessary to disentangle the pathways that link an exposure to an outcome. The aim of mediation analysis typically is to identify the total effect of the exposure on the outcome, the effect of the exposure that acts through a given set of mediators of interest (indirect effect) and the effect of the exposure unexplained by those same mediators (direct effect). The traditional approach to mediation analysis is based on adjusting for the mediator/s in standard regression models to estimate the direct effect (201). As discussed under limitations of Chapter 7, the traditional approach to mediation analysis, is prone to bias that arises from unmeasured confounding and issues with study design. To the extent possible, I have tried to adjust for confounders in the pathway between the exposure and mediator, mediator and outcome; and exposure and outcome, but results have to be interpreted accordingly.

The mediation analysis was two-fold: first I developed a model of the association between transactional sex (exposure) and HIV and HSV-2 infection (outcome) adjusting for all confounders in this pathway. This was done to calculate the total effect of the exposure on the outcome. Then I developed a model adjusting for all variables, which included the exposure, mediating and confounding variables to assess whether the resulting association was mediated (or not) through the given set of mediators described earlier. Similar to Chapter 5, a conceptual framework based on the literature had been developed at the start of the PhD and the identification of exposure and confounding variables were a priori guided by this framework and the bi-variable analysis. The stepwise backward elimination approach was considered during model development and even though the relationship between some of the variables (e.g. type of primary caregiver or socioeconomic status) was statistically weak in the bi-variable analysis, I decided to include the chosen variables, because the literature suggests that these variables are associated with HIV and HSV-2 infection (202,203).

Multicollinearity, which occurs when the explanatory variables are highly correlated (generally 0.90 or greater) was tested between the variables included in the analysis. Multicollinearity does not result in biased coefficient estimates, but it does increase the standard error of the estimates and therefore reduces the degree of confidence one can place in them. It can be assessed by examining a correlation matrix and by measuring the Variance Inflation Factor (VIF). VIF is a measure of the influence of one explanatory variable on all other explanatory variables. A $VIF > 10$ suggests that multicollinearity may be present and if $VIF > 100$, there is certainly multicollinearity in the sample (204). In my chosen variables, when the addition of one variable increased the standard error of the original variable, the new variable was not included. (e.g. sexual partners in the past 12 months (var a) versus lifetime number of sexual partners (var b) where the addition of var b increased the standard error of var a, thus the decision to not include var b).

Details on specific models constructed for the mediation analysis have been described further in [Chapter 7](#)

4.6 Qualitative Methods

Qualitative research most often comes from an interpretive framework and is usually informed by the belief that there are multiple realities shaped by personal viewpoints, context and meaning (170). In this section, I describe the qualitative data collection and analysis plan.

4.6.1 Study design

The qualitative research for this thesis employed a combination of focus group discussions (FGDs) and in-depth interviews (IDIs). FGDs presented a general overview of issues and were used to raise and explore relevant topics, which assisted in determining the structure and focus of the IDIs. Themes which emerged in the FGDs were then probed further and deeper in the IDIs and with reference to young women's own specific behaviours. Before elaborating on the

individual methods I used, provided below is a justification for using both FGDs and IDIs in combination for this study.

Justification for using focus group discussions and in-depth interviews as a methodology

FGDs usually emulate the way young women in communities normally talk about sex in same-gender peer groups (56). Thus, they tend to yield normative information—what young women think other young women believe and do—rather than detailed information about individual behaviour of individuals. However, not all participants are comfortable with speaking out in group settings and obtaining the ‘true’ behaviour and beliefs of young women were more likely (and possibly more respectful of individuals) in an in-depth interview.

In addition, the general impression of FGDs is that the group exerts a pressure on its participants to conform to a socially acceptable viewpoint and not to talk about divergent views or experiences. As the discussion unfolds, the group participants may focus on their similarities or present just one side of the issue, or their contributions may reflect prevailing social norms (e.g., this was particularly apparent in this study on the topic of young women and their relationships with sugar daddies and the perceived engagement of young women in transactional sex). This can be linked to the dynamics in the group and could happen at any time throughout the discussion. The researcher needs to be alert to this process, and to find ways of challenging social norms and apparent consensus (177). However, pressure as a result of group dynamics was a strength of this study, as I was able to gain insight into the socially acceptable/normative view of participants’ impressions on transactional sex and could then test it against what young women say in private. Hence, the rationale for using both methods, as they elicited different aspects of the phenomenon I am exploring in this thesis.

From a methodological perspective, FGDs were selected as they have been effective in other studies in stimulating dialogue between respondents and understanding what people think, how they rationalise their thoughts and how they construct, for example, collective notions of sexual

norms in a participatory fashion (73). Within the FGD there is the opportunity for various opinions to be aired and for collective discussion with agreement and disagreement (205). Hence, the comparative advantage of FGDs lies in their ability to observe interaction on a topic. Specifically, FGDs are much better suited to eliciting responses from young women who are under peer pressure and are more likely to respond suitably if their friends are involved (106).

Additionally, FGDs provide direct evidence about similarities and differences in the participants' opinions and experiences as opposed to reaching such conclusions from post-hoc analyses of separate statements from each interviewee. In contrast to interviews that draw attention to the views and beliefs of individuals, FGDs indicate the ways in which individual ideas and opinions are assimilated or rejected within the process of a group setting. As they provide a social context for research, there is an opportunity to explore how people think and talk about a topic, how their ideas are shaped, generated or moderated through conversation with others. Furthermore, as FGDs allow participants to hear from others, they provide an opportunity for reflection and refinement which can deepen respondents' insights into their own circumstances, attitudes or behaviour (170). In addition, while the use of FGDs for collection of sensitive information such as sexual behaviour might be considered a breach of privacy, there are, indeed, an adequate number of research studies that have explored sensitive issues with adolescents around sexual behaviours, which have used FGDs (59,67).

From a pragmatic point of view, it has been argued that the FGD is a useful methodology for encouraging more reserved participants to become involved in the discussion. Within the FGD, the more outspoken members of the group lay the groundwork for quieter participants to become involved (206). This was especially true of topics that were confidential and perceived to be embarrassing for adolescent young women to discuss, such as discussions of sexual relationships, their perceptions of them and the concept of sexual exchange in the southern African context.

In addition to FGDs, IDIs were also selected as an appropriate method for this study as they serve two major functions in data collection: first, they provide description and second, they allow for exploration (207). These twin characteristics of IDIs allow for researchers to better understand the discursive nature of social reality and to gain insight into the unexplored dimensions of the topic under discussion. Indeed, Minichiello et al. (1992, p. 1) have stated that ‘interviewing when used in social science research gives access to knowledge – a knowledge of meanings and interpretations that individuals give to their lives and events’. Thus, for sensitive topics, such as young women’s personal reports on motivations for engaging in a relationship or reasons for potentially engage in sex for money or gifts, IDIs were a more respectful way to elicit this information (208).

Like all research methodologies, IDIs have particular advantages and disadvantages. In terms of advantages, IDIs are the closest to spontaneous conversation of all research methods and therefore allow for flexibility and adaptability (207). In interviews, researchers are able to follow up on interesting responses and to investigate respondent’s underlying motivations. Thus, it is intended to combine structure with flexibility. Even though this study had a semi-structured topic guide for the IDIs, if the young woman was open to revealing her thoughts and speaking beyond the questions in the guide, the interviewer probed further.

The researcher can also use non-verbal cues in interpreting the information given to her by the respondent, such as if the young woman is shy or reserved or hesitant to speak about her personal issues. In this case, the interviewer had a sense of themes she had to explore and the structure was sufficiently flexible to permit topics to be covered in the order most suited to the interviewee. This was done to allow responses to be fully probed and explored (177).

IDIs also provide a private environment that lends itself to the discussion of sensitive issues such as sexual behaviours. In order to address this, young women were reassured about confidentiality at the outset of the interview, chose the privacy of her home as the location for

interviews and made sure the interviewer was young, but experienced and comfortable interviewing to make sure the participants were at ease about disclosing potentially sensitive information (169).

In terms of disadvantages, there have been some concerns about the validity of interviews. This is because data from interviews consist of participant's impressions of the world and not direct representations of the world. Thus, a common cited shortcoming of interviews is that they only provide access to what people 'say', not what they 'do'. From a positivist perspective, this is a problem, as interviews (people's accounts) are a poor substitute for empirical evidence (172). However, one could argue that a good, trained interviewer is able to take a participant on a journey that allows the participant to clarify and rethink their responses through the duration of the interview. This would mean they get closer to the 'doing' as opposed to the 'saying'. Also, it is important to bear in mind that interview data is valid, so long as the interview is treated as a contextual account, not as a proxy representation of some reality (170,177). As my research was trying to explore participant's impressions on their desires, needs and aspirations and how transactional sex (as defined by them) fits in, the only way to obtain this information is through probing further and listening at each point in time through the course of the interview.

IDIs are also generally acknowledged to be extremely time-consuming, particularly when tape recordings are to be manually transcribed (208). I attempted to address this by keeping participants focused on the main themes of the discussion and steering the conversation back to the relevant issues if the participant was digressing from the point. Thus, despite these few negative attributes, in general, interviews provide a tool through which the contexts of young people's lives can best be explored and understood as an outsider.

Finally, an issue that one has to acknowledge and reflect upon when analysing the data is seeing the difference between information revealed during an IDI, vis-a-vis information that's revealed publicly in a FGD. For example, in the one-off interview, however good the interviewer is at

gaining rapport, the encounter is still one of strangers and thus participants are more likely to provide a “socially desirable” view. As the interviewer and interviewee relationship progresses and trust builds between the two, the interviewee maybe more likely to “open up or reveal more”. These really private views are those that may be less acceptable, more ‘deviant’ and based on real-life experiences. However, these private views might not necessarily be more ‘valid’ than the public ones (for example, they might be exaggerated for dramatic effect or place the interviewee in a sympathetic light), but there are different contexts in which each is likely to be expressed. (170). Given time and monetary constraints for this PhD, all of the IDIs were conducted once, hence whilst coding and analysing the data, I have kept in mind the “real view” versus a “socially desirable” viewpoint.

4.6.2 Data collection process

Qualitative data collection was conducted from end-November 2012 to February 2013 after receiving ethics approval from all relevant committees (see 4.6.3 on Ethical Considerations below). A team of six researchers were involved in data collection. Two (including myself) had post-graduate degrees in health related disciplines and four were native Shangaan speakers with high school education. Four researchers conducted the five FGDs in alternating teams of two (moderator and note taker) and the same four conducted the 19 IDIs individually with the young women.

There is a strong argument that there should be a match between the researcher and participant characteristics in terms of language and other key socio-demographic characteristics (177), I thus made sure there were fieldworkers from the villages (but were careful to not match by village to maintain confidentiality for the young women). All fieldworkers were trained in the study guides, processes and human subjects’ consideration. Data collection was conducted in Shangaan for both the FGDs and IDIs and transcribed and translated into English by the FGD

moderator/note-taker or IDI interviewer. A trained third-party researcher and I³⁵ quality-checked a proportion of transcriptions throughout the qualitative phase to ensure accuracy of translation. For this study, the sampling was done purposively, where “participants in a sample are chosen with a specific purpose to represent a location or type in relation to a key criterion” (177). In purposive sampling, decisions about which criteria are used for selection are often made in the early design stages of the research. They are informed by a range of factors including the principal aims of the study, existing knowledge or theories about the field of study, hypotheses that the research may want to explore or gaps in knowledge about the study population (164,169).

As my qualitative work is embedded in HPTN 068 and my research has a conceptual framework, the sampling I carried out was purposive and was limited to young women enrolled in HPTN 068. In this section, I outline the development of the instruments used in data collection (section 4.6.2a), details on focus group discussions (section 4.6.2b) and in-depth interviews (section 4.6.2c).

4.6.2a Development of Instruments used for data collection

I developed semi-structured topic guides for both FGD and IDIs. A topic guide “provides documentation of subjects to investigate that serves as an interview agenda, guide, or aide-memoire (170,177). Based on the protocol of the HPTN 068 study, the topic guides were translated into both English and Shangaan.

FGD Topic guide

The five FGDs were each between an hour and fifteen minutes to two hours long. A semi-structured topic guide was used for each interview, but discussion ranged over all related topics brought up by the participants. The FGD and IDI topic guides were moreorless similar in the

³⁵ I checked the accuracy of the translation if sentences or responses didn’t appear to be clear or make sense (once transcribed in English). If this happened, I would ask the fieldworker to listen to the audio recording again and clarify those sections.

type of information that was being elicited, except that the FGD guide did not explicitly ask about young women’s personal experiences around their sexual relationships. The table below outlines the broad themes that were explored in the FGD and a couple of example questions under each theme. The complete final English version of the topic guide can be found in *Appendix 4*.

Table 4.2: Thematic categories from focus group discussions

Themes	Example questions
Relationships with boys/men	<ul style="list-style-type: none"> • Describe the typical kinds of relationships that young women in your community have with men? • How does a young woman choose or decide on picking a male partner or boyfriend? Is it looks or money or anything else?
Young women’s Spending/Consumption Patterns (Exercise 1 and 2)	<ul style="list-style-type: none"> • What are the types of items young women are spending money on nowadays? • Out of these items, which ones do you think you absolutely think you need? Why do you need them? • Out of these items, which ones do you think you absolutely think you want? Why do you want them? • Can you rank order these items that you want by the top 5 that are most important to you? How would getting these items make you feel?
Strategies to access items (Exercise 3)	<ul style="list-style-type: none"> • Of all these items that you mention, how would you get them? What kinds of items do parents generally pay for? Which are the items parents won’t pay for? Why won’t they pay for them? • How do young women get these items, if parents are not willing to buy it for them (Probe first: boyfriends, friends, work, sex)?
Perceptions of young women about themselves, their future and HIV risk	<ul style="list-style-type: none"> • Some of you mentioned that some young women get these items through sex. What are the reasons young women have sex for gifts or sex for money? • Some people say that young women are taking control of their lives by having sex for gifts? Do you think that’s correct? What are your thoughts on that statement? • In what way are parents or the community aware of young women that are engaging in sex for gifts or sex for money?

IDI Topic Guide

The nineteen IDIs were between 45 minutes to one and a half hours long. The semi-structured IDI guide asked general questions on the young woman’s family situation, to more in-depth personal questions around the young women’s relationships with men, their impressions on sexual exchange, etc. The table below outlines the broad themes that were explored in the

interviews and a couple of example questions under each theme. The complete final English version of the IDI topic guide can be found in *Appendix 5*.

Table 4.3: Thematic categories from in-depth interviews

Themes	Example questions
Background information	<ul style="list-style-type: none"> • Tell me a bit about your family? Who lives with you in your household? How long have you lived here? • Does your family generally have enough money for basic things like food and clothes or are there times when you have to go without?
Gifts/money and motivations for items	<ul style="list-style-type: none"> • What items do you need for everyday life? • What influences you to you want these items? (Probe: friends have them, advertisements for them on TV or radio, role models have them, internet such as Facebook or social networking sites) • How did you get these items? (Probe: buy them, given by parents/guardians, given by boyfriends, work, sex, friends)
Relationship Typology	<ul style="list-style-type: none"> • What is the difference between a friend who is a boy and a boyfriend? • What is the difference between a boyfriend and a sugar daddy?
Relationships with boys/men	<ul style="list-style-type: none"> • How old were you when you first became interested romantically in boys? • Are you in a relationship with someone now? Where did you meet him? What are the main reasons you are with him? • Does he buy you things or give you gifts such as xx or xx?
Sexual exchange (transactional sex)	<ul style="list-style-type: none"> • What are your primary reasons for engaging in a sexual relationship? • When a boy/man gives you gifts or things, does he expect anything specific in return? Do you need to have sex with him for these gifts or money? • What about you? If you agree to have sex with someone are there things that you expect in return?
Social norms and power in sexual relationships involving exchange	<ul style="list-style-type: none"> • Some people say that young women are taking control of their lives by using sex to get what they want. Others say that it's demeaning. What do you think? • Do you find yourself having sex with men or boys who you wouldn't choose otherwise if you were not getting some financial benefits? (Probe: old, but has money; ugly, but has money or gets drunk)
Perceptions of the future	<ul style="list-style-type: none"> • What do you hope to achieve in your life that hasn't been possible for your parents or guardians? [Probe for education, relationships and career].

4.6.2b Focus group discussions (FGDs)

The data collection was conducted through the facilitation of five FGDs with a total of 21 young women who were 18 years and above. Due to ethical and funding reasons, sampling for the study was restricted to young women 18 years and above (explained in [section 4.6.3](#) ethical considerations below) and in the control arm of the trial. Thus, participants were young women who did not receive the cash intervention (baseline control young women) and were selected

from the main trial using the socioeconomic status (SES) variable to ensure that each FGD included girls from a similar economic background. Based on feedback from the Ethics committee, I did not use any criteria related to young women's sexual behaviour to inform the selection of participants for the FGDs and took care not to probe any aspect of their own personal sexual behaviour or relationship choices and motivations in the FGDs.

The FGDs were conducted at Bunny Khosa School, which is a high school located in the village of Xanthia within our study site. FGDs were conducted over weekends, when young women were not at school. There was a focus group facilitator and note-taker present at each FGD. The participants were divided into three socioeconomic categories, high, medium and low for the discussions and allocated to groups of all the same SES. The socioeconomic variable had been calculated using household consumption per capita as the measure in the baseline household survey (described in Chapter 5).

Even though the sample size in each focus group was small (4-5 participants), from a methodological perspective, a smaller group provides a good balance between the group and individual context, more scope for individual depth of focus, as well as the opportunity to see how ideas develop with peers. This size has been recommended for research with younger people or in studies where participants might feel the subject matter is sensitive or intimidating. (177). All FGDs were initiated with a five minute introduction in which the participants were given the opportunity to become more comfortable with the moderator, the note-taker and the other participants. The moderator also made it clear at the beginning of each FGD that I was present at the back of the room as an observer but that this should not deter them from speaking freely, as I did not speak or understand Shangaan.

Apart from the broad topics covered in the guide, there were three participatory exercises to better understand young women's needs and wants from their perspective, that were conducted during the FGDs:

1. The first exercise was a free-listing on a whiteboard of all items that young women were either spending money on or that they sought to acquire. Then, in order to further understand how they conceptualise items as “a need” or “a want”, they were given red (need) and blue (want) stickers and asked to categorise each item by affixing a sticker of the appropriate colour next to the item name on the whiteboard (please see figure 4.4a, 4.4b and 4.4c below).



Figure 4.4a: Focus group discussion brain-storming needs and wants 1

Figure 4.4b: (below left) Young woman labelling items as a need or a want 1

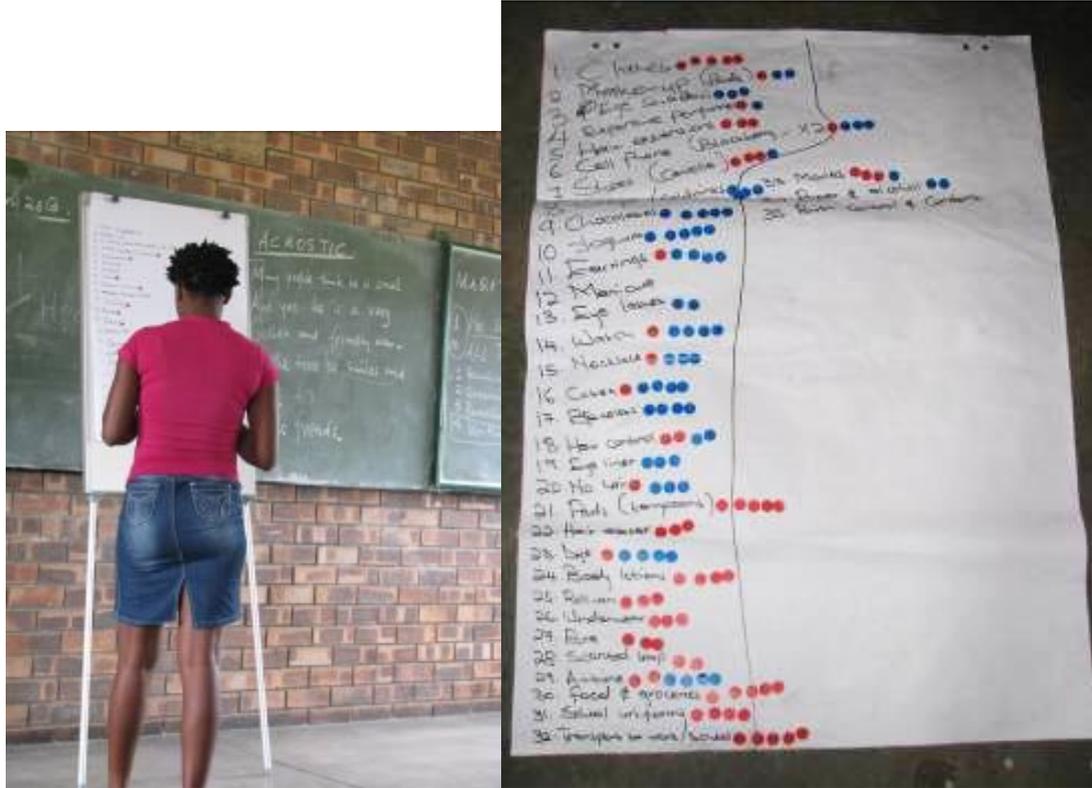


Figure 4.4c: (above right) Listed items with needs (red) and wants (blue) 1

2. The second exercise was a ranking exercise of the top five items from the list that were of most importance to young women. Participants were also asked to write down three words to describe how they would feel if they were to receive those items (see figure 4.4d).

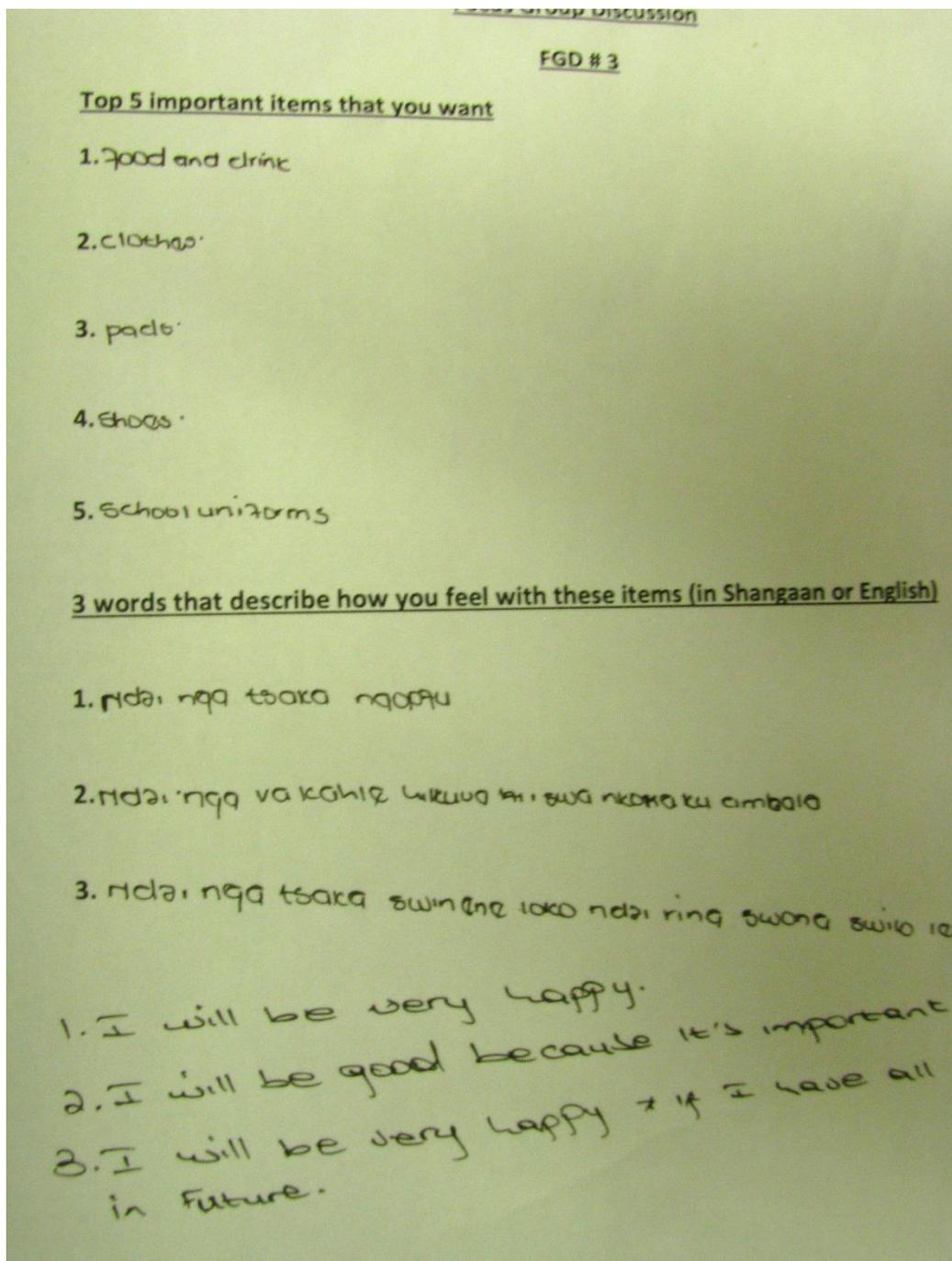


Figure 4.4d: Ranking exercise 1

3. The third exercise was to understand the ways by which young women acquired these items: via parents, boyfriends, friends or through her own work (see figure 4.4e).

Source of Items

ITEMS	PARENTS/ GUARDIANS	BOYFRIENDS	OWN WORK	SEX	FRIENDS
1. Air time		✓			
2. Make-up	✓	✓			
3. Clothes	✓	✓			
4. Hair extension	✓	✓			
5. Earrings	✓	✓			
6. Bracelets	✓	✓			
7. Beer/Alcohol					
8. Food/groceries	✓	✓			
9. Cellphone		✓			
10. Cold tooth					
11. Restaurants		✓			
12. Manicure		✓			
13. Eye lashes		✓			
14. Belly ring/tongue					
15. Tattoo					
16. Cutex		✓			
17. Scented soap					
18. Skin cream	✓	✓			
19. Underwear	✓	✓			
20. Cold medicines + (Chp)	✓	✓			
21. Birth control + condoms					
22. School uniforms + Supplies	✓	✓			
23. Movie tickets					
24. Transport to school	✓	✓			
25.					

Figure 4.4e: Young women’s exercise for source of items 1

The FGDs were lively, with participants frequently interrupting one another and advancing discussion on particular topics. Where the groups did not freely introduce the topic of interest, probing questions were asked to elucidate this information. When asked at the end for feedback, most participants indicated that they had enjoyed the experience and that the discussions had been interesting and informative. In one of the focus groups, the participants indicated they wanted feedback when my results were ready. Some participants indicated that they had felt a little embarrassed at the beginning of the discussions; however, as conversations proceeded they had soon found themselves involved in the topics. In one of the FGDs, a participant appeared reticent and mentioned that it was because I was present in the room. She was, however reassured that I was unable to understand anything and was there to observe the interactions and help with the participatory exercises.

The FGDs were audio-recorded and transcribed from Shangaan to English by the moderator/note-taker. Each of the transcripts was quality-checked by a trained third-party researcher, not otherwise involved in this research study and myself to make sure the translation

was accurate. Data collection was iterative with small changes made to the topic guide as the FGDs progressed based on feedback from the moderator and note-taker.

4.6.2c In-depth Interviews (IDIs)

To complement the FGDs and further explore certain personal questions, 19 one-on one, in-depth interviews (IDIs) were conducted with a selection of young women (from the control arm of the trial and 18 years or above) who had said “yes” to the question on transactional sex (“did they feel like they had to have sex to receive money or gifts”) in the young women’s baseline questionnaire and some who participated in the FGDs I invited to the IDIs as well. I felt that this sample number was sufficient in terms of data saturation, as new information was not being generated after the 17th or 18th IDI (209). These IDIs were conducted in private at the young women’s household and probed further on themes, which emerged in the FGDs, but were sensitive for the young women to discuss in a group setting (i.e., their sexual relationships, motivations for engaging in them and their perceptions on transactional sexual relationships).

All possible steps were taken with our local partner to avoid social harm or discomfort and we followed all procedures that were already approved and implemented within the main trial³⁶. All participants were asked to sign a consent form and, if consent was given, each interview was audio-recorded. The interviews focused on the specific aspirations, situations and experiences of individual young women. The detailed information from the IDIs complemented the more generic information generated by the FGDs.

As had been the case with the FGDs, the interviews were mostly well-received by young people, although there were a number of shy participants and encouraging them to speak freely

³⁶ Social harm includes coercion, bullying, violence, or any other negative social reaction to participation in the study. Young women were encouraged to report any problems to the study staff if they experienced undue coercion or were threatened or forced at any time. Any problems of this nature were documented and reported. If a participant reported social harm, study staff made every effort to provide appropriate care and counselling to the participant and offered referral to appropriate resources, as needed, for the participant’s safety. The nature and frequency of social impact reports were regularly monitored by the protocol team.

was always a challenge. Some admitted to feeling intimidated by the interview when they were first recruited, but indicated that once they started the discussion with the interviewers they felt relaxed and comfortable to speak. In addition, since my sample was restricted to young women in the control arm of the intervention, a few of them used this opportunity to mention grievances against the main trial (the fact that they were not receiving money and were still expected to participate in the study). These complaints were then referred back to the main study team for resolution.

4.6.3 Ethical considerations

An important aspect of the negotiation of research relationships is ethical approvals. Any research study raises ethical considerations, which includes responsibilities to research participants, professional and academic colleagues, research sponsors and the wider public (170). I had to first apply for local approval from the University of Witwatersrand's Human Research Ethics Committee (HREC). As the main study was focused on an under-age population (young women below 18 years of age) and their sexual behaviours, which is a sensitive topic, the ethics approval process was very stringent, and required that I submit significant amount of paperwork.

For my study, ethical approval was provided by the London School of Hygiene and Tropical Medicine Research Ethics Committee, the Human Research Ethics Committee (Medical) at the University of Witwatersrand, Johannesburg and the Department of Health, Mpumalanga Province, South Africa where the research was conducted. Informed consent was obtained from all participants who were provided information about the purpose of the study, background on the funder, the research team, how the data would be used and the level of participation required from them. Also, consent was based on the understanding that participation is completely voluntary, thus they were *invited* to take part in either the FGD or IDI. Each participant was also given an information sheet in both English and Shangaan regarding the objectives of the study, and which explicitly stated that the study was voluntary and anonymous. All participants gave

signed consent to be interviewed, audio-recorded, and to have excerpts of their interviews included anonymously in any reports or papers resulting from the study. Please see *Appendix 6* for the informed consent, *Appendix 7* for the participant information sheet and *Appendix 8* for ethics approval letters from the University of Witwatersrand and the London School of Hygiene and Tropical Medicine.

The ethics committee raised three concerns that I had to address. The first was the potential risk for breach of confidentiality that could have led to harm and stigmatisation of the participants. This was because for the IDIs, I was relying on data that was collected in the baseline quantitative survey in order to identify young women who have engaged in transactional sex. To address this potential breach, I had two controls in place: First, I made sure that the interview guides used language that did not presuppose that the young women have engaged in transactional sex. In addition, all staff, including the qualitative fieldworkers had to sign confidentiality agreements and were trained not to discuss any participant information with individuals outside the immediate study team. It was not apparent to the young women or to anyone else that they had been selected based on their reported experience with transactional sex, as there was a substantial amount of qualitative work already taking place within the HPTN 068 trial community using a number of different criteria for participant selection. Since this study was embedded within that larger body of work, the criteria used in this study were not readily apparent.

The second concern was around the use of FGDs to discuss sexual behaviours among young women. The Committee was not comfortable having young women discuss sexual behaviours publicly and preferred that this was done only in the IDIs. However, I addressed this by justifying the methodological reason for using FGD in combination with IDIs. As FGDs reflected the way young women in communities normally talk about sex, in same-gender peer groups and used the interaction between participants to generate data. In addition, I also emphasised the point that the FGD guide did not ask for any information about individual

sexual behaviour. I also reinforced the point about the use of IDIs; that they were being done to probe further on themes that might arise in the FGDs, but are sensitive for young women to discuss. The IDIs sought to learn specifically about their motivations, aspirations and experiences.

The third concern was the age of young women recruited for the study. Initially, I had proposed all age groups. However, the concern that a committee member raised was parental assent for young women under 18 years of age. Given that my study objective was to interview young women who had said reported transactional sex in the baseline questionnaire, there were concerns that requiring parental consent for participants under 18 years of age would breach confidentiality. To avoid this, I only invited young women 18 years and above to participate in the study.

4.6.4 Reflexivity and situating myself in the study setting

In addition, the importance of 'situating' the perspective of the researcher needs emphasis. This is to encourage a more reflexive approach to research findings rather than the traditional approach in which the researcher takes an authoritative, 'neutral' stance (170,177). Reflexivity is the process of reflecting on both the researcher's own effect on the data generated as a participant in the field and on the social and cultural processes of the research (170).

Being aware of reflexivity is important when doing research and some of the ways in which I have tried to address this is by being transparent about the methodology (that is being explicit about steps taken in data production and analysis), paying attention to deviant cases, being aware of the social setting of the research and developing a wide awareness of the political and social values that have made it. In this section I will discuss the most relevant aspects of myself as a researcher and how these might have affected the qualitative research that I conducted.

Previous research experience

Kvale and Brinkmann (2010) describe qualitative interviewing as a ‘craft’ which must be learned through practice, in contrast with the methodological positivism of quantitative research which follows rules and predetermined steps of specific methods. My prior research experience has mostly involved quantitative methods and, as such, I am a novice qualitative researcher. My inexperience did lead me to approach my qualitative research from a positivist perspective, designing interview questions that would have a finite number of possible answers and that would lead me to some objective truth about young women’s motivations to engage in transactional sex. In the course of having to defend my qualitative research to my supervisors and qualitative researchers at LSHTM and in South Africa, as well as in revising the topic guide for the focus group discussions and interviews, my understanding of the subjective realities of qualitative research has evolved, i.e. both the researcher’s and research subjects’ realities are shaped by their perspectives. Thus, I had to learn to adopt a more open-ended, participant-led approach to interviews in order to allow this perspective to come through in the data. Despite my evolving awareness, my relative inexperience likely continued to shape my approach to the research process. This inexperience does not undermine the integrity of the study or the reliability of its findings, but may explain any missed opportunities for capturing data that could have provided a more comprehensive understanding of the phenomenon being studied.

Personal background

I am a 34 year old unmarried Indian woman, born and raised in Mumbai, India and I have spent a total of nine months in the Agincourt field site (through two trips which were 4 and 5 months each) to better understand local customs, traditions and norms. Despite some broad similarities between India and South Africa (both emerging low middle income countries), the cultural and contextual differences (rural versus urban) are vastly different. The groups of five researchers who helped me with this research were all South African. Four were from villages around Bushbuckridge, Mpumalanga province. In terms of age groups, two were in their mid-20s and the other two in their early 30s and the qualitative project manager who helped me with quality

checking of transcripts was from Pretoria, married and in her late 20s. Thus, the combination of insider and outsider perspectives helped clarify gaps in my knowledge and understanding of local customs.

In terms of participation in the actual data collection, I participated as an observer during the FGDs and did not participate in the IDIs, as the conversation was in Shangaan in young women's houses and my presence in an intimate setting might have biased the results. For the FGDs, I was concerned that my presence could impact on the flow of discussion. However, the fieldworkers clarified to the participants that I was unable to speak or understand Shangaan, so they should feel comfortable and open to discuss anything. I did feel that the 'outsider' identity may support data collection as respondents may find it easier to reveal their accounts without fear of negative outcomes if they are unlikely to have future contact with the researcher (211). This is not to discount the issue, but to recognise its inconclusive nature.

4.6.5 Analysis of qualitative data

There are many different traditions and approaches for analysing qualitative data which vary with epistemological assumptions about the nature of qualitative enquiry, the status of researchers' accounts and the main focus and aims of the analytic process (177). In qualitative data analysis, the interpretations made by the researcher have to be credible, and the links between the empirical data and the claims made about them clear. (170,212). Thus broadly, the aims of qualitative analysis are to both reflect the complexity of the phenomena being studied and present the underlying structures that 'make sense' of that complexity. Thus, the end product needs to be both descriptive, but also reveal underlying patterns (172).

As my study required answering questions about salient issues for particular groups of respondents or identifying typical responses, I chose 'thematic content analysis'. This is the most common approach used in qualitative analysis used to categorise recurrent or common themes (170). The thematic framework was used to classify and organise data according to key

themes, concepts and emergent categories. As such, in qualitative research each study has a distinct thematic framework comprising a series of main themes, subdivided by a succession of related subtopics. These evolve and are refined through familiarisation with the raw data and cross-sectional labelling. Once it is judged to be comprehensive, each main theme is displayed or 'charted' in its own matrix, where every respondent is allocated a row and each column denotes a separate subtopic. Data from each case is then synthesised within the appropriate part(s) of the thematic framework (212).

Once the transcripts were quality checked and ready, I familiarised myself with the content and created an initial coding framework based on the topic guides. Thus, my coding was both deductive and inductive i.e. I used a framework that I developed to guide my analysis, but was open to new emergent themes of data. All data from these interviews were coded using Atlas-ti, a QSR International software package for managing qualitative data.

Essentially, five steps were followed in the analysis. These were:

1. *Data management and familiarisation.* Transcripts were read and re-read in their entirety to become familiar with the content and to identify recurring themes or ideas (213);
2. *Identification of a coding framework.* The coding framework was developed using the semi-structured topic guides to create and display themes³⁷ (e.g., 'relationships with men', 'strategies to access items') and sub-themes (e.g., 'significance or feelings around money/gifts received', 'have relationships to obtain items'). The code frame was therefore initially deductive, and as the transcripts were read and re-read, further codes were added inductively. The final coding framework had 138 codes. Please see *Appendix 9* for my coding framework. This coding framework was used to identify the most common or recurring themes in the data.

³⁷ A theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set (212).

3. *Displaying themes and sub-themes.* After coding or labelling the data, principal sub-themes were identified and noted for finer distinctions in the data. Please see figure 4.5 below for an example of how recurrent sub-themes within a larger theme were displayed using the coding framework. In the example, certain sub-themes, such as the “esteem needs” or “peer pressure/influence” recurred frequently in the in-depth interviews among young women that had said yes to the question on transactional sex in the baseline survey.

	P 3: IDI_1	P 4: IDI_2	P 5: IDI_3	P10: IDI_5	P15: IDI_9	P16: IDI_10	P19: IDI_13	P20: IDI_14	P21: IDI_15	P22: IDI_16	TOTALS:
C.2.0 CONSUMPTION ITEMS/WANTS/NEEDS	0	0	0	0	0	0	0	0	0	0	0
C.2.1 Exercise 1	0	0	0	0	0	0	0	0	0	0	0
C.2.12 Items that are considered a “Need”	1	1	2	1	1	1	1	1	1	1	11
C.2.13 Reasons for needing the item - Biological/Physiological	0	1	1	2	2	1	0	0	0	0	7
C.2.14 Reasons for needing the item – Safety needs	0	0	0	1	0	0	0	0	0	0	1
C.2.15 Reasons for needing the item – Belongingness and love	0	0	0	0	0	0	1	1	1	0	3
C.2.16 Reasons for needing the item – Esteem needs	0	0	0	4	0	1	1	0	1	0	7
C.2.17 Reasons for needing the item – Self actualisation	0	0	0	0	0	0	0	0	0	0	0
C.2.18 Items considered unaffordable	0	0	1	0	0	0	0	0	0	0	1
C.2.19 Reasons items that she needs are considered attractive	0	0	0	0	0	0	0	0	0	0	0
C.2.20 Action if she doesn’t get items she needs	0	0	0	0	0	0	0	1	0	0	1
C.2.21 Items that are considered a “Want”	1	3	2	1	1	1	1	1	1	1	13
C.2.22 Reasons for wanting the items – outward appearance	1	1	0	1	0	3	0	0	1	0	7
C.2.23 Reasons for wanting the items – unique among peer gro	0	0	0	0	0	0	0	0	0	0	0
C.2.24 Reasons for wanting the items – keeping up with trends	0	1	0	0	1	1	0	1	1	0	5
C.2.25 Reasons for wanting the items – feel accepted	0	2	0	0	0	0	1	0	0	0	3
C.2.25 Reasons for wanting the items – feel respected	0	1	0	0	0	1	0	0	1	0	3
C.2.26 peer pressure/influence	1	1	1	0	0	3	0	2	1	0	9
C.2.26 Reasons for wanting the items – practical purposes	0	0	0	0	1	0	0	0	1	1	3
C.2.27 Reasons for wanting the items - feel good	0	0	2	1	0	1	1	0	1	1	7
C.2.27 Reasons for wanting the items - make life easier	0	1	0	0	1	1	0	0	0	0	3

Figure 4.5: Example thematic table for “young women’s consumption” from in-depth interviews with young women that had said yes to the question on transactional sex 1

In addition, a content matrix was created using Microsoft Excel to categorise and display data by focus group discussion and IDI along with emergent themes for each participant. I also created summaries of each participant that could be allocated to a continuum of experience of or attitude towards transactional sex from the in-depth interviews (discussed further in Chapter 8);

4. *Data reduction.* The content matrix was useful to help summarise and synthesise data by individual or by theme and see emergent patterns that were cross-cutting.
5. *Interpretation.* Once themes and central ideas were extracted, they were related back to the research question, the theoretical underpinnings and to existing literature to assist interpretation. Findings of the analysis were reported following guidelines set out by the ‘Consolidated Criteria for Reporting Qualitative Research’ checklist (214).

In order to ensure reliability of the analysis, I reflected on and noted any personal biases in my interpretation and maintain a detailed log of my analytical decisions and was careful to identify deviant cases, or cases that did not fit with my emerging theories to ensure that I got the full range of experiences. (164,177).

4.6.6 Practical challenges and limitations

As mentioned earlier, due to ethical and funding reasons, sampling for the study was restricted to young women 18 years and above and in the control arm of the trial. This led to several challenges, such as:

1) *Challenges with sample sizes in the FGDs:* As the main trial enrolled young women between 13-20 years and most young women were in the 15-18 age category, the number of participants in each focus group was small (despite oversampling);

2) *Retention of young women (particularly in FGDs):* Retention of young women in the control arm of the trial for follow-up is an on-going challenge of the main trial. As the control young women did not receive any cash, a number of them were resentful of having to come back for follow-up visits, without receiving any direct benefit. Hence, convincing them that their participation was important, along with the provision of lunch and cool drinks before the FGDs was necessary to ensure their participation. They also had to be personally collected from their houses, as many of them complained of not having access to transport. In addition, as I was only recruiting young women who were above 18 years of age, many of them were “caretakers” in their households, or were living with their boyfriends, or some were pregnant (n=2) or had small babies (n=8), thus could not commit to a FGD that was held over the weekend. Furthermore, the number that signed the informed consent forms were more than the number that actually turned up for the FGDs, hence posing a big challenge with sample numbers. However, the smaller size worked well in terms of the richness of information generated. A number of reticent participants

felt comfortable talking about their relationships and perceptions on sexual exchange, as the setting felt more intimate.

3) *My personal lack of understanding of the local language, Shangaan.* This was the main challenge in the IDIs as I was very reliant on the fieldworkers and their interpretation of young women's responses. For example, if the young woman was reticent, it was hard for the interviewer to take a call on discontinuing the interview. Whereas, if I was directly conducting the interview, I could have stopped it without wasting the interviewer and young woman's time. The fieldworkers did make attempts to try and make young women feel comfortable and to talk in general terms, but despite their repeated attempts, some of the young women did not open up and speak to them.

4) *Discrepancy between young women's responses in the baseline survey and their responses in the IDI.* Most of the young women that answered "yes" to the question on transactional sex (either for money or gifts) in the baseline survey (*Question: "Did you feel like you had to have sex with [initials] because they gave you money and gifts?" ("Has [initials] ever given you things like groceries, clothes or airtime that help you get by? Did you feel like you had to have sex with [initials] because they gave you things?")*), denied it in the IDIs. A few claimed to have serious relationships and so have never had 'transactional sex' using the definition implied by the questions in the baseline survey. This could either mean that they made an error whilst completing the baseline survey or conceptualised transactional sex differently from the way the literature has defined it which has implications for the ways in which young women's perspectives are framed and presented.

Apart from practical challenges associated with data collection, there were limitations related to the forms of data analysis of the baseline survey that I was able to conduct, which were related to the restrictions set by the funder. The first is as there were other PhD students analysing different sections of the baseline data, which meant that I did not have complete flexibility in

terms of having access to every module needed for my analysis. Hence, I have not adjusted for all potential variables in the mediation analysis due to not having access to the data. In the model for the relationship between transactional sex and HIV, variables such as intimate partner violence and substance use problems were not adjusted for, thus the results have to be interpreted considering the effect that these variables have on the relationship between transactional sex and HIV infection. Also, since the baseline survey tool had been finalised before I joined the study, I was not able to revise certain modules that had some limitations. In particular, the consumption module (which lists items purchased by young women in the last 30 days) where the source of items (e.g., parents, boyfriends) was not included. I have discussed this limitation further in chapter 5.

In addition, the funder only gave me permission to analyse the baseline data, and it was not possible for me to access any of the follow-up data before the end of the trial (which is in early 2016). For this reason, my analysis was limited to cross-sectional data at baseline. This means that I cannot make any claims about the causal direction of relationships related to associations made. Other limitations of the analysis have been outlined further in the individual results chapters (Chapter 5-8) and summarised in Chapter 9 in the discussion of findings. These include: the issue of reverse causality, as the data I analysed was cross-sectional data, hence I could not make any claims on the direction of relationships, measurement issues such as social-desirability bias, which may have led to underestimates of the levels of self-reported sexual behaviours such as transactional sex, and over-reports of condom use; as well as recall bias, as young people seldom have perfect recall of sexual events even over short time-frames.

In addition, I was not able to collect data from men, which mean that men's perspectives are missing both in the quantitative and qualitative data. This is an important gap, and I have discussed this issue further under 'future research' in Chapter 9.

4.7 Conclusion

The overall aim of this thesis is to explore what factors are associated with young women's engagement in transactional sex, the underlying motivations for their engagement, and the degree to which sexually active adolescents who report engaging in transactional sex, or having particular patterns of consumption, are more likely to be infected with HIV or HSV-2, in the context of the HPTN 068 ("Swa Koteka") trial in rural South Africa. Addressing this aim involves engaging with biological outcomes, household and young women's socio-demographic information and young women's attitudes and motivations around transactional sex. My research is embedded within a larger randomised controlled trial (HPTN 068) looking at the impact of cash transfers conditional on young women's attendance at school on HIV incidence.

To achieve an understanding of the multidimensional nature of transactional sex in the context of HIV in this group of young women I have used a research approach combining quantitative and qualitative methods. The quantitative phase consisted of analysing the baseline dataset of the HPTN 068 trial using epidemiological methods for cross-sectional data and my qualitative phase consisted of focus group discussions and in-depth interviews to further understand young women's conceptualisation of wants and needs and their motivations for engaging in transactional sex. In the subsequent results chapters (chapters 5-8) I describe in more detail the specific methods and findings of each chapter.

CHAPTER 5: Relationship between household socio-economic status, young women's engagement in transactional sex and young women's consumption patterns

5.1 Chapter Overview

The literature review in Chapter 2 provides contextual information on the HIV epidemic in sub-Saharan Africa and the factors that contribute to making young women particularly vulnerable to the epidemic, including their engagement in sex in exchange for money or gifts (also referred to as transactional sex). In this literature review, I also highlight the paucity of quantitative studies exploring the relationship between young women's engagement in transactional sex and consumption patterns.

This chapter helps to address this research gap. Using baseline quantitative data from HPTN 068, the purpose of this first results chapter is to explore using a combination of descriptive statistics and regression analysis: (a) The relationship between household socio-economic status (SES), household structure (exposures) and young women's engagement in transactional sex (outcome); and (b) The relationship between transactional sex (exposure) and young women's consumption patterns (outcome). I hypothesise that young women from poorer households are more likely to be engaged in transactional sex than young women from richer households. In addition, I also hypothesise that young women from poorer households are more likely to use transactional sex to obtain more expensive items. The conceptual framework presented in Chapter 3 outlines the pathway that I follow for this analysis and the diagram illustrates the relationships I explore in this analysis.



5.2 Methods

In Chapter 4 on Study Methods, I provide an overview of the study setting, the study design of the main HPTN 068 trial, participant characteristics, the instruments used for data collection and a general overview of the analytical approach I use for this thesis. In this section, I describe the study sample briefly and then provide a detailed description of the construction of all variables used for this analysis along with statistical methods relevant for this analysis.

5.2a Sample

The entire dataset consists of 2533 young women and households (one young woman per household). This analysis is based on a subset of young women who had self-reported as being sexually active at baseline i.e. young women who answered ‘yes’ to the question on ever having had vaginal or anal sex (n=693 or 27.4% of the overall sample). The analysis only included cases with complete data.

5.2b Variables

As there are two parts to the analysis in this chapter, I describe the construction of variables as relevant to each part below.

1. Household-related socio-demographic factors and self-reported transactional sex

The first part of the analysis is to explore the relationship between household socio-economic status and household structure and young women’s engagement in transactional sex. The hypothesis is that young women from poorer households are more likely to be engaged in transactional sex than young women from richer households. The following equation outlines the variables that I use in this analysis:

$f(\text{Transactional sex}) = \beta_0 + \beta_1 (\text{HH SES}) + \beta_2 (\text{primary caregiver type}) + \beta_3 (\text{number of HH members}) + \beta_4 (\text{educational level of primary caregiver}) + \beta_5 (\text{orphanhood}) + \beta_6 (\text{age of young woman}) + \beta_7 (\text{work for money}) + \beta_8 (\text{perceived food insecurity})$

Outcome variable

The main outcome variable was ‘ever having had transactional sex’, shortened to ‘transactional sex’ and was a binary variable (yes/no) for sex in exchange for money and/or gifts. The questions for constructing this variable, transactional sex were taken from the partner grid module of the baseline survey, which asks the young woman about her sexual and relationship history with her three most recent partners, starting with the most recent partner.

The baseline survey questions were

The four steps I undertook to derive this variable were:

- 1) Variable ‘transactional sex for money’ coded 1 if participant said yes to “*Did you feel like you had to have sex with [initials] because they gave you money?*”;
- 2) Variable ‘transactional sex for gifts’ coded 1 if participant said yes to “*Did you feel like you had to have sex with [initials] because they gave you things?*”;
- 3) Variable ‘transactional sex for money ‘and’ gifts’ coded 1 if participant had said yes to question (1) “*Did you feel like you had to have sex with [initials] because they gave you money?*” and question (2) “*Did you feel like you had to have sex with [initials] because they gave you things {list} above?*”; and
- 4) The final variable ‘transactional sex for money ‘and/or’ gifts coded 1 if participant said yes to “*Did you feel like you had to have sex with [initials] because they gave you money?*” **or** “*Did you feel like you had to have sex with [initials] because they gave you things*” **or** “*both things and money?*”

The final variable used in the regression analysis referred to as ‘transactional sex’ was binary (no/yes) for ‘*money and/or gifts (or things) exchanged for sex*’ with any or all 3 partners. Reference group coded as 0 is young women who responded negatively to question 1 and 2.

Exposure variables and confounders

The identification of exposure and confounding variables was a priori guided by the conceptual framework developed at the start of the PhD (please see section 3.3) along with epidemiological reasons guided by my literature review.

For my analysis I considered seven exposure variables:

Household (HH) socioeconomic status (SES) was calculated using the module on food and non-food expenditure in the household questionnaire. The measure was derived by summing all household spending on food and non-food expenditures, dividing it by the number of household members. A categorical household SES measure was then obtained by dividing this measure into deciles (1-10). Total per-capita food expenditure was calculated by summing the market value of all food items grown, purchased, or borrowed over the last 30 days and dividing this amount by the total number of household members. Total per-capita non-food expenditure was calculated by summing the amount spent on non-food items over the past 30 days, specifically personal items, transportation, utilities, insurance, household items, clothing and shoes, health care, education, and miscellaneous purchases and dividing this amount by the total number of household members. *This variable was calculated by the main study team and provided to me to maintain consistency in this variable, across all study analyses.* For the purposes of my analysis, I then re-categorised the SES variable from deciles to three groups: low (1-3), medium (4-7), high (8-10).

Other exposure variables describe the structure of the household, such as: *the number of household members*, a continuous variable from 1-20 in the questionnaire and then categorised into 4 categories – 1-3; 4-5; 6-7 and >8; *type of primary caregiver*, measured as a categorical variable with 6 categories: mother, father, older brother and sister, aunts and/or uncles, grandparents and cousins (further reduced from 6 to 4 categories: mother, father, brother /sister, other blood relative); *educational level of primary caregiver*, measured as a categorical variable

with 19 categories and re-categorised into 5 groups: none, primary, secondary, matric and adult basic education; *being an orphan* (defined as either one or both parents deceased), binary and constructed from the question asking if the mother was alive and if the father was alive; *young woman's perceived food insecurity* binary and constructed from the question "In the past 12 months, have you been worried about having enough food for you or your family?"; and *employment status of the young woman*, binary and constructed from the question "Did you do any work for pay or family gain, including payment in kind such as food or housing?".

The confounding variable was *the age of young women*, which was recorded as a continuous variable from 13-21³⁸ years and re-categorised into two groups 13-15; 16-21, to obtain an approximately equal sample size in each category.

II. Self-reported engagement in transactional sex and young women's consumption patterns

The second part of the analysis is to explore the relationship between young women's engagement in transactional sex and their consumption patterns. The hypothesis being young women from poorer households use transactional sex as a means to consume items considered expensive. The following equation outlines the variables that I use in this analysis:

$$f(\text{consumption patterns}) = \beta_0 + \beta_1 (\text{transactional sex}) + \beta_2 (\text{HH SES}) + \beta_3 (\text{type primary caregiver}) + \beta_4 (\text{orphans}) + \beta_5 (\text{number of sex partners past 12 months}) + \beta_6 (\text{have a boyfriend}) + \beta_7 (\text{work for money}) + \beta_8 (\text{age of young woman})$$

Outcome variable

For this analysis, the outcome variable is young women's consumption patterns. The consumption module in the young women's questionnaire attempts to measure the spending patterns of young women on a given set of items. This module was adapted from a survey

³⁸ One participant turned 21 on her date of randomisation. Since the young woman was already randomised the study statistical team decided to keep the participant in the study rather than terminate her.

conducted in a randomised controlled trial in Malawi (194), which asked similar consumption related questions from young women. The question in the module asks, “*whether the young woman has bought for herself any [...item name...] in the past month and how much money in South African rands did she spend on [...item name...] for herself in the past month*”. Each of the questions in the young women’s consumption module are binary (yes/no) variables. In order to group consumption items according to a similar correlation pattern, I chose factor analysis. Details on the mechanism behind factor analysis and the specific type of factor analysis used for this analysis (exploratory factor analysis) has been discussed in Chapter 4 (section 4.5.4.A (ii)).

The 12-items from the consumption module which I used for the factor analysis model are:

- Scented soap, skin creams or lotions;
- cell phone, airtime or ringtones;
- shoes, clothing or underwear;
- make-up or cosmetics;
- hairdressing; cool drinks, chips or sweets;
- food/groceries; movies or music;
- beer or other alcoholic drinks;
- birth control and/or condoms;
- school uniform or supplies;
- transport to work or school.

From the factor analysis, there were 3 groupings of factors that were created – Group 1, Group 2 and Group 3 – with overlap between the groups (details of these groupings will be discussed under the Findings section ([section 5.3.II](#))). As the factor analysis did not reveal much variation between groups (i.e. almost all the young women purchased group 1 items) and some purchased group 2 and 3, I took into consideration the results of the factor analysis, but also considered sample sizes in each group (which were very small for group 2 and group 3), when constructing the consumption variables for analysis. The final variables that were constructed were group 2 and group 3, each as binary variables with group 1 as the reference group (details have been explained in [Section 5.3.II.c](#)).

Exposure, confounder and effect modifiers

For this analysis the exposure variable was *ever having had transactional sex*, which was recorded as a binary variable and the method of constructing it is has been described earlier. Potential confounders are: *young women's number of lifetime sexual partners*, which was recorded as a continuous variable from 0-11 and was categorised into 4 groups: 1,2, 3, >4; *young women's number of sexual partners in the past 12 months* was recorded as a continuous variable from 0-15 and was categorised into 4 groups: 0, 1, 2, >3; *currently have a boyfriend* was recorded as binary to the question “do you currently have a boyfriend or main partner?” The construction of all other confounders (*the age of young women, being an orphan, type of primary caregiver, number of household members and employment status of the young woman*) have been described earlier. *Household SES* was hypothesised to be a potential effect modifier in the relationship between transactional sex and consumption. Please refer to the previous section for a description on how the variable was constructed.

5.2c Missing data

The overall dataset contained data on 2533 young women and their households. This analysis was focused only on sexually active young women (n=693). There was very little missing data in this dataset. With the exception of the variables, *lifetime number of sexual partners* and *number of sexual partners in the past 12 months* (where missing data was ~4-5%)³⁹, almost all the exposure variables had less than 3% missing data. This include cases where young women have ‘refused to answer’ or “skipped the question”; ‘don’t know’ was also coded as missing, as the percentage of this response code was exceedingly small. Given these small proportions, missing data are unlikely to bias estimates significantly. I examined all data for improbable values and these values were checked against written records and amended accordingly or

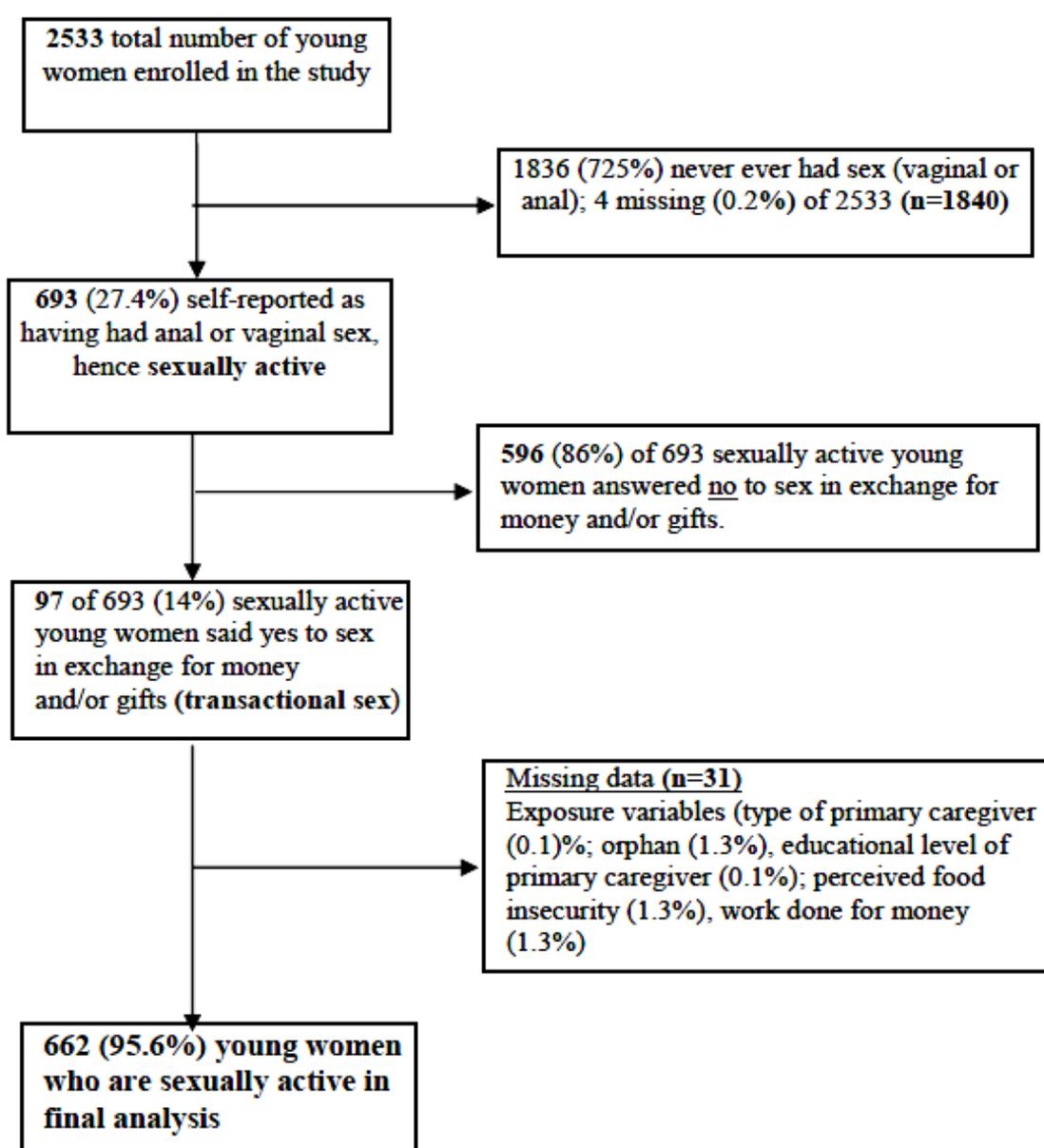
³⁹ For the variables number of lifetime sexual partners or number of sexual partners in the past 12 months, there appeared to be errors in data entry. This is because for these questions, young women had to enter in the information on their number of partners and certain responses (e.g., 22 or 44 partners in a year) seemed implausible, thus a decision was made to code them as missing. No attempt was made to replace it and they were not included in the final analysis.

coded as missing. No attempt was made to replace missing data and cases with missing data were not included in the final models.

Final sample sizes after accounting for missing data for each analysis

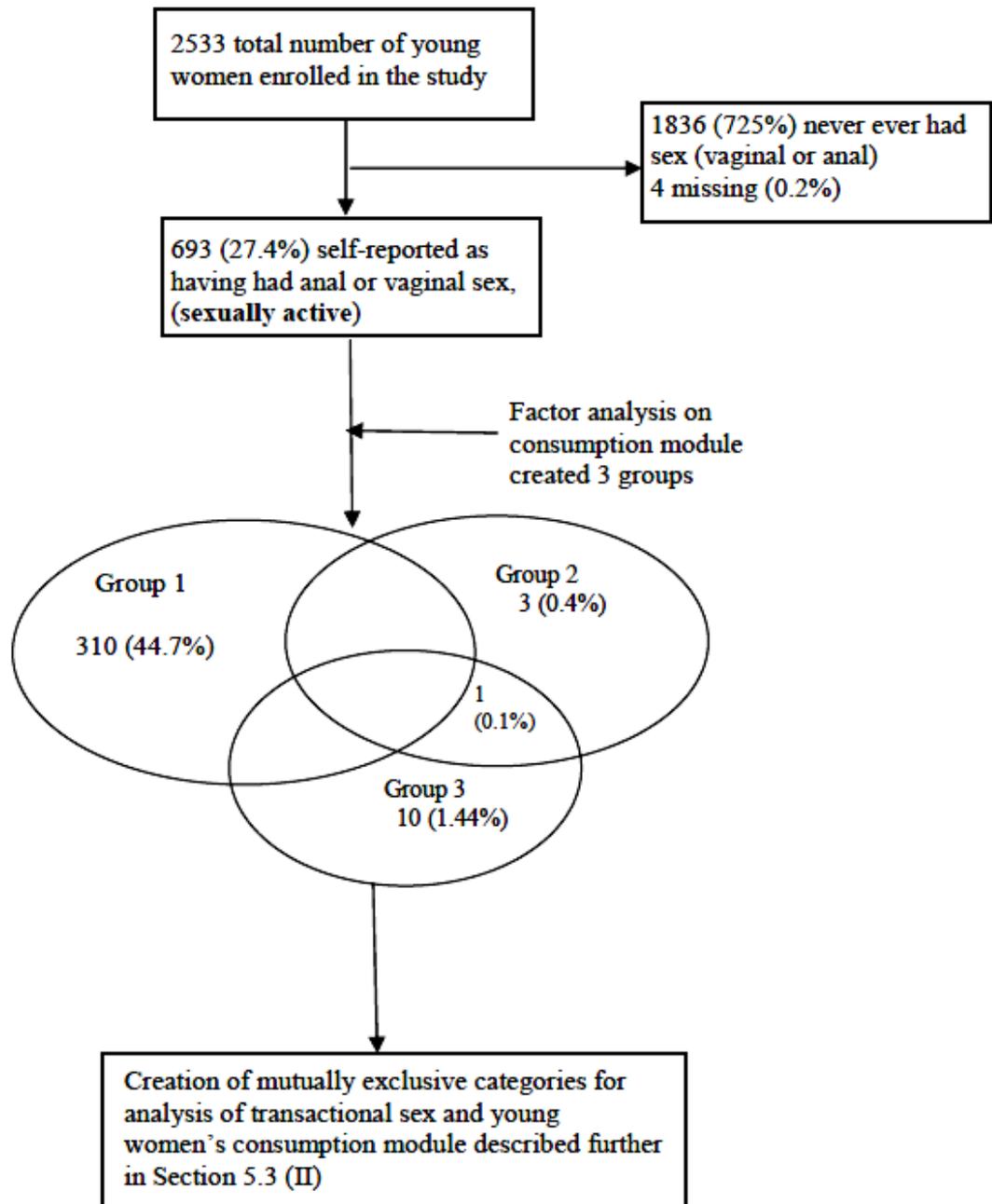
For the analysis between household SES and household structure and transactional sex, the final sample size used in the analysis is 662 young women (4.3% missing) (figure 5.1 below).

Figure 5.1: Flowchart for analysis between HH SES/Structure and transactional sex 1



For the second part of my analysis between transactional sex and young women's consumption patterns, the sample size for high cost essential items is 398 young women (missing = 7%) and for entertainment and birth control items is 486 young women (missing = 6.2%) (figure 5.2 below)

Figure 5.2: Flowchart for analysis between transactional sex and consumption patterns 1



5.2d Statistical Analysis

All statistical analyses were carried out using STATA IC/12 (Stata Corp., TX, USA). The analysis was done on young women who were sexually active and had complete data on all variables being analysed. The study design provided a self-weighted sample.

Descriptive and unadjusted analysis

Initially, tabulation of all essential variables was conducted to explore their distribution in the dataset. Descriptive statistics were used to summarise characteristics of the sample; household structure, young women's socio-demographic and partnership characteristics, prevalence and patterns of ever having had transactional sex for money or gifts and the types of gifts or items received from partners. For the second analysis, I looked at the types of items young women are purchasing (i.e., their consumption patterns) and the characteristics of the groups of items based on the factor analysis and the literature.

I then examined unadjusted associations between household level socio-demographics with ever having had transactional sex (among sexually active young women) and then with transactional sex and consumption patterns (group 2 and group 3 each when compared to group 1) among sexually active young women using logistic regressions. This was conducted to obtain unadjusted Odds Ratios (OR), as well as the p-values (using likelihood ratio test for test for overall association). 95% confidence limits were also calculated using standard methods for estimating confidence intervals from survey data. I also looked at the comparison between all 3 groups with young women that do not consume any items, at all (please see [Section 5.3.IIa](#)) for details on the groupings. In addition, linear test of trend was conducted for ordered categorical variables.

Multivariable (or adjusted) analysis

To explore the association between household socioeconomic status and household structure and transactional sex I constructed two logistic regression models⁴⁰; and another two models to explore the relationship between transactional sex and consumption patterns.

⁴⁰ The backward deletion approach was considered during model development and even though the relationship between some of the variables (e.g. number of household members or socioeconomic status)

For the analysis between household socioeconomic status and household structure and transactional sex, I first individually modelled each socio-demographic factor associated with ever having had transactional sex, among sexually active young women, adjusted for age. I then constructed a multi-variable model including all exposure and confounding variables and adjusted for all variables in the same model. To facilitate comparisons, both models used the same number of young women, as we excluded all young women who did not have complete data on all analysis variables. A likelihood ratio test (LRT) was conducted to determine fit of models and the p-value was noted.

For the analysis between transactional sex and consumption patterns, I first looked at the relationship between transactional sex with the group 2 consumption and the second model with group 3 consumption separately. For both, the reference or comparison group was group 1. I also finally constructed a logistic regression model by merging groups 2 and 3 to create one variable (the reference group again here was group 1). The potential interaction effect between transactional sex and household SES was tested and the relevant confounding variables were added. A likelihood ratio test was conducted to determine fit of models and p-value was noted. For the estimation of odd ratios in ordered categorical variables, the category with the lowest value (e.g., lowest age group or lowest educational level of primary caregiver) was taken as the reference group.

Test of linear trend was conducted for ordered categorical variables. For all models, clustering at the school level was accounted for by using cluster-robust standard errors (“*vce (cluster schoolname)*”). The robust estimator of variance has one feature that the conventional estimator does not have, which is the ability to relax the assumption of independence of the observations. That is, by specifying the “*vce (cluster clustvar)*” option, it can produce “correct” standard errors (in the measurement sense), even if the observations are correlated.

was statistically weak when tested with the outcome (transactional sex), I decided to include the chosen variables. This was because they were guided by the conceptual framework, as well as the literature for factors that are also known to be associated with transactional sex.

5.3 Findings

5.3. I. Household and young women's socio-demographics and self-reported transactional sex

A. Descriptive Analysis

a) Social and demographic characteristics of household and young women

In order to provide contextual information, as well as to compare sexually active young women with the overall sample, I have presented the social and demographic characteristics of both the overall sample (n=2533) and sexually active young women (n=693) (as shown in Table 5.1). The age of young women in the study sample ranged from 13-21 years with a little more than half of the young women in the overall sample aged between 13-15 years (52.0%). 27.6% of the young women in the study sample were orphans. Close to 25% of young women lived in large households with 8 or more family members and around 12% lived in 2-3 member households. The primary caregiver for most young women (68.5%) was their mother and close to a quarter of primary caregivers never attended school; a little over a quarter (26.8%) had completed primary school and a little less than a quarter had completed secondary school (23.0%).

Just over a quarter (n=693 or 27.4%) of young women reported being sexually active. Of these sexually active young women, 78.2% were between 16-21 years and 21.8% were between 13-15 years. Mean age of first sex (vaginal and/or anal sex) in this sample was 14.7 years and close to 30% of sexually active young women reported ever being pregnant. In terms of relationship history, majority (78.2%) of young women who were sexually active did have a boyfriend currently. Almost 90% of sexually active young women had at least 1-3 sexual partners in a lifetime and at least two sexual partners in the past 12 months. Almost 40% of young women, who were sexually active, also reported that their household did not have enough food in the past year.

In terms of financial independence, a higher percentage of sexually active young women (21.8%) report working for cash compared to 16% of young women from the overall study

sample. The main reason cited by less than half (47.9%) of young women from the overall sample was to gain financial independence (“want money for myself) whereas among sexually active young women, more than half (55.8%) of young women worked to gain financial independence. A third of young women from the overall sample said they worked to support their family compared to a quarter of sexually active young women. 12.7% of young women from the overall sample said it was to have something to do compared to 17% of sexually active young women. A really small percentage (2-2.5 %) of young women from the overall sample and sexually active young women mentioned that working was a way to meet friends.

Of young women who report working for money, most seem to be engaged in some income generating activity including sewing, hairdressing, baking, brewing work (21.8%), with clerical and office work (10.6%) domestic duties such as domestic worker (8.1%), child care (8.3%) and service oriented work, such as, working in a shop (8.9%) or small business assistants (6.6%). A very small percentage of young women also said they engaged in sex work (2.3%). When asked about their primary source of money in the past year, a little more than half of young women in the overall study sample as well as those who were sexually active said it was through their job or family. Close to 10.5% of young women (from both the overall sample and sexually active) received money from child support or disability grants. Boyfriends were more important as a source of money in the sexually active sample (7.6%) compared to young women in the overall sample (3.4%). On average, 2.5% of young women (from the overall sample and sexually active sample) mentioned sex work as a source of money. Almost 16% of young women claimed to get no money or have no source of their own money.

Table 5.1: Selected characteristics for household and young women (aged 13-21y)

	All girls (N) (=2533)	Col (%)	Sexually active (n) (=693)	Col (%)
Household Demographics				
Household SES (N=2532) (n=693)				
Low	755	29.8	223	32.2
Medium	1006	39.7	277	40.0
High	771	30.4	193	27.8
Number of HH members (N=2532) (n=693)				
2-3members	301	11.9	87	12.5
4-5members	838	33.1	233	33.6
6-7members	771	30.4	220	31.7
>=8members	622	24.6	153	22.1
Type of primary caregiver (N=2527) (n=692)				
Mother	1731	68.5	471	68.1
Father	84	3.3	22	3.2
Brother/sister	229	9.1	65	9.4
Other blood	483	19.1	134	19.4
Educational level of primary caregiver (N=2529) (n=692)				
None	618	24.4	176	25.4
Primary	678	26.8	196	28.3
Secondary	583	23.0	164	23.7
Matric or tertiary	542	21.4	128	18.5
Adult basic education	108	4.3	28	4.1
Orphanhood (N=2511) (n=684)				
Parents alive	1819	72.4	475	69.4
One or both parents dead	692	27.6	209	30.6

	All girls (N) (=2533)	Col (%)	Sexually active (n) (=693)	Col (%)
Young women's perceived food insecurity (N=2511) (n=684)				
No	1649	65.7	412	60.2
Yes	862	34.3	272	39.8
Young women's socio-demographics				
Age of young woman (N=2533) (n=693)				
13-15	1317	52.0	151	21.8
16-21	1216	48.0	542	78.2
Currently have a boyfriend (N=2532) (n=693)				
No	1703	67.3	151	21.8
Yes	829	32.7	542	78.2
Lifetime sexual partners (n=648)*				
1	-	-	353	54.5
2	-	-	163	25.1
3	-	-	61	9.4
4-11	-	-	71	11.0
Sexual partners the past 12 months (n=660)*				
1	-	-	520	78.8
2	-	-	97	14.7
>3	-	-	43	6.5
Age of first sex (n=634)*				
Upto 15 years	-	-	127	20.0
15 years and above	-	-	507	80.0
Ever been pregnant* (n=663)				
No	-	-	460	69.4
Yes	-	-	203	30.6
	-	-		

	All girls (N) (=2533)	Col (%)	Sexually active (n) (=693)	Col (%)
Work done for money (N=2504) (n= 683)				
No	2102	84.0	534	78.2
Yes	402	16.0	149	21.8
Reasons for working (N=401) (n=147)				
Want money for myself	192	47.9	82	55.8
Support my family	148	36.9	37	25.2
Something to do	51	12.7	25	17.0
Way to meet friends	10	2.5	3	2.04
Type of work (N=395), (n=147)				
Domestic worker	32	8.1	11	7.5
Child care	33	8.3	18	12.2
Farm worker	12	3.0	5	3.4
Mining	20	5.1	9	6.1
Tourism/game parks	6	1.5	1	0.7
Working in a shop	35	8.9	12	8.2
Informal selling	11	2.8	5	3.4
Sex work	9	2.3	4	2.7
Tavern or restaurant	11	2.8	2	1.4
Transport	12	3.0	6	4.1
Factory worker	24	6.1	14	9.5
Clerical and office work	42	10.6	8	5.4
Small business assistant	26	6.6	11	7.5
Sewing, hair, baking, brewing	86	21.8	29	19.7
Other	36	9.1	12	8.2
Source of money in the past 12 months				
Job	578	22.8	180	26.8
Family	787	31.1	203	30.2
Friends	129	5.1	35	5.2

	All girls (N) (=2533)	Col (%)	Sexually active (n) (=693)	Col (%)
Boyfriend or partner	85	3.4	51	7.6
Grants (child support, disability, etc)	266	10.5	69	10.3
Sex work	59	2.3	18	2.7
Selling drugs	38	1.5	9	1.3
Begging/shoplifting, etc	68	2.8	21	3.1
Didn't have any money	398	16.2	73	10.9
Other	47	1.9	12	1.8

* Only for young women that are sexually active

b) Prevalence of transactional sex

Overall, 97 young women (or 3.8% of young women from the entire sample (n=2533)) or 14% of sexually active young women (n=693) reported engaging in ‘sex for money and/or gifts’ (variable name transactional sex) (measured using the question “*Did you feel like you had to have sex with [initials] because they gave you money? and/or “Did you feel like you had to have sex with [initials] because they gave you gifts?*”). This is shown in the table 5.2 below, which summarises the results step-by-step:

Table 5.2: Breakdown of percentages by money or gifts or both received of young women who engage in transactional sex among sexually active young women (n=693)

Variable	Question	N (%) TS among sexually active sample (n=693)
Transactional sex for money	<i>Did you feel like you had to have sex with [initials] because they gave you money?</i>	58 (8.4)
Transactional sex for gifts	<i>Did you feel like you had to have sex with [initials] because they gave you things?</i>	24 (3.5)
Transactional sex for money ‘and’ gifts	<i>“Did you feel like you had to have sex with [initials] because they gave you money? and “Did you feel like you had to have sex with [initials] because they gave you things?</i>	15 (2.2)
Transactional sex for money ‘and/or’ gifts	<i>Did you feel like you had to have sex with [initials] because they gave you money? or “Did you feel like you had to have sex with [initials] because they gave you gifts or both gifts and money?</i>	97 (14.0)

The majority of transactional sexual relationships were with a current partner (67%) with a smaller proportion occurring with the two previous partners. Almost 60% (n=57) of young women in transactional relationships reported their current partner as their main partner or boyfriend with the rest (n=40 (42%) as casual partners. In terms of items received from their partners, the most common transactions involved money; 60% of young women who said ‘yes’ to the questions on transactional sex received money from their partners. The majority of the items received were from their main partner. Approximately 25% of young women received items such as, cosmetics, airtime, etc. and approximately 15% report having received both money and gifts.

Figure 5.3 below shows the range of gifts or items received by young women. There did not appear to be major differences between gifts received by those young women who did and did not report having had transactional sex. The most common items received among young women who reported ever having transactional sex, were basic items such as groceries and clothes, along with items for entertainment items, such as cool drinks, CDs/DVDs and flowers. A larger proportion of young women who had not engaged in transactional sex reported receiving flowers, airtime, perfume/lotions and make up compared to young women that reported transactional sex. A slightly larger percentage of young women not engaging in transactional sex, report receiving alcohol or drugs (6.8% versus 1.4%).

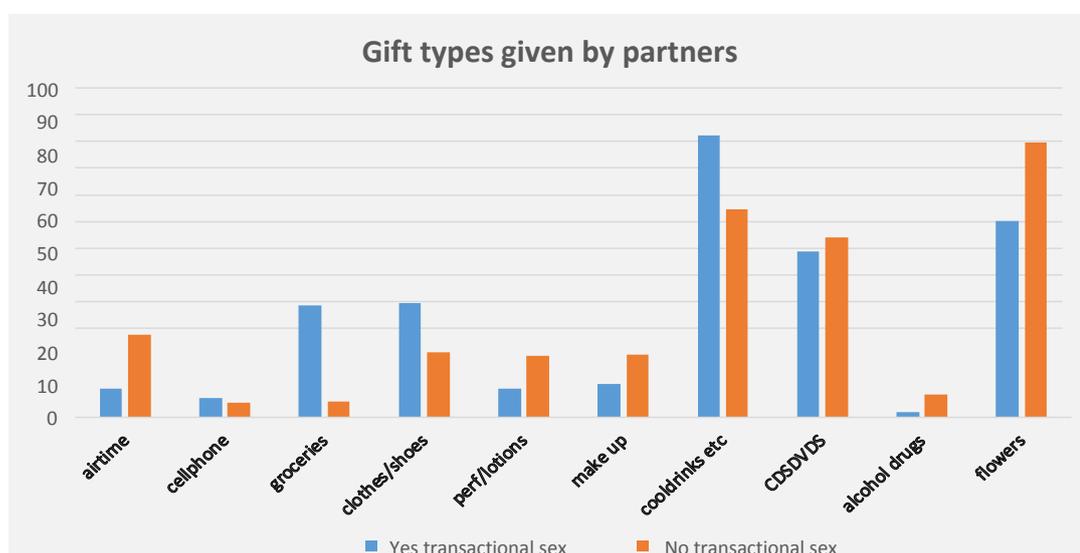


Figure 5.3: Types of gifts given by partners among young women who both report and do not report ever having had transactional sex 1

B. Unadjusted analysis

Table 5.3 shows unadjusted associations between household SES and household structure on transactional sex among sexually active young women (n=693). The data suggests that the prevalence of transactional sex appears to be higher in the 16-21 years age bracket (84.5%) compared to young women who were 13-15 years (15.5%), but the difference was not significant (OR=1.6; CI 95%=0.90-2.89; p=0.11). There is no variation between socioeconomic groups with regards to transactional sex. If the primary caregiver has received a primary or secondary education, the odds of transactional sex was 0.5 times or 0.6 times less likely than no education,

but having further education (matric/tertiary) appears to increase the odds of transactional sex by 1.4 times. The overall association between primary caregiver educational level and transactional sex was statistically significant ($p=0.01$).

Interestingly, young women that reported engaging in work for money had 2.3 times higher odds of reporting engagement in transactional sex (CI95%=1.47-3.71, $p=0.00$). In addition, young women who perceived their household to be food insecure or were worried about having food in the household the past year had 1.6 times higher odds of reporting engagement in transactional sex (CI95% 1.03-2.44, $p=0.03$).

Table 5.3: Distribution and unadjusted association between household level demographic factors and transactional sex among sexually active young women (n=693)

	N (%)	n (%) TS (=97)	Unadjusted OR**	95% CI	P-value	Linear Test of Trend*
Age (n=693)(n=97)					0.11 [#]	
13-15	151 (21.8)	15 (15.5) [^]	Reference			
16-21	542 (78.2)	82 (84.5) [^]	1.6	0.9-2.9		
HH SES (n=693) (n=97)					0.51 [#]	0.25
Low	223 (32.2)	27 (12.1)	Reference			
Medium	277 (40.0)	39 (14.1)	1.19	0.70-2.01	0.52	
High	193 (27.8)	31 (16.1)	1.39	0.80-2.42	0.25	
Number of household members (N=693) (n=97)					0.52 [#]	0.40
2-3 members	87 (12.5)	15 (17.2)	Reference			
4-5 members	233 (33.6)	35 (15.0)	0.85	0.43-1.64	0.63	
6-7 members	220 (31.7)	25 (11.4)	0.61	0.31-1.23	0.17	
>=8 members	153 (22.1)	22 (14.4)	0.80	0.39-1.65	0.55	
Primary caregiver (N=692) (n=97)					0.16 [#]	
Mother	471(68.0)	70 (14.9)	Reference			
Father	22 (3.2)	6 (27.3)	2.15	0.81-5.67	0.12	
Brother/sister	65 (9.4)	7 (10.8)	0.69	0.30-1.57	0.39	
Other blood relative	134 (19.4)	14 (10.4)	0.67	0.36-1.22	0.19	

	N (%)	n (%) TS (=97)	Unadjusted OR**	95% CI	P-value	Linear Test of Trend*
Primary caregiver educational level (N=692) (n=97)					0.01[#]	0.35
None	176 (25.4)	29 (16.5)	Reference			
Primary	196 (28.3)	19 (9.7)	0.54	0.29-1.00	0.05	
Secondary	164 (23.7)	17 (10.4)	0.59	0.31-1.11	0.10	
Matric or tertiary	128 (18.5)	28 (21.9)	1.41	0.80-2.53	0.23	
Adult basic education	28 (4.0)	4 (14.3)	0.84	0.27-2.62	0.77	
Orphanhood (n=684)(n=96)					0.11[#]	
Parents alive	475 (69.4)	73 (15.4)	Reference			
One or both parents dead	209 (30.5)	23 (11.0)	0.7	0.41-1.12		
Work done for money (N=683)(n=97)					0.00	
No	534 (78.1)	62 (11.6)	Reference			
Yes	149 (21.8)	35 (23.5)	2.3	1.47-3.71		
YW's perceived food insecurity (N=684) (n=97)					0.03	
No	412 (60.2)	49 (11.9)	Reference			
Yes	272 (39.7)	48 (17.7)	1.59	1.03-2.44		

^ Calculated as column percentage. # Overall p-value association based on LRT test *When applicable p-value estimation for ordered categorical variables through linear test of trend (LTT); **Unadjusted odds ratio estimation through logistic regression; Records with missing data excluded

C. Multivariable (or adjusted) Analysis

After explaining unadjusted associations, I constructed two logistic regression models: the first adjusted for age of the young woman and the next one adjusted for all variables (HH SES, number of household members, type of primary caregiver, educational level of primary caregiver, orphanhood, young women's perceived food insecurity and employment status of young women) and the association with transactional sex. This is presented in Table 5.4 and shows both interesting similarities and differences when compared to unadjusted associations.

After adjusting for age, household socioeconomic status did not show any association with transactional sex, and there was little variation between the SES categories. Young women who worked for cash were 2.5 times more likely than those who did not work (CI95%= 1.51 - 4.13; $p < 0.001$) to report engaging in trading sex for money or gifts. Similar to the results from the unadjusted analysis, young women whose primary caregiver had at least a primary education had 0.5 times less odds of engaging in transactional sex than those with no education. However it appears that if the primary caregiver had a matric or tertiary education, young women had 1.83 times higher odds of engaging in transactional sex than those with no education. Also, similar to the unadjusted model, when adjusted for age, young women who perceived their house to be food insecure were 1.6 times more likely to be engaging in transactional sex (CI95% 0.39-1.08, $p = 0.04$), but this was not statistically significant after adjusting for all other variables.

Table 5.4: Logistic regression models (age adjusted and all variables adjusted) of household (HH) SES and socio-demographics associated with transactional sex (sexually active young women (n=662[^]))

	Adjusted OR [#]			Adjusted OR ^{##}		
		95% CI	p-value*		95% CI	p-value*
Socio-economic status (SES)			0.42	0.67		
	Low	Reference		Reference		
	Medium	1.19	0.70-2.03	1.14	0.61-2.14	
	High	1.45	0.83-2.55	1.34	0.62-2.87	
Number of household members			0.54	0.49		
	2-3 members	Reference		Reference		
	4-5 members	0.77	0.39-1.51	0.86	0.41-1.83	
	6-7 members	0.59	0.30-1.20	0.62	0.26-1.44	
	>=8 members	0.76	0.37-1.58	0.93	0.39-2.23	
Primary caregiver type			0.18	0.12		
	Mother	Reference		Reference		
	Father	2.14	0.80-5.74	2.74	0.15-6.55	
	Brother/sister	0.69	0.30-1.59	0.61	0.28-1.34	
	Other blood relative	0.66	0.35-1.24	0.69	0.41-1.14	
Primary caregiver education			0.01	0.01		
	None	Reference		Reference		
	Primary	0.54	0.29-1.02	0.49	0.25-0.98	
	Secondary	0.62	0.32-1.17	0.58	0.27-1.24	
	Matric or tertiary	1.58	0.88-2.83	1.53	0.74-3.17	
	Adult basic education	0.89	0.29-2.80	0.82	0.39-1.68	
Orphanhood						
	Parents alive	Reference	0.08	Reference		0.09
	One or both parents dead	0.64	0.39-1.08	0.63	0.40-0.99	

	Adjusted OR [#]	95% CI	p-value*	Adjusted OR ^{##}	95% CI	p-value*
YW's perceived food insecurity			0.04			0.12
No	Reference			Reference		
Yes	1.60	1.03-2.45		1.44	0.94-2.21	
Work done for money			0.001			0.001
No	Reference			Reference		
Yes	2.24	1.40-3.57		2.48	1.62-3.77	
Age						0.04
13-15	-	-		Reference		
16-21	-	-		1.84	0.89-3.75	

^ Only non-missing values included in analysis and shown in figure 5.1

Adjusted for age and employment status; ## Adjusted for all variables;

*P-value estimation based on LRT test; ** P-values in bold are statistically significant at p<0.05 or p<0.005

5.3. II Self-reported engagement in transactional sex and young women’s consumption patterns

Prior to discussing the results from the unadjusted and adjusted analysis between transactional sex and consumption patterns, I first present results from the factor analysis of the consumption module along with a description of the rationale behind the grouping consumption items.

a) Grouping of items and description based on factor analysis

The factor analysis broadly resulted in the formation of three groups (depicted as factors), shown in the figure 5.4 below.

Rotated factor loadings (pattern matrix) and unique variances				
Variable	Factor1	Factor2	Factor3	Uniqueness
buysoap	0.6436	0.2135	0.0265	0.5395
buyairtime	0.6560	-0.1671	0.1819	0.5087
buyshoes	0.5412	0.4274	0.0823	0.5177
buymakeup	0.7418	0.2513	0.0510	0.3840
buyhairdre~g	0.7055	0.1960	-0.0129	0.4637
buycooldri~s	0.5847	-0.1281	0.0707	0.6368
buyfoodgro~s	0.2203	0.4231	0.3560	0.6457
buymovies	0.1695	0.2913	0.4518	0.6822
buybeer	0.0121	0.0178	0.7855	0.3826
buybirthco~l	0.0990	0.1344	0.5944	0.6188
buyschoolu~s	0.1002	0.7380	0.1357	0.4270
buytranspo~k	0.1123	0.7620	0.0005	0.4068

Figure 5.4: Factor loadings for 12 items from consumption module 1

Among sexually active young women, Group 1 was the largest group (n=630 (91%)). It consisted of mostly ‘personal enhancement’ related items, such as scented soap, make-up and cosmetics, hairdressing, as well as items that are technology oriented mostly for entertainment or status enhancing purposes, such as cell phone, airtime, ringtones, cool-drinks, chips, etc. Other than cell phones, shoes, clothing and underwear, where expenditures can extend to up to 600 South African rands (~£50) per month (as reported by the young women), the rest of the items in this group (such as scented soap, make-up and cosmetics and hairdressing) were up to 200 South African rands (~£18) per month. I have labelled this group ‘*low cost luxury*’ (*LCL*) as most of the items

are not items that young women absolutely need, in order to survive, so might be considered 'luxurious' in that regard and are not unaffordable for these young women.

Group 2 (n=223 (32.2%)) consists of items such as school uniforms and supplies, transport to school and food/groceries. Reported expenditures for these items varied from 10-1000 rands (~£0.83-83.3) per month for school uniforms and supplies, 10-500 rands (£0.83-41.7) per month for food and groceries and 10-800 rands (£0.83-66.67) per month for transport to work or school. Most of the items in this group could be considered items that are essential both for survival and educational progress, and in terms of monetary value are more expensive (especially school uniforms and transport to school) than group 1. Food and groceries are essential and fundamental to daily living and depending on the type of food or grocery can vary in its value. Thus, I have labelled this *high cost essentials (HCE)*.

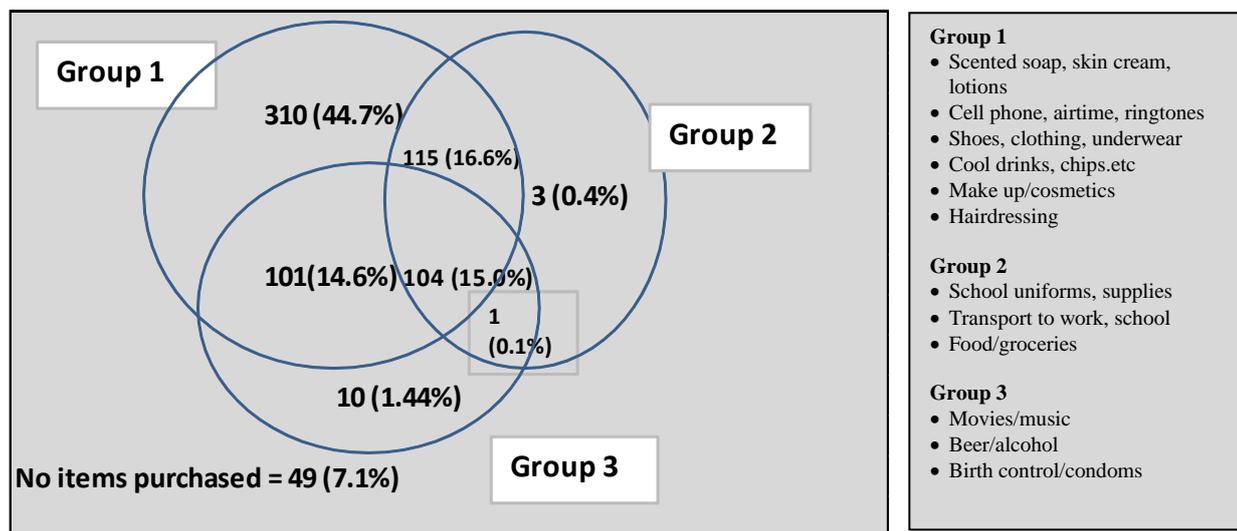
Group 3 (n=216 (31.2%)) consists of items such as movie or music concert tickets, beer or other alcoholic drinks and birth control and condoms. Expenditures varied from 10-500 rands (£0.83-41.7) per month for movies/music tickets depending on the cinema and popularity of the concert, 10-300 rands (£0.83-250 per month) for beer and alcoholic drinks and 10-200 rands (£0.83-16.67) for birth control and condoms. Some of these items are expensive (such as movie tickets, some types of fancy condoms) and some cheaper (e.g., beer). Overall, for classification purposes, items in this group have been labelled as '*entertainment and birth control*' (EBC).

b) Overlap between consumption groups

A significant amount of overlap existed with young women consuming items from more than one group, with a few consuming a combination of groups 1&2 and 1&3 and some consuming all 3 groups. As the Venn diagram (please see figure 5.5) illustrates, the majority of young women consumed group 1 items. If a few consumed items from group 2 and group 3, they usually had purchased group 1. 310 young women (44.7%) consumed *only* group 1 and only 3 young women (0.4%) appeared to buy group 2 exclusively, as most group 2 consumption is along with group 1

or group 1&3. Only one young woman (1.44%) reported consuming group 3 items exclusively. Most group 3 consumption happened along with group 1 expenditures and with all 3 groups, as well. Figure 5.5 for Venn diagram depicts the groupings and percentage in each groups with the overlap between groups

Figure 5.5: Groupings of items that sexually active young women consume or purchase (n=693) 1



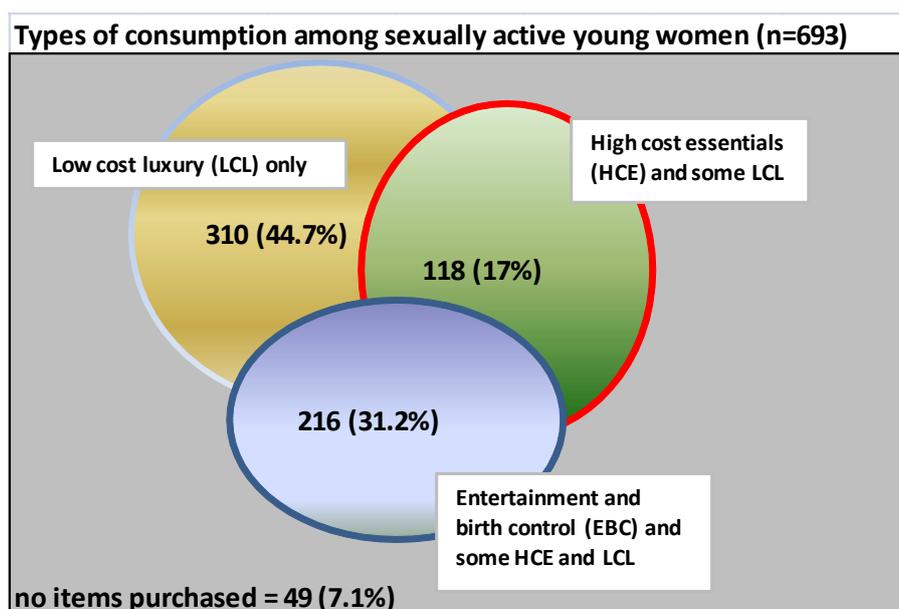
In order to create mutually exclusive categories for my analysis below, I applied a combination of the results from the factor analysis (which generated the three groups described in figure 5.5 above) along with my own theoretical knowledge, in terms of monetary value of the items and the nature of items that signify HIV risk (for example, beer and condoms, implies sex and alcohol, which indicates risky behaviour). Furthermore, I applied my observations from some of my qualitative findings around young women’s needs and wants, which have been described further in the next results chapter 6.

As shown in figure 5.6 below, group 1 has the largest sample size, even without the overlaps with other groups, hence I decided to use this category of low cost luxury (LCL) only as a reference group for the analysis. Furthermore, given that there are a sizeable number of young women who purchase items from group 2 (high cost essentials) also buy group 1, I made the decision to include group 1 girls who intersect with group 2, to create the category high cost essentials (with some LCL) (outlined in red below).

Group 3 are all young women that are purchasing items for entertainment, but also show some kind of risky behaviour. Thus, in order to create a category that is mutually exclusive, I made the decision to include the young women who overlap with group 1, group 2 and all 3 groups and combine it with group 3 or entertainment and birth control (EBC) group only. The final groupings have been illustrated in figure 5.6 below.

The distinctions that were drawn were mostly driven by the need to have mutually exclusive categories with enough sample numbers in the groups for analysis. Thus, figure 5.6 is a Venn diagram that illustrates the final groupings and classification and it's important to emphasise here that these four categories (including no items purchased) are now mutually exclusive.

Figure 5.6: Grouped items and classification (based on type and value of items) to create mutually exclusive categories 1



c) Construction of variables and rationale for reference group

Based on the rationale described above, the two consumption variables that were constructed are 'high cost essentials' and 'entertainment and birth control' items with 'low cost luxury only' as the reference group. I first tested the relationship between the variable transactional sex and young women who consume all items (LCL, HCE and EBC) versus those who do not consume anything (see appendix 10) and then between those who consume HCE and EBC compared with those who consume LCL (see table 5.5). I then made the final decision to choose LCL as the

reference group due to sample size considerations (the LCL only was a bigger group when compared to young women who do not consume anything at all).

Table 5.5 shows the unadjusted results below of the association between transactional sex and young women who consume HCE and ENT items versus those who consume LCL. There is no significant association between transactional sex and those who consume HCE (CI95% 0.68-2.39; p=0.37). However, young women who engage in transactional sex have 1.7 times higher odds of consuming entertainment or birth control items than young women who do not engage in transactional sex (CI95% 1.03-2.72; p=0.04).

Table 5.5: Unadjusted relationship between transactional sex and young women’s consumption of items that are considered high cost essentials and entertainment related (compared to low cost luxury items) (among sexually active young women who reported some consumption) ^

	N (%)	Outcome n (%)	Unadjusted OR	95% CI	p-value**
Outcome: High Cost Essentials (n=428*)					
No TS	373 (87.1)	100 (84.7)	Reference		
TS	55 (12.8)	18 (15.2)	1.32	0.68-2.39	0.37
Outcome: Entertainment related and birth control (EBC) (n=526*)					
No TS	449 (85.4)	176 (81.5)	Reference		
TS	77 (14.6)	40 (18.5)	1.67	1.03-2.72	0.04

^As separate analysis for each variable, sample size for each analysis included in each category

* Please note these numbers are the sum of the number of young women (who are sexually active) who are buying each of the items + the number of young women that are buying low cost luxury (as depicted in figure 4).

** P-value calculation through LRT test

d) Unadjusted and adjusted analysis between engagement in transactional sex and young women’s consumption of high cost essentials (HCE)

Unadjusted associations were explored between household and young women’s socio-demographics, transactional sex and her consumption of high cost essential items (please see Table 5.6a). The results suggest that young women’s engagement in transactional sex is not associated with her consumption of HCE items. However, young women from medium level SES have 1.97 times higher odds (CI95%=1.16-3.36; p=0.01) of consuming HCE compared to young

women from a lower SES. In addition, young women from a higher SES have 1.84 times higher odds (CI95% 1.03-3.28, p=0.04) of consuming HCE compared to young women from a lower SES. Orphans are two times more likely to be consuming HCE items (CI95%=1.26-3.09; p=0.003) compared to young women who have one or both parents. Young women that are engaged in work for money had 1.93 times higher odds of buying HCE (CI95% 1.13-3.28, p=0.02) compared to young women who do not claim to work for money.

Table 5.6a: Unadjusted relationship between young women’s consumption of high cost essentials (HCE) (compared to low cost luxury items) and transactional sex and household and young women’s socio-demographic factors (among sexually active young women who reported some consumption) (n=428)

Outcome: High cost essentials n=428	Unadjusted OR	95% CI	P-value*	Linear test of trend^{##}
Transactional sex			0.37 [#]	
	No	Reference		
	Yes	1.33	0.72-2.44	
Age			0.08 [#]	
	13-15	Reference		
	16-21	1.64	0.93-2.90	
Socio-economic status (SES)			0.04[#]	0.04
	Low	Reference		
	Medium	1.97	1.16-3.36	0.01
	High	1.84	1.03-3.28	0.04
Number of household members			0.40 [#]	0.42
	2-3 members	Reference		
	4-5 members	1.30	0.62-2.70	0.48
	6-7 members	0.97	0.46-2.04	0.94
	>=8 members	1.15	0.52-2.52	0.73
Primary caregiver			0.49 [#]	
	Mother	Reference		
	Father	1.65	0.58-4.70	0.34
	Brother/sister	0.86	0.40-1.83	0.70
	Other blood relative	1.27	0.73-2.20	0.39
Orphans			0.003[#]	
	Parents alive	Reference		
	Parents dead	1.97	1.26-3.09	
Currently have a boyfriend			0.62 [#]	
	No	Reference		
	Yes	1.14	0.67-1.92	
Sexual partners <12 months			0.19 [#]	0.93

Outcome: High cost essentials n=428	Unadjusted OR	95% CI	P-value*	Linear test of trend^{##}
1	Reference			
2	0.61	0.30-1.24	0.17	
>3	1.71	0.68-4.32	0.25	
Work done for money			0.02[#]	
No	Reference			
Yes	1.93	1.13-3.28		

Overall p-value estimation with LRT test

*P-values in bold are statistically significant at the <0.05 level ## Linear test of trend for ordered categorical variables

Table 5.6b shows the association between transactional sex and young women's consumption of HCE related items adjusted for household and socio-demographic factors. After adjusting for age, young women's employment status, orphanhood, number of sexual partners in the past 12 months, number of household members, type of primary caregiver and household SES (where I also conducted a test for interaction), there was no evidence that women who engaged in transactional sex were more likely to consume high cost essentials than those women who did not engage in transactional sex.

Table 5.4b: Logistic regression model between transactional sex and young women's consumption of high cost essentials (HCE) adjusted for all specified variables (among sexually active young women who report consumption) (n=398[^])

Outcome: High Cost Essentials (n=398)[^]	Adjusted OR**	95% CI	P-value*[#]
Transactional sex**			
No	Reference		
Yes	1.09	0.57-2.12	0.79

[^] Only non-missing variables in the final fitted model. Total missing: n=30 (7%) These are: work for money (n=8 or 1.2% missing), orphan (n=2 or 0.04% missing), type of primary caregiver (n=1 or 0.02% missing), number of sex partners past 12 months (n=19 or 4% missing)

** Adjusted for all confounders – age, SES, number of household members, being an orphan, type of primary caregiver, currently has a boyfriend, number of sexual partners last 12 months, working for money

*P-values in bold are statistically significant at the <0.05 level

P-value calculated through LRT

e) Unadjusted and adjusted analysis between engagement in transactional sex and young women's consumption of entertainment and birth control items (EBC)

Unadjusted associations were explored between household and young women's socio-demographics, transactional sex and her consumption of entertainment and birth control items (EBC) (please see [Table 5.7 a](#)). The results suggest that young women who engage in transactional sex have 1.7 times higher odds of consuming EBC items than those who do not engage in transactional sex (CI95% 1.03-2.72; p=0.04) . Young women that have more than 3 sex partners in the past 12 months have 2.6 times higher odds of consuming EBC items (CI95%=1.25-5.55; p=0.01) and young women that are engaged in work for money had 2.1 times higher odds of buying entertainment related items (CI95%=1.38-3.24; p=0.001) compared to young women who do not report working for money.

Table 5.7a: Unadjusted relationship between young women's consumption of entertainment and birth control items (EBC) (compared to low cost luxury items), transactional sex and household and young women's socio-demographic factors (among sexually active young women who reported some consumption) (n=526)

Outcome: Entertainment and birth control items (EBC) (n=526)	Unadjusted OR	95% CI	P-value*	Linear test of trend##
Transactional sex				
	No	Reference		
	Yes	1.68	1.03-2.72	0.04[#]
Age				
	13-15	Reference		
	16-21	1.26	0.82-1.97	0.29 [#]
Socio-economic status (SES)				
	Low	Reference		
	Medium	1.09	0.71-1.67	0.69
	High	1.21	0.76-1.92	0.42
Number of household members				
	2-3 members	Reference		
	4-5 members	1.02	0.58-1.83	0.98
	6-7 members	0.69	0.39-1.22	0.20
	>=8 members	0.92	0.50-1.67	0.78
Primary caregiver				
	Mother	Reference		
	Father	0.60	0.18-1.94	0.39

Outcome: Entertainment and birth control items (EBC) (n=526)	Unadjusted OR	95% CI	P-value*	Linear test of trend##
Brother/sister	0.93	0.451-1.69	0.82	
Other blood relative	1.38	0.88-2.15	0.16	
Orphans			0.08 [#]	
Parents alive	Reference			
Parents dead	1.41	1.01-2.24		
Currently have a boyfriend			0.73 [#]	
No	Reference			
Yes	1.07	0.71-1.64		
Sexual partners <12 months***			0.02[#]	0.04
1	Reference			
2	1.17	0.72-1.90	0.53	
>3	2.64	1.25-5.55	0.01	
Work done for money			0.001[#]	
No	Reference			
Yes	2.11	1.38-3.24		

Overall p-value estimation with LRT test; *P-values in bold are statistically significant at the <0.05 level

Linear test of trend for ordered categorical variables

As described earlier, I hypothesised that household socio-economic status might be an effect modifier for the relationship between transactional sex and young women's consumption of entertainment items. To test this, I conducted a test of interaction. The results showed that overall there was a weak interaction between transactional sex and household SES. [Table 5.7b](#) shows the stratum-specific adjusted effect of transactional sex on young women's consumption of EBC related items by household SES and adjusted for confounders. After adjusting for age, young women's employment status, orphanhood, number of sex partners in the past 12 months, number of household members, type of primary caregiver and after testing the interaction with SES, young women from lower SES who engaged in transactional sex had 3.03 times higher odds purchasing entertainment related items (CI95%=1.12-8.23; p=0.03). There is only very weak evidence in support of any interaction (p=0.18). I have nevertheless decided to present all the findings here, since I had hypothesised that household SES might modify the relationship between transactional sex and consumption patterns.

Table 5.5b: Stratum-specific estimates between transactional sex and young women’s consumption of entertainment and birth control items (EBC) type items adjusted for all confounders (among sexually active young women) (N=486[^]) # (p value for interaction=0.18)

Outcome: Entertainment or birth control items (EBC) (n=486)[^]		Adjusted OR**	95% CI	p-value*
Transactional sex in low SES				
	No	Reference		0.03
	Yes	3.03	1.12-8.23	
Transactional sex in medium SES				
	No	Reference		0.95
	Yes	0.97	0.39-2.37	
Transactional sex in high SES				
	No	Reference		0.97
	Yes	1.02	0.40-2.59	

[^] Only non-missing variables in the final fitted model. Total missing: n=40 (7.5%) These are: work for money (n=7 or 1.3% missing), orphan (n=9 or 1.7% missing), number of sex partners past 12 months (n=24 or 4.6% missing)

** Adjusted for all confounders – age, SES, number of household members, being an orphan, type of primary caregiver, currently has a boyfriend, number of sexual partners last 12 months, working for money

*P-values in bold are statistically significant at the <0.05 level.

P value for interaction between transactional sex and household SES=0.18

f) Unadjusted and adjusted analysis between transactional sex and “merged” variable (high cost essentials (HCE) and entertainment and birth control items (EBC))

As can be observed from the logistic regression models in previous Tables 5.6b and 5.7b, sample sizes for high cost essentials and entertainment or birth control items (EBC) type items were exceedingly small, with wide confidence intervals. Hence, as an additional step, I decided to merge groups HCE and EBC and compare this merged group with young women who have only consumed low cost luxuries (i.e. LCL is the reference group).

Table 5.8a below shows the results of the unadjusted analysis between HCE& EBC with transactional sex. After merging HCE and EBC related items, the unadjusted analysis suggests that young women have 1.5 times the odds of engaging in transactional sex to purchase this merged group (HCE&EBC) of items (CI95% 0.99-2.42, p=0.05) compared to those who do not

engage in transactional sex. Similar to the unadjusted analysis done previously with each of the variables, HCE and EBC separately, orphans are 1.6 times more likely to be consuming HCE&EBC items (CI95%=1.14-2.25; p=0.01) compared to young women who have both parents alive. Also, young women that have more than three sexual partners in the past 12 months have 2.3 times higher odds of consuming HCE&EBC compared to young women with just one partner (CI95% 1.13-4.60, p=0.02). In addition, young women who are engaged in work for money had 2.02 times higher odds of buying HCE&EBC related items (CI95%=1.37-2.99; p=0.001) compared to young women who report not working for money.

Table 5.8a: Unadjusted relationship between transactional sex and merged high cost essentials (HCE) and entertainment and birth control items (EBC) items (compared to low cost luxury items) (among sexually active young women who reported some consumption) (n=644)

Outcome: High Cost Essentials and Entertainment items (n=644)	Unadjusted OR	95% CI	P-value*	Linear test of trend##
Transactional sex			0.05[#]	
No	Reference			
Yes	1.55	0.99-2.42		
Age			0.12[#]	
13-15	Reference			
16-21	1.34	0.93-1.95		
Socio-economic status (SES)			0.13[#]	0.06
Low	Reference			
Medium	1.37	0.94-1.98	0.10	
High	1.46	0.97-2.17	0.07	
Number of household members			0.23[#]	0.33
2-3 members	Reference			
4-5 members	1.11	0.67-1.84	0.68	
6-7 members	0.75	0.45-1.24	0.26	
>=8 members	0.94	0.55-1.62	0.83	
Primary caregiver			0.25[#]	
Mother	Reference			
Father	0.97	0.39-2.37	0.94	
Brother/sister	0.91	0.53-1.54	0.72	
Other blood relative	1.30	0.89-2.00	0.15	
Orphans			0.01[#]	
Parents alive	Reference			
One or both parents dead	1.60	1.14-2.25		

Outcome: High Cost Essentials and Entertainment items (n=644)	Unadjusted OR	95% CI	P-value*	Linear test of trend^{##}
Currently have a boyfriend			0.62[#]	
	No Reference			
	Yes 1.17	0.76-1.59		
Sexual partners <12 months			0.08[#]	0.14
	1 Reference			
	2 0.96	0.61-1.50	0.85	
	>3 2.28	1.13-4.60	0.02	
Work done for money			0.001[#]	
	No Reference			
	Yes 2.0	1.37-2.99		

Overall p-value estimation with LRT test; *P-values in bold are statistically significant at the <0.05 level

Linear test of trend for ordered categorical variables

As I hypothesised that household SES would be an effect modifier in the relationship between transactional sex and young women's consumption patterns, I tested for interaction between transactional sex and household SES. [Table 5.8b](#) shows stratum specific adjusted effect of the relationship between the merged group (HCE and EBC) with ever having had transactional sex by household SES, adjusted for age of young woman, number of household members, type of primary caregiver, number of sex partners in 12 months, employment status of young woman and orphanhood. Even though the evidence for interaction (p=0.15) in support of the hypothesis is very weak, the results suggest that young women from lower SES households who engage in transactional sex have 2.85 times higher odds (CI95%=1.13-7.18; p=0.03) of consuming high cost essential and entertainment and birth control (HCE and EBC) related items than young women who do not engage in transactional sex.

Table 5.8b: Logistic regression models between young women's “merged” consumption of high cost essentials (HCE) and entertainment and birth control items (EBC) and the association with transactional sex (n=596[^])

Outcome: High cost essentials (HCE) and entertainment and birth control items (EBC) n=596 [^]		Adjusted OR**	95% CI	P-value*
Transactional sex in low SES				0.03
	No	Reference		
	Yes	2.85	1.13-7.18	
Transactional sex in medium SES				0.66
	No	Reference		
	Yes	1.18	0.57-2.44	
Transactional sex in high SES				0.83
	No	Reference		
	Yes	0.91	0.34-1.95	

[^] Only non-missing variables in the final fitted model. Total missing: n=40 (6.2%) These are: work for money (n=9 or 1.4% missing), orphan (n=9 or 1.4% missing), number of sex partners past 12 months (n=30 or 4.6% missing), type of primary caregiver (n=1 or 0.1%)

** Adjusted for all confounders – age, SES, number of household members, being an orphan, type of primary caregiver, currently has a boyfriend, number of sexual partners last 12 months, working for money

*P-values in bold are statistically significant at the <0.05 level.

5.4 Discussion

This cross-sectional analysis explored the relationship between young women’s engagement in transactional sex and key economic variables including household socioeconomic status (SES), the household’s structure, young women’s socio-demographic characteristics and specific factors related to her consumption patterns in rural Mpumalanga province, South Africa. The analysis was limited to young women who were sexually active at baseline enrolment.

In summary, the findings show that after adjusting for certain household and young women’s demographic characteristics, household SES did not show any association with transactional sex with little or no variation between the SES categories. Interestingly, young women who reported working for cash were more likely than those who did not work to report engaging in transactional sex. Furthermore, young women whose primary caregiver had at least a primary education had lower odds of engaging in transactional sex than those with no education. However, it appears that when a primary caregiver has a matric or tertiary education the odds of young women engaging in transactional sex increase again, suggesting a U-shaped relationship between primary caregiver educational level and transactional sex. Also, after adjusting for age,

young women who perceived their house to be food insecure were almost twice as likely to be engaging in transactional sex, although there was no evidence of an association after adjusting for confounding variables.

In addition, after adjusting for the young woman's age, her employment status, orphanhood, number of sexual partners in the past 12 months, household SES, the number of household members and type of primary caregiver, young women who engage in transactional sex appear to have far higher odds of consuming items more suited to entertainment (which could lead to potentially risky sexual behaviour), such as beer/alcohol, movie and music concert tickets and birth control and condoms. This appears to be more likely among young women from poor households although the evidence of effect modification is weak. There was no evidence of association between transactional sex and young women's consumption of high cost essentials. Nevertheless, poor young women who engage in transactional sex did have higher odds of consuming a combination of both high cost essentials, (such as school fees, transport to school and food and groceries) and entertainment and birth control items, compared to young women who do not engage in transactional sex.

The literature suggests that transactional sex maybe viewed as a "logical" reaction to a socioeconomic context (215). The results from this study provide further evidence of this perceived logic of transactional sex i.e. young women from poor households appear to be engaging in transactional sex to purchase items for entertainment such as beer, alcohol or movie tickets although the direction of causality cannot be determined due to the design of the study. Research by Watt et al in South Africa suggests that alcohol-serving venues provide a space to foster social identity and to deal with boredom that comes with circumscribed employment opportunities and lack of recreational activities (22). In this study, as transactional sex is associated with the consumption of alcohol, an argument could be made based on the literature that young women who engage in the "game" of alcohol-sex exchange may to some extent use it as a form of entertainment, both in the procurement of alcohol and related socialisation that

occurs in these venues (21). Research in similar settings has shown that gender inequality and poverty provide a context in which the alcohol-sex exchange is 'logical' (13). One could make the argument that in this setting, a woman's sexuality has value and is a resource to barter in a context of high poverty and unemployment.

In addition, there is now a growing body of research that suggests that there isn't necessarily a clear dichotomy between the survival sex of the passive victim and the consumption sex of the active sexual agent. Rather these distinctions are far more nuanced (17,57,87). Kuate-Defo coined the phrase "economic vulnerability" to capture both relationships motivated by "survival" as well as conformity, fashion, social status and pride among peer group members. In the next Chapter 6, where I present the results of my qualitative findings collected as part of this research, I discuss the issues that young women face around the pressure to conform or stay fashionable or maintain status. The quantitative results of my research suggest that engagement in transactional sex does not vary by socio-economic status. In fact, young women from poor households are engaging in transactional sex to also purchase items for entertainment such as beer, alcohol or movie or music concert tickets. This may suggest that young women are aspiring for a lifestyle, which is not just about dire need, but also about choice and entertainment, which aligns with research from other settings in South Africa and Zimbabwe (67,216).

This study also suggests that there is an association between young women who engage in transactional sex and their purchase of certain types of essential items that are considered slightly more expensive (such as school uniforms and transport to school). This aligns with research conducted among school students in rural Uganda (59) and rural Tanzania among youth aged 14-25 years (57) that shows that transactional sex is clearly motivated by extreme poverty, to procure food and essential clothing. Research from Tanzania suggests that in circumstances when young women are not receiving any financial support from their parents, they are likely to seek support from partners (83). Or if they feel the need to supplement the existing amount of money they have, they might use transactional sex as a means to reach this goal (15).

A surprising finding is that young women who worked for cash were more likely than those who did not work to engage in transactional sex. This aligns with a study done with young women in a township in Cape Town by Zembe, Townsend, et al (2013), which suggests that that young women recognise the social importance of acquiring certain goods and items to attain a certain look, towards efforts at social mobility. Furthermore, young women could be earning money to spend on items that make them look better (such as make-up, hairdressing, etc.) to attract the attention of men with whom they can have a transactional relationship (16).

The study findings also indicate that young women whose primary caregiver has completed primary school have lower odds of engaging in transactional sex than those whose caregiver has no education. However if the primary caregiver has a matric or tertiary education, the odds of young women engaging in transactional sex increase again. This suggests family dynamics and involvement of the guardian or parent in the young woman's upbringing as important in shaping attitudes towards sex, as also shown in Tanzania by work done by Wamoyi and colleagues (217). When the primary caregiver has no education (which can also proxy for household poverty), they are more likely to encourage the young woman to engage in transactional sex to gain an income that could support the household. Higher education of the primary caregiver also implies their employment in jobs that are probably away from the area (in cities like Johannesburg or Hazyview). This suggests that if parents are less present at home they might have otherwise put limits on the young woman or provided her with items she needs. In addition, if parents are not at home to monitor and insist on certain behaviours, then young women are perhaps more able to deviate from parentally approved behaviours. Thus, in the absence of the primary caregiver, young women could potentially seek comfort, company or gifts from elsewhere. This type of relationship is similar to Jewkes' research in causes of intimate partner violence and female education where the relation has an inverted U-shape, with protection at highest and lowest education levels. Jewkes argues that a possible reason for the inverted U-shape is that having some education enables women to challenge current norms, but this carries a risk unless the woman is sufficiently empowered through education (218).

This study had a number of strengths and limitations. In terms of strengths, the use of laptops and ACASI software for data collection allowed for increased privacy and standardisation in interviews. By removing the face to face component of interviews, the ‘social-desirability’ aspect of interview responses is at least partially addressed, thus tackling the potential issue of over-reporting. However, there are instances when over-reporting of certain sexual behaviours in this study occurs, such as in the case of condom use when social desirability bias is common. This specific example has been discussed in further detail in my second quantitative chapter (*please see Chapter 7*). The issue of under-reporting of sexual behaviours, such as transactional sexual practices – whether done either deliberately, or through misinterpreting a participant’s intentionality – is a recognised problem in research on transactional sex (53) and is likely to be an issue in this study. It is impossible to estimate the potential degree of under-reporting in this study. However recognising it as a limitation is important. I have also tried to address this through qualitative focus groups and in-depth interviews to further understand young women’s constructions of transactional sexual encounters (*described further in qualitative chapters 6 and 8*).

Fundamentally, this analysis is limited by this being a cross-sectional study. I therefore cannot make any claims about the causal direction of these relationships, hindering the capacity to understand to what extent consumption *motivates* sexual behaviour. Also, the exposure and outcome variables are not sequenced appropriately to demonstrate causality within the context of a cross-sectional study design. I have tried to address this limitation through qualitative work where questions around what items young women consider a need and want and factors that motivate them to want these items have been explored through in-depth interviews (*please see Chapter 6 for results of qualitative exercise on young women’s needs and wants*). Furthermore, the module on consumption was included in the baseline survey and was designed prior to my starting the PhD and a missing question, which was then added to subsequent follow-up surveys, was the question on the ‘source of items’. The original version, asks the question on whether the young woman has bought a certain item in the past month, along with the value of the item, but

did not include the source of these items (i.e. parents, boyfriend, friend, own work). This would have allowed me to potentially explore the value of using consumption patterns as a proxy for the question on transactional sex. However, the question at the moment makes it difficult to accurately measure the source of money to be able to consume these items.

Dunkle et al (2004) showed that women attending antenatal clinics reported engaging in sex for material gain with a man other than a primary partner. Those who reported such transactional sex had significantly increased odds of testing HIV positive (60). It is particularly challenging for me to tease out main partnerships from secondary partnerships to map out the risk profile based on the nature of the partnership, as I lack sufficient sample size for each category. Subsequent studies should explore the issue of partnership type further, as it appears that it is not just number of partners, but also type of partner (e.g., the risk profile of the partner) that might place young women at risk for HIV.

Related to limitations around the cross-sectional nature of this study, measurement error in the exposure, outcome and confounding variables included in the analysis, might contribute to less precise⁴¹ results. As this study is embedded in a large HIV Prevention Trials Network (HPTN) randomised controlled trial, questionnaire development and testing questions for validity underwent quality checks. However, the sample is young women and the questions around sexual behaviour are subject to social desirability bias, over-reporting or under-reporting. Recall bias is a potential problem with any study of this nature. Appropriate time-frames that were consistent with other studies (where applicable) were used, which allowed for recall (*e.g., over the past month did you buy yourself any <item>?*). Self-completion of the questionnaire (resulting in errors in data entry) and the option to skip answers resulted in missing data (4-6%) on some items, such as the variable for the number of sexual partners in the past 12 months. I have not

⁴¹ Precision refers to lack of random error or random variation in a study's estimates. In observational studies, random variation arises from the subjects in the study, the way in which subjects are sampled, and the way in which variables are measured (275). Because most observational studies must include potential confounding variables, random variation due to the measurement of these variables will likely exist.

replaced any missing values, as it would have resulted in bias and there does not appear to be a major reduction in sample numbers. The sample size is still large enough to detect statistical differences in the outcome. External validity or the ability to generalise study results to a more universal population also needs to be considered in this study. Most of these study results are representative of rural South African young women, but could be generalised to other Southern African rural settings as it employs a sufficiently large number of young women and their households who have been recruited from 23 villages spread around rural Mpumalanga. In addition, as this study is embedded within a large RCT, one can observe how these results evolve over time and we can consider the replication of these results in other country settings. *Please note that further discussion around the limitations of this analysis and the implications have been discussed further in [Chapter 9](#).*

5.5 Conclusion

This quantitative chapter contributes to a growing, but limited number of quantitative studies testing the association between the consumption of items, transactional sex and household SES among young women in rural South Africa. I measured two outcomes: engagement in transactional sex and consumption patterns. This analysis has shown that in the multivariable analysis, household SES did not show any association with transactional sex and there was little variation between the SES categories. However, young women who worked for cash were more likely than those who did not work to report engaging in transactional sex. Furthermore, young women whose primary caregiver had at least a primary education were less likely to engage in transactional sex than those with no education; however it appears that with a matric or tertiary education the odds of young women engaging in transactional sex increase again.

Also, the multivariable analysis shows evidence (despite weak statistical association) that poor young women who engage in transactional sex have higher odds of consuming a combination of both high cost essentials, (such as school fees, transport to school and food and groceries) and entertainment and birth control items compared to young women who do not engage in transactional sex. These results thus provide some evidence of association between consumption,

lifestyle and culture. Further quantitative research is warranted to capture a longitudinal understanding of the motivations for engaging in transactional sex and to develop better measures for both the transactional sex variable and consumption patterns of young women.

In conclusion, I have outlined some of the challenges around measurement of transactional sex and young women's consumption patterns. As I was restricted in my quantitative analysis by a set of pre-determined questions, questions remain around young women's motivations to engage in relationships, the types of items they consider a necessity (need) or a desire (want) and potential strategies to obtain these items. I conducted qualitative work (presented in the following chapter 6) to further explore these questions.

CHAPTER 6: Young South African women's strategies for meeting material aspirations: the role of socio-economic status and transactional sex

6.1 Chapter overview

This chapter follows the quantitative analysis (chapter 5) on the relationship between household sociodemographic factors, young women's engagement in transactional sex and consumption patterns. In chapter 5, I outline a few limitations of the data, especially around the consumption module and measurement of transactional sex. Thus, the purpose of this qualitative chapter is to provide a more in-depth understanding of young women's consumption patterns, by exploring their perceptions about items they consider a need and what they consider a want and motivations for consuming these items. I then further explore young women's strategies for obtaining these items and the role of which might include sex in exchange for material goods in meeting these aspirations.

I begin with an outline of methods specific to this chapter (section 6.2). In section 6.3, I present findings organised by the three broad themes and sub-themes that emerged. This is followed by an outline of the limitations (section 6.4) and the discussion and interpretation of these findings (section 6.5). For this chapter, I use Maslow's hierarchy of needs framework as a theoretical framework to interpret my findings.. *As I have provided a detailed description of his framework⁴² in Chapter 3, I have not described these again here.*

6.2 Methods

A detailed description of the qualitative study methods used for this thesis, including a description of the instruments used, the sampling strategy, the ethical issues and the analysis plan was given in *Chapter 4*. Outlined below is a brief description of the sample and study details that are particularly relevant for this chapter.

⁴² Maslow's hierarchy of needs consists of a five stage pyramid which describes the hierarchy of human needs. This can be divided into biological drives or physiological needs (at the lowest level), safety needs, belongingness and love needs, esteem needs and self-actualisation (at the highest level) (Maslow AH, 1943)

6.2.1 Sample

This qualitative study used a combination of five focus group discussions (FGDs) and 19 in-depth interviews (IDIs). FGDs were used to raise and explore relevant topics that assisted in determining the structure and focus of the IDIs. Themes which emerged in the FGDs were then probed further and deeper in the IDIs.

Due to ethical reasons (discussed in Chapter 4), sampling for the study was restricted to young women aged 18 years and above, in the baseline control arm (young women who did not receive the cash intervention). Also, based on feedback from the ethics committee, I did not use any criteria related to young women's sexual behaviour to inform the selection of participants for the FGDs, and I took care not to probe any aspect of participants' own personal sexual behaviour or relationship choices and motivations. FGD participants were young women who were selected from the main trial using the socioeconomic status (SES) variable to ensure that each focus group includes girls from a similar economic background. For the IDIs, I was allowed to select young women who reported being sexually active and had responded positively to the question on transactional sex (*"Did you feel like you had to have sex to get gifts or money from your partner?"*) in the baseline survey. Ten of the 19 young women recruited for the IDIs had said "yes" to this question. The remaining nine were young women who participated in the FGDs and were invited to participate in the IDIs based on their responses in the participatory exercise on their source of items. If they had ticked boyfriend for most of the items, they were invited to participate in the in-depth interviews.

6.2.2 FGD and IDI Discussion Topics

The FGD and IDI topic guides were essentially similar in the type of information being elicited, except that the FGD guide did not explicitly ask about young women's personal experiences around their sexual relationships. Topics in the FGDs included young women's relationships with boys/men, their consumption patterns, strategies or sources of items and perceptions of young women about themselves and their HIV risk. IDI topics also included questions on young

women's perceptions around transactional sex, power in sexual relationships involving exchange and young women's perceptions of the future. Please refer to *Appendix 4 and Appendix 5* for topic guides.

In addition to the broad topics covered in the topic guides and as described in the methods chapter, three participatory exercises were conducted during the FGDs:

- The first exercise was a free-listing on a whiteboard of all items that young women were either spending money on or that they sought to acquire. Then, in order to further understand how young women conceptualise “needs” or “wants”, they were given red (need) and blue (want) stickers and asked to categorise each item by affixing a sticker of the appropriate colour next to the item name on the whiteboard;
- The second exercise was a ranking exercise of the top five items from the list that were considered to be most important to young women. Participants were also asked to write down three words to describe how they would feel if they were to receive those items;
- The third exercise was to understand how young women acquired these items i.e. the source of items: via parents, boyfriends, friends or through her own work. Participants were given a sheet of paper with items from the whiteboard and were then made to check the source of items based on the individual item.

6.2.3 Sample description

Based on my quantitative analysis, the average age of first sex among young women in the main trial is around 15 years. Research participants come from rural homes in each area and half of the young participants are from homesteads dependent on subsistence agriculture for survival (of which half are female headed households). Seven of the 19 young women in the IDIs had small children, and two were pregnant at the time of the interview (important to note that in this area although adolescent pregnancies as a percentage of total pregnancies has increased from 17.0% in 1996 to 21.7% in 2007, the actual rate of teenage pregnancy has decreased (from 7.9% to 5.9%) in that time period (184). About a third of young women interviewed for IDIs worked in different

odd jobs, such as domestic work, yard-cleaning or hairdressing. At least 12 of the 19 young women either had fathers who were working someplace else (temporarily migrated), had passed away, or parents who were separated and the young woman was living with her mother.

I use integrated results from both the FGDs and IDIs to describe my findings below.

6.3 Findings

During the coding process, some dominant themes emerged, which provide insights into young women's needs or wants, the factors that motivate and influence young women to want or need these items and the strategies used to obtain items (i.e. the intersection between needs/wants, the relationships young women are engaged in and role of transactional sex). Before expanding on these themes, it is important to further understand the definitions that young women use to describe their partnerships, as well as the nature of young people's partnerships in rural South Africa.

I begin this section with a detailed explanation of the typology or language that young women use when they refer to partners (see 6.3.1) – boyfriends, friend who is a boy and sugar daddies. This is followed by an analysis of other themes: young women's hierarchy of needs and wants (see 6.3.2); and the strategies young women use to obtain items (see 6.3.3), which include their motivations for engaging in relationships, from young women's perspective.

6.3.1 Typology of relationships from the perspective of young women

During the first FGD, when young women were asked to fill out the exercise sheet for who was buying them the items they had listed on the whiteboard (participatory exercise 3), a number of participants had checked 'boyfriend'. Furman and Shaffer (2011) illustrate the value of differentiating among different types of romantic and non-romantic partnerships among adolescents, especially since sexual relationships do not always take place in the context of a 'romantic partnership'(219). Thus, for us to get a better understanding of how young women

defined a 'boyfriend', participants were probed on what they understood by the term 'boyfriend', 'a friend who's a boy' and 'sugar daddy' and the differences between them at the start of the FGD and in-depth interview.

First, there was general acknowledgement that there are different types of relationships between boys and girls:

P2: Relationships [in the community] are different...some relationships are for friendship...and when a man and woman are together it's also a relationship.

P1: And when we are classmates we are friends

P4: And you are husband and wife, when you are married.

FGD 2, medium SES

In general, premarital intimate relationships are largely with same age men who are members of the same or nearby communities. With the exception of two young women, most of the young women in the sample of in-depth interviews have had 2-4 sexual partners. Young Shangaan men and women meet each other in schools, in nearby villages, or at their churches. Statements such as, "we met on the street" or "we met at church" are common responses to questions about where they first saw or met their boyfriend. To acquire a partner, the approach, typically mandates that a boy "propose" a girl to be his girlfriend. This is mostly done by approaching her and asking for her phone number and offering to give her airtime. If she agrees, the relationship generally proceeds with phone calls to each other. This communication results in visits to the young woman's house, which potentially culminates in sex. The relationship is perceived to be serious when the young woman agrees to a sexual relationship with the man.

Boyfriend

A majority (n=12 of 19) of young women have romantic notions of what a boyfriend is with statements such as "A boyfriend is a lover; he's the person you love the most", IDI 6, age 18y and "is a person you're living with, so move from family to stay with him; generally love each other; same age and living in peace", IDI 15, age 19.

At least 8 young women who participated in the IDIs were of the opinion that a ‘boyfriend (or a “*Masihlalisane*” as mentioned by one young woman), is someone who has not yet fully committed. Their general perception appears to be that only when the boy proposes marriage or pays bride-wealth or ‘*lobola*’ that he intends to fully commit.

P2: ““A boyfriend is the person who didn’t marry you or pay lobola. You are just playing because he didn’t pay lobola or marry you, and didn’t show anything to show that he will marry you. You are just a girlfriend and boyfriend, you are playing....you are like friends. FGD 5, low SES

A quarter of young women from the IDIs refer to the boyfriend as a person who is a provider (“... *a person who if she wants something from, he will do it for her*” IDI 3, age 18), someone she can become dependent on because of items that he buys for her and someone that knows all her intimate details (“...*whom I live with, who is taking care of you, who knows that you bath and put on body lotion everything. And you love each other*” IDI 12, age 18). As articulated by this young woman that there’s an expectation of being given gifts by a boyfriend and that transaction is considered a characteristic of romantic relationships (“*he [a boyfriend] can buy me what I want but my friend who is a boy can’t buy me things and he can say that he don’t have money I have to wait*” IDI 8, age 20).

Only one young woman mentioned the boyfriend as an “emotional pillar” and “*the person you share your personal life, issues and vulnerabilities and are able to help each other with everything*” (IDI 18, age 20). In general, it seemed as if this aspect of romantic relationships was mentioned quite infrequently. Instead this need appeared to be fulfilled by female friends or family members. There was recognition that a relationship with a boyfriend is not hidden or clandestine “*then a boyfriend can stand with his girlfriend anywhere*” IDI 5, age 20, unlike relationships with a sugar daddy. Two young women from the IDIs revealed their uneasiness in revealing their vulnerability to their boyfriend and expressed a sense of formality, particularly when asked to compare boyfriend with a friend who’s a boy.

P: They are different (a boyfriend and male friend) because when I am with a male friend will share some things about his girlfriends...And when I am with my boyfriend, he will ask me and then we share... [RD: we laughed]...And when I am with a male friend I feel free to talk anything...But on boyfriend I won't talk anything with him.

IDI 17 aged 20

A couple of young women referred to the fragility of romantic relationships and that one cannot assume that it is everlasting. Related to this, a few (n=3) young women didn't have positive impressions of boyfriends, and felt that they were a bad influence and might lead them astray. This is illustrated by the quote below, from a young woman who had a particularly cynical attitude towards boyfriends:

"Friend is generally a good influence, whereas a boyfriend won't guide her to good things and wants her to be "sinned" but might get you items to make you feel happy".

IDI 13, age 18y

Friend who's a boy

Most young women had positive impressions when asked about how they define a friend who's a boy ("friend"). Interestingly, many of the attributes that one would think would be associated with romantic partnerships are perceived by young women to be more likely to occur within friendships.

I: I want to know how you define a boyfriend.

P "...Is a person you date like maybe we are just acting and then it ends.

I: How do you define a friend with a boy?

P: A friend with a boy. Like a person that I know and he's a man ...is when you are close like you share everything together.

I: So you don't share anything with a boyfriend.

P: We don't.

I: Because you are just playing?

P: Mmm (this sound indicates agreement)...

IDI 1, age 19

One young woman described the implicit trust she has in a friend who is close to her and can share everything with him, as opposed to a boyfriend, where communication is not straightforward and there are games played with each other. Another participant mentioned that a friend is reliable and would be there at times of need (*"If I can go to him now and ask him to give him 2 South African rands, he will give it to me fast"* IDI 3, age 18) and another said that jealousy does not occur with friends, thus makes the relationship feel comfortable. Another described how there is ease and comfort with a friend, sharing of opinions and as there are no sexual relations, the general dynamic with a male friend is much more light-hearted

Another commented on the romantic aspect – that a boyfriend is someone one is in love with; whereas a friend is platonic and is someone who is trustworthy and is a better friend than some women as they don't gossip behind your back (*"But a friend who is a boy I share with him and he won't spread it or maybe he can assist me to resolve it"*. IDI 10, age 18). Almost none of the young women expressed any negative impressions about friends.

Only a couple of young women mentioned explicitly that the differentiating feature between a boyfriend and a male friend is an expectation of sex – thus, according to them, with a boyfriend, there tends to be sharing of ideas with sexual intercourse included. Whereas with a friend, there are the main elements of a friendship (i.e. ideas sharing or problem solving) without the sexual expectation.

Sugar daddy

The majority of young women participating in both FGDs and IDIs defined a sugar daddy as a man who is older, more established in his career, more financially stable and solicits younger women for sex primarily. This general opinion is illustrated by this excerpt:

P: Sugar daddy is an old man or you find that I'm in love with someone who is too old to me and you find that I'm love with him because I need something that I don't get it at home. Sometime this is being caused by poverty in the household you find that we don't get food or is too difficult even to have relish. Then I taught myself that is

better to be involved with someone who is too old because I know that he will do anything for me.

IDI 10, aged 20y

When a question on sugar daddies was posed, at least 7 young women associated the term sugar daddy with 'abuse' or abusive behaviour. This was especially so in the IDIs, where there were negative connotations associated with dating or being with a sugar daddy. According to these young women, a sugar daddy is a married man with a family, tends to use his status and power to be 'abusive', has the capability of destroying one's future, is selfish and not really interested in meeting the young woman's needs. Additionally, the perception is that a sugar daddy relationship is usually clandestine (*"a sugar daddy won't stand around with his girlfriend in public"*) and that he is not very respectful to the young woman. Most young women agreed that any kind of liaison with a sugar daddy was only for money. They would rather be in a relationship with someone closer to their age, as they perceive sugar daddies to be old, jaded and tired of life and unable to experience new things.

In the FGDs, the discussion related to sugar daddies was not positive; there was open acknowledgement of the associated social stigma associated and the fact that that any sexual relationship with a sugar daddy places young women at risk of contracting diseases, as detailed in this extract:

P1: Like you find that she's in a relationship with a sugar daddy and you don't know his status and he's just buying her so he can sleep with her and leave her with diseases. It's an abuse.

P5: Like sugar daddies are not your types -- is like you are sleeping with older man and older men that are not your age. You find that that person is your mom's age..... Like when you are in a relationship with an old man you are abusing yourself because he's not your type. And you won't see if you are abusing yourself because you think you are enjoying yourself. And you don't see that at the end you will be destroyed.

FGD 3, low SES

However, young women were open in acknowledging that hardships at home compel them to engage in a relationship with sugar daddies. The hope is that a sugar daddy would provide enough

to help support the family and also give them the means to afford items to improve their appearance:

P2: Sugar daddies have money... [I: we laughed] and I want their money... [I: we laughed]. And say you will leave behind. So nowadays girls want to make themselves beautiful, look nice and wear nice clothes. Some other girls when you give them money they go to the shop and buy snacks... [I: we laughed] but look at me I eat well because I have a relationship with a sugar daddy.

FGD 5, low SES

Also, particularly in the FGDs, young women who engage in relationships with sugar daddies were perceived to be sex workers, as illustrated by this quote, *“Some of the girl they are selling (sex workers) their bodies so that they can able to get blackberry”* FGD 4, high SES.

On the other hand in the IDIs, young women were more reticent in their responses when probed about their engagement in relationships with sugar daddies. This appeared to be due to the general perception that receiving money or gifts from a sugar daddy can almost be likened to prostitution, as the expectation of sex with the provision of money or gifts is overt. Whereas, receiving gifts or money from a same-age boyfriend didn't have the same level of explicit expectation, and the element was more subtle. There was also an acknowledgement by one of the young women in an IDI that *“A boyfriend is a person you love most. A sugar daddy is a boyfriend with benefits...like airtime. [I: we laughed]”,* IDI 6, age 21).

Furthermore, even in the IDIs, there was general agreement that the desire to be with a sugar daddy arises from materialistic motivations and peer pressure.

P: [I don't want sugar daddies] because he is too old and on the other hand I abuse my body. Some they want clothes and expensive cell phone like Samsung Galaxy. You find that they like it and sometimes this is cause by peer pressure. You find that my friends are having a relationship with a sugar daddy and she had sex with him then he buys her some items or expensive clothes like label clothes or an expensive cell phone. Then my friend come and show me after I feel that I like it then I start to involve myself [with a sugar daddy] to get the items that I need.

IDI 10, aged 20y

In summary, based on young women's perceptions, it appears that sex in exchange for items or money is the only reason that young women engage in sexual relations with a sugar daddy. With boyfriends, the sexual orientation of the relationship tilts it towards being exchange oriented, but it is not the only motivation to stay in the relationship (as discussed later in the chapter). Finally, with male friends, the precluding of sex, hence no expectation of any form of exchange appears to lay the ground for a more emotionally solid relationship.

6.3.2 Adolescent young women's hierarchy of needs and wants (“hidden needs”)

In an effort to explore the meaning that young women attach to transactional sex and the motivations behind it, I attempted to understand the language of needs and wants from the perspective of young women. As mentioned under methods (section 6.2) I conducted participatory exercises as part of the FGDs, where young women were asked to categorise items that they considered a “need” and those that they considered a “want”. The definition of a need and a want was made clear to participants; ‘needs’ were items that one could not live or survive without. ‘Wants’ were defined as items that the young women desire or aspire for, but can live without.

For the first exercise, young women made a free-listing of all items and then labelled each item as either a need or a want. I then summed up responses for each item, across all FGDs to mark it as a need or a want (see *Appendix 11* for worksheet). Then in order to group the long list of items which were generated by the FGDs, I created four categories which describe the type of items – these were personal enhancement, practical (or items for daily existence), pricey/expensive items and entertainment related items. These categories were similar to the groupings from the factor analysis in Chapter 5, except there was a longer list of items here, thus I created an extra group. The [table 6.1](#) below lists out the results of the exercise (based on the definitions of a need and want) mentioned above. To make it easier to differentiate, needs are marked in red and wants are marked in blue.

Table 6.1: Exercise 1 -- Needs (red) and Wants (blue) categories exercise

Groupings	Items	Need or want**
Personal Enhancement Items	Expensive perfume	Need
	Hair extensions	Need
	Lingerie (g-string, fancy underwear (such as jockey))	Need
	Toiletries (scented soap, skin cream, body lotion, powder, roll-on deodorant)	Need
	Make-up (eyebrow pencil, mascara, false eye lashes, eye liner)	Want
	Cosmetics (ponds, nail polish (cutex), skin-brightening cream, lip balm, bag, hair control)	Want
	Salon treatment (hairdressing/hair highlighting, relaxing, dyeing, manicure, waxing)	Want
	Accessories (watches/handbag)	Want
	Jewellery (bracelets, earrings, necklace, gold tooth)	Want
	Body piercings (belly-ring nose-ring, tongue-ring, tattoo)	Want
Practical Items	Clothes	Need
	Ordinary cell phone and airtime	Need
	Shoes	Need
	Female items (underwear, sanitary pads)	Need
	Food, groceries	Need
	School uniforms/supplies	Need
	Transport to school/work	Need
	Birth control/condoms	Need
Pricey/expensive Items	Expensive clothes (colour blocking, skinny jeans, <i>hlokoloza</i> (mini skirt), <i>tekkies</i> (trainers), branded clothes)	Need
	Fancy shoes (high heels, <i>Carvela</i> (expensive Italian branded shoes))	Need
	Expensive phones (blackberry/camera phone/Nokia/x2)	Want
	Expensive foods (chocolate, yoghurt, grapes, restaurant)	Want
Entertainment/leisure	Beer/alcohol	Want
	Cold drinks and chips, <i>Ultramel</i> (ready-made custard), <i>Lays</i> (potato crisps)	Want
	Movies/music and travelling	Want
	Pocket money	Want

** Need or want categorisation based on the choice made by majority of young women on a given item

Based on responses, most items that were considered ‘practical’ (e.g., clothes, shoes, underwear, food and groceries, some female items (e.g., sanitary pads, bras), school uniforms/supplies, transport to school/work and birth control/condoms and cell phone and airtime, as well as certain items for ‘personal enhancement’, such as expensive perfume, hair extensions, lingerie (such as g-string and fancy underwear) and toiletries (scented soap, skin cream, body lotion, powder) were

considered a need. On further probing for reasons behind needing such items (i.e. food, clothes, body lotion, scented soaps), statements such as “because you won’t survive without eating” or “you need to wear a bra” were made. In addition, items considered ‘expensive’, such as colour blocked clothes, *Hlokoloza* (mini skirt), skinny jeans, *tekkies* (trainers), as well as fancy shoes, such as high heels or ‘*Carvela*’ (expensive Italian brand) shoes were also considered a need by a few young women. When probed on whether these items such as blackberry or expensive perfume were actual needs, the responses suggested that they needed it, but considered them unaffordable. In the discussion that ensued, reasons given for needing such items ranged from needing to conform (*‘because nowadays other people are using Blackberry’* or *‘because when people smell a perfume, it becomes attractive to me’*) to needing to boost their status (*‘perfume is attractive to me because when I smell it from someone smelling good like from teachers, then I tell myself that it’s an expensive perfume, so that is why it becomes attractive to me’*). It also appears that food and nice uniforms are necessary because of being teased and feeling humiliated, more than being 'real' barriers to school attendance, as illustrated by this quote:

I: Ok. What happens if you do not have one of the items that you need?

P2: Like school uniform, I won’t go to school without enough uniform. And when I wear a skirt that is tearing and then my friends laugh at me. (FGD3, low SES)

Some young women also demonstrated safe sexual behaviour by saying that birth control and condoms were a need: *“We want to protect ourselves from illness, because you cannot grow up without doing it, so you need to protect yourself” FGD4, high SES.* Young women also mentioned that if parents were not able to provide them with items such a blackberry or fancy shoes, sugar daddies are generally considered to be a source for these items.

‘Wants’ defined as items that the young women desire or aspire for, but can live without, were mostly items for personal enhancement (make-up, cosmetics, salon treatment, accessories, jewellery and body piercings) and entertainment or leisure (beer/alcohol, cold drinks and chips, movie tickets and pocket money), as well as expensive items, such as expensive phones and

expensive foods. Reasons given for wanting these items appear for them to be able to identify with certain role models either within their peer group as illustrated in this FGD:

P3: Even if you can bath and wear nice clothes but if you didn't put make-up aah...you are not really (young woman's name]

P4: It is just because most of the young women nowadays they like fashion, that is why if you don't have make-up you will not feel good. FGD4, high SES

Some of the items were both a need and a want based on its perceived value. For example, in terms of food, regular daily staple food (e.g., maize, potato, beet, etc.) was a need and expensive food (e.g., yoghurt, chocolate, grapes and eating out at a restaurant) were wants, along with items such as beer and alcohol and cool drink/chips. In the category of clothes, “ordinary clothes” or “expensive clothes” and “shoes” or “expensive shoes” were considered needs.

It is interesting to see that owning expensive clothes and mobile phones seemed to be represented by many participants as ‘needs’ not dissimilar to the need for food and clothes. Thus, expensive items previously considered a “want”, are now considered a need, which appears to be something that is becoming the norm in an increasingly materialistic and aspirational society (89). It is the ‘perception of need’ rather than an ‘actual need’ that is important, as from the perspective of these rural young women, owning expensive clothes or expensive shoes is construed as a necessity in their lives. Young adolescent women are motivated both by materialistic desires as well as the pressure to conform to peer group expectations of being symbols of sophistication and leading modern lifestyles.

However, there were also some young women who acknowledged the clear differences between expensive items and basic items essential for survival. They realised that just because they coveted these unaffordable items, it does not necessarily imply that they need to own them. Furthermore, there also appears to be a general understanding that the perception of needs (and wants) is relative, and based on an individual’s household socio-economic situation and lifestyle choices.

I: I heard someone saying Blackberry it is unnecessary. Can you please tell me why?

P2: Blackberry is too expensive and I'm still a school child, and parents cannot afford to buy me Blackberry. I will be fine if I can have cell phone worth R150. The most important thing is to communicate.

P3: It is necessary to have Blackberry, because you will chat for free on Facebook and BBM.

P1: It is not necessary because even if you don't chat it doesn't mean that you are not a human being.

P3: That is why I said my need is not your need.

FGD 4, high SES

P: Yes there are [influences from friends]. Like clothes you find that they dress nicely than me, yes we are not the same in the household or find that they have new fashion clothes and I never had it because their parents are not like my parents they easily gets money than my parents.

IDI 10, aged 21

In the second participatory exercise, when participants were asked to rank order the top 5 items that young women wish for, most of them listed practical items such as food, clothes, airtime, school uniforms/transport to school consistently as being most important, whereas the fifth item varied with items such as make up, underwear and bras, hairdressing and skin cream.

In this selection process, wants and needs overlap and reasons given for needing these items were to survive (*"as we need food and clothes to survive" FGD 1*), to look and feel attractive (*"I want to be someone who looks cute to people" FGD 2*), to feel accepted (*"to be part of the group - to wear similar clothes, have the same hairstyle and wear the same earrings as friends" FGD 3*) and feel secure with their needs met. When asked how they felt when they had these items, quotes included *"would be very happy", "be proud", "feel safe with food and school uniforms", "feel like other people" "feel thankful", "feel recognised by others" "feel like life would go smoothly", "feel important", "will feel like others", "feel comfortable", "will feel happy and at peace", "will feel*

respected and life will be simple and easy". Provided below is a figure with the rank ordering of items and quotes from young women from a low SES FGD.

p1	p2	p3	p4	p5
Clothes	Food	Food/drink	Clothes	Clothes
Food/groceries	Clothes	Clothes	Pads	cell phone
School uniforms	Pads	Pads	Roll-on	watch
transport to school	Shoes	Shoes	Bra	necklace
Pads	School uniforms	School uniforms	Shoes	chips/cold drink
Feelings associated with receiving items				
Clothes needed for survival	I will be thankful	Be very happy	Happy	Clothes needed for survival
Food needed to function regularly	Feel safe	Be good as it's important to wear clothes	I will disappear	I will survive, even if I don't have a cell phone, I won't die.
I'll be so thrilled because I'll be wearing uniforms like other learners	To be recognised by others	Will help me with my future and I'll be happy	I will be angry and would not anyone near me	I don't have to always eat chips

Figure 6.1: Rank ordering of items by young women from low SES FGD 1

Factors which appear to influence young women to need or want these items are pressure from their peer group and competition between friends (*"don't want friends to look better than me"*); an intrinsic need to belong and feel secure within their peer network and a desire to look beautiful and maintain an attractive outward appearance. These factors appear to rank very highly in young women's pursuit of items, not just because they want to fulfil consumerist needs, but also because having access to these items would send a signal to the young woman's peer group that she is a 'cool, modern woman' making her the object of envy among her peers, which would in turn boost her self-esteem.

P: [I want these items] because they are needed and that everyone wish they can have it...that if I found myself having this I will be 'the' person among the people and when people see me coming from there they will turn their heads and look at

me.....And then I became interested like you went to the shop and buy these trousers/pants... [RD: she was pointing my pants] and when you come back I tell you that it's beautiful and I also need it. When I get money I will go and buy it also

IDI 2, aged 21y

P3: [These products or things are attractive] because most of the people are using Blackberry and even me I do want Blackberry and I don't have it and I cannot afford it.

FGD 4, high SES

Related to the theme above about peer pressure and the need to conform, belong and be accepted, it appears that many of the needs are about social standing -- thus wearing nice uniforms are necessary to avoid being teased and feeling humiliated, more than being 'real' barriers to school attendance. This appears to be particularly the case among young women from higher socio-economic households.

P1: Like if you go to school you need to wear proper school uniform because the school children will laugh at you.

P3: Even if you can bathe and wear nice clothes but if you didn't put make-up aah...you are not really (young woman's name)⁴³

FGD 4, high SES

Apart from peer pressure and needing to conform, status among friends or the community and perceived "ranking" within a social order is of importance to young women.

P1: We want to make ourselves beautiful so that people can recognise us.

P3: That's what I was saying if you didn't put make-up people say you're a traditional girl [I: We laughed], if you have put make-up people recognise you that you are South African.

P1: Because people from Mozambique they don't put make-up, so if you don't put make they will compare you with them⁴⁴.

FGD 4, high SES

In summary, themes such as 'peer influence', 'need to belong to a peer group' and the 'need to conform' strongly emerged from the FGDs. This supported the expectation that young women's

⁴³ [Young woman] here refers to a person in the village who is quite famous and attractive among her peers, hence a role model for young women in that particular village.

⁴⁴ Many people in the area belong to the Tsonga (Shangaan) tribe who are originally from Mozambique. In general there seems to be a hierarchy among black ethnic groups, and Shangaan (Tsonga) people tend to be looked down on by other black ethnic groups in South Africa as particularly backward and rural. Thus, from this research there appears to be a desire among people not to appear Shangaan (183,276)

beliefs about their needs and wants were heavily influenced by the perceived norms and aspirations of their peers.

However, in a couple of interviews, young women recognised the constraints of their household's socio-economic situation and acknowledged that despite having desires, these items were unaffordable. However, one young woman appears to accept this and comforts herself with knowing that at least she is the topic of conversation among her peers, as illustrated by this excerpt:

P: I don't care even if I don't have Cutex (nail polish)...but my heart is painful when I go to school and didn't braid my hair and others will laugh at me saying that I've aged.....Even if they don't laugh at me they gossip about my hair.....I have an afro hair so I just braid it without using hair extension.. I feel good (when they gossip) because I told myself that whom are they going to gossip about, if they don't gossip about me. You must accept because people are gossiping. IDI 4, aged 18y

Young women also spoke about how advertisements and television shows such as *Generations*, *Rhythm City*, *Scandal*, *Muvhango*⁴⁵ (Like maybe you are watching *Generations* and you see Queen Moroka wearing outfit you like and then you wish you can be like her. FGD3, low SES) also play a role in influencing young women's consumption patterns. Characters such as *Dineo Mashaba*⁴⁶ and *Thandaza Buthelezi*⁴⁷ were mentioned by a number of women as having special influence on them both in terms of their physical appearance, but also in the strength of their portrayed characters and being able to identify with them or aspire to be like them.

P: When I see on the TV advertises Ponds (face cream) and says if you buy it...it will remove all pimples on your skin... [I: I laughed] you will run to buy it. And tomorrow on that TV they will advertise Lemon-Lite (face-wash). And then they say immediately when you apply Lemon Lite it (blemishes) will all go away... [I: I laughed] and then I

⁴⁵ *Generations*, *Rhythm City*, *Scandal* and *Muvhango* are South African locally produced soap operas that have been around for almost two decades (since the end of apartheid). All of them are based in different settings (advertising industry, music industry, township life, etc), but the common theme is that they all reflect dreams and aspirations of contemporary, pre-dominantly black South Africans.

⁴⁶ *Dineo Mashaba* is one of the main female characters of the soap opera, 'Generations'. She's considered to be this beautiful, independent, clever early 30s successful career woman at the helm of a media company which is backdrop for the soap opera.

⁴⁷ *Thandaza Buthelezi* is the main female character for the soap opera, *Muvhango*, also considered to be this beautiful ill-fated female protagonist.

run to buy it. And then the day after tomorrow they come back with an expensive Garnier (face product) and then they say if you apply within a second it (blemishes) will go away. And then I go to buy because I saw it on the TV. IDI 2, age 21

P: Mmm... [what influences me to want these items is] because I have seen it being advertised on the TV or from that household you find that they are living a better life and they become successful and even myself I want to succeed but their household is not like us.

IDI 3, age 20

Social networking sites, such as Facebook had less of an impact, except for one participant, who mentioned the feeling of missing out if she witnesses another person using Facebook with their Smartphone with Facebook.

6.3.3 Strategies that young women use to obtain needs and wants and motivations behind relationships

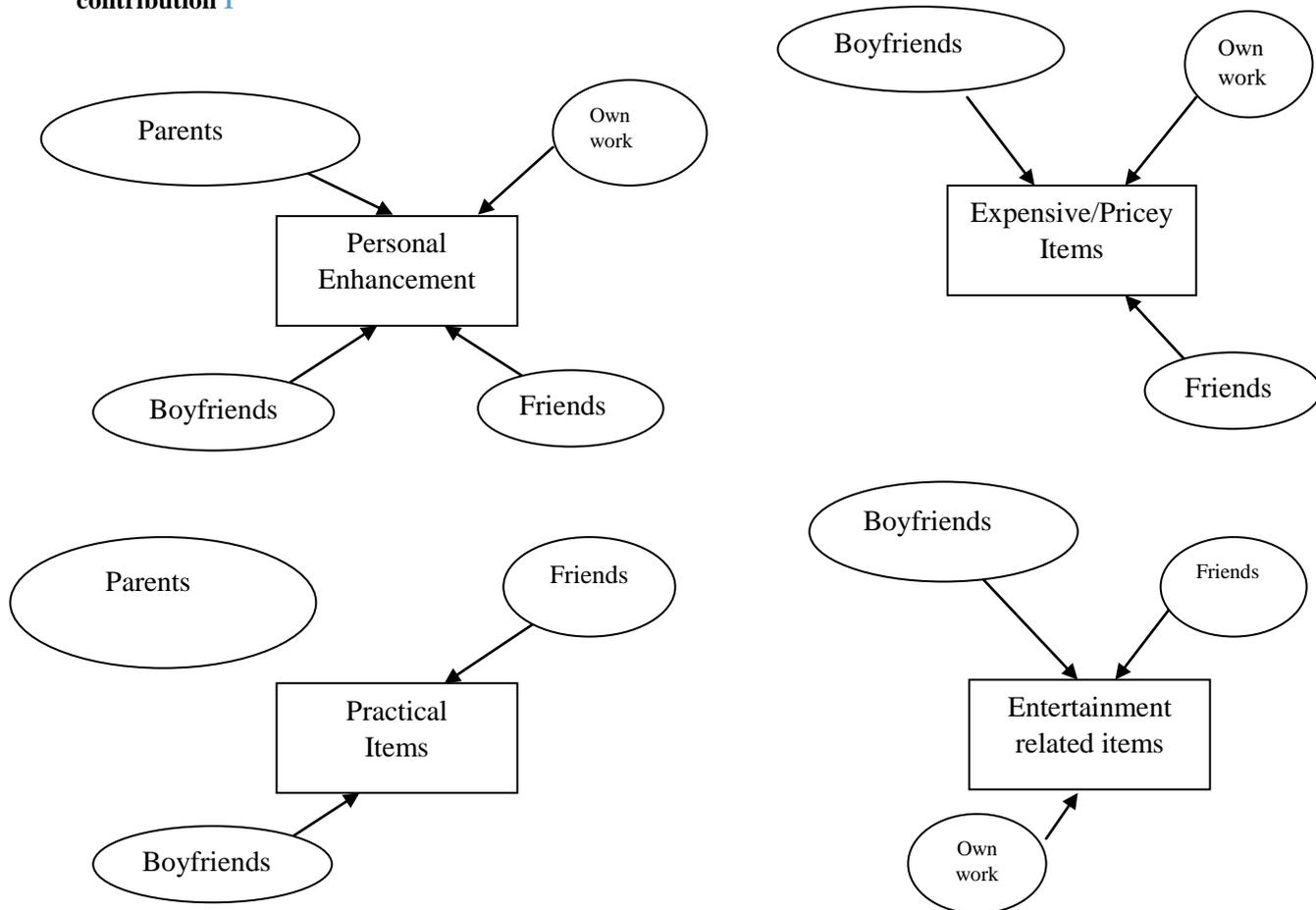
6.3.3a Parents or guardians generally pay for items considered to be practical or necessary.

However, this depends on the young woman's household socio-economic status

For the third participatory exercise in the FGDs (where participants were asked to indicate which individuals had bought them items), the results show that for the majority (18 of 21 years) of young women the first port of call for most items of “need” are their parents or guardians or primary caregivers (referred to as parents). They pay for ‘practical items’ or items that meet basic requirements, such as food, school uniforms, non-fancy clothes, cheap phones (sometimes), transport to school (most times), as well as some items of ‘personal enhancement’ and female hygiene, which require regular monthly replenishment, such as roll-on deodorant, underwear, body lotions, and sanitary pads. However, items of personal enhancement might also be bought by boyfriends, as it was dependant on the household’s economic situation. Some young women did say that occasionally, parents do buy their daughters hairpieces and earpieces, so that these young women feel attractive and pampered.

Items that young women mentioned that their parents would not pay for were mostly entertainment related such as movie tickets, cold drinks/chips and beer/alcohol or body piercings, such as gold tooth, belly rings, tattoos, etc. or pricey/ luxury-type items such as Blackberries or Nokia phones or expensive foods, such as chocolates, yoghurt etc. Or some expensive items for personal enhancement, such as salon treatment, lingerie and fancy toiletries as these were considered more expensive and parents either lacked resources or did not consider it a priority to buy items that they perceived as unnecessary. The figure 6.2 below depicts the source of items, which were identified by young women and the relative size of their contribution depending on the type of item. These groupings were derived from the results of the third participatory exercise.

Figure 6.2: Source of items that young women receive: larger the circle, larger the size of the contribution 1



***Please note that the bigger the cloud the larger the size of contribution from that source for the type of item received. This diagram is impressionistic and not to scale.*

The diagram above illustrates that for personal enhancement, the source is most likely to be parents, followed by boyfriends, then their friends and finally their own work.

In addition, young women claimed that their parents were generally old-fashioned and not ‘with the times’; using the excuse that they manage to survive their youth without fancy or expensive items. Young women described how their (parents) preference is to promote education among the current generation of young adolescents, so that they can become financially independent, and able to buy things with their own money.

P3: And our parents say that when they were young they were not using fancy cream that smells good they were using “Nhlampfura” (Oil of nut or fruit) in older days... [I: they laughed] and why do they have to spend money for us on fancy creams whereas in older days they were using “Nhlampfura” and men proposed them even if they don’t smell good...

FGD2, high SES

When probed in the FGDs on how young women from higher SES households obtain items, the general response was that parents from these higher SES households pay for items that are considered non-essential when compared to those from low SES households. Some participants mentioned how young women from richer households have choices, the security of family support and the ability to demand something and have these desires met. This, as a result, makes them more confident (than young women from poorer households). Also, one young woman alluded to the need to meet a certain standard or expectation that is established from a young age by parents (i.e. if the mother is usually well-dressed with nice clothes she would want to make sure her daughter also maintains that standard).

P2: And some our situation is different it might happen that my friend is coming from the richer family and I from poorer family and they will able to buy her fancy things and at home they will not afford to buy me something because they cannot afford it because we don’t get things easily because of not having money.

FGD 2, high SES

However, not all wealthier families buy their children whatever they want carte blanche. For example, a young woman described how, in her family, the use of make up at a young age was

not encouraged, as her parents perceived it to be something which would attract untoward attention. However, they did encourage cultivation of an aesthetic sense and so they did provide the young woman with nicer clothes.

P5: Because like when they buy them make-up they will think she will start to be a prostitute.

I: Mmm...Ok, so what about those who like it?

P3: They want their children to be beautiful and be recognised.

FGD3, low SES

In addition, young women described how the process of negotiation with parents is usually quid pro quo. If the parent asks the young woman to do something then in exchange they give her something in return.

In instances where higher SES parents are unwilling to purchase items, young women described how they have access to other sources. Most receive pocket money that can be saved and also tend to have boyfriends also from higher SES who are able to purchase items for them (*"Most of the girls who are richer households they date boyfriends who are working then they can buy them. FGD4, low SES*).

When probed in the FGDs about young women from poorer households, most participants said that parents of these young women only buy what they consider to be essential, such as school uniforms, food and clothes.

P: Like when their mom got a piece [part-time] job from other households, like to sweep the yard then when she get paid she buy these items like food for their children and things that they can make them look able [healthy]

FGD 3, low SES

Thus, according to responses in the FGDs, for parents in low SES households, economics dictates what is classified essential for survival and what is not. They realise that influences such as a need to conform to peer pressure, keep up with fashionable trends, maintain status and be accepted among the peer group contribute to the increase in demand among young women for

these items. However, many of these families are supported by social grants, thus money is not sufficient to buy basic items needed to survive, which results in young women having to resort to other ways of obtaining their 'wants'.

6.3.3b Friends and odd jobs are a smaller source by which young women obtain items

Some respondents also described how young women may also rely on wealthier or more generous friends to provide them with items, although this was to smaller extent than getting items from other sources.

P2: We get it like maybe my friend have shoes and she's coming from richer household or maybe she has two pairs of shoes and then she will be able to share it with me so we can look the same.

FGD 2, high SES

P5: Yes like when you have a good friend and she loves me and she knows your family situation...And when I ask something she does give me.

P2: Like maybe when she has outfit that it doesn't fits her anymore and then she gives you.

FGD 3, low SES

Employment opportunities are quite scarce for young women, but a few young women did have small domestic jobs to get extra money. This is especially the case if parents are not willing to buy these young women items they really want.

P3: Some of the young women are selling their body (having sex) so that they can able to buy make-up, some they work as domestic workers so that they can able to buy make-up something like that.

FGD 4, high SES

I: Ok. How do young women get these items such as shoes those who come from poorer households?

P2: Some ask from friends or relatives.

P3: And some their boyfriends pay for them.

P2: And some they look for jobs like go to a certain household and ask to sweep the yard and then when they pay you R50 (~£3) you can be able to buy a skirt.

FGD 2, high SES

6.3.3c Sugar daddies are perceived to play a role in providing items

Sugar daddies or boyfriends were mentioned as sources of items when parents did not provide. This was particularly the case in the FGDs, and less in the IDIs: in a group setting, there was acknowledgement that young women chase sugar daddies, especially with tough family circumstances, but this was not acknowledged in the IDIs. In fact, young women were much more reluctant to discuss the issue of money/gifts/sugar daddies in an IDI versus a FGD.

Sugar daddies (or boyfriends) were considered a potential source for items that parents deemed unnecessary (i.e. expensive items or items for “entertainment” and some “personal enhancement” items). Particularly in the FGDs, young women were very open in acknowledging that if there are items they desired which parents are either unwilling or unable to buy for them, sugar daddies were a good alternative. This is particularly the case for young women from lower SES.

P2: Because youth want expensive thing and parents won't afford it like hairpiece a parent won't take you to the salon to do your hair, but if you are involved with an old man he can be able to take you to salon and do your hair.

FGD 2, high SES

The participants acknowledge that young women are aware of the negative consequences of their actions, but still engage in relationships with older men, as these men tend to be established and can provide. Thus, the arrangement is convenient for both parties (young women and sugar daddies) involved.

P5: Yes some engage themselves in relationship because they want older men...Like you find that they need money and that man he's even older than your dad or your dad's age but because he will give you money so you can buy what you want you don't care.

P1: I agree with p5 even if she's young she tells herself that she won't get involved with school children, she needs older man who will give her the money to buy nice things... like you find that she's a school child and she will wear anything at school, like casual and wear a Carvela [branded Italian shoes] (expensive shoes worth 1600 rands (~£90) because I have a sugar daddy.

FGD 3, high SES

While in a group there was general acknowledgement that young women chase sugar daddies especially when their family circumstances are difficult, this was not acknowledged when alone where the term sugar daddy was said to conjure up images of a person who is abusive, disrespectful and depraved. As was said by one of them, sugar daddy is a “*boyfriend with benefits*” (IDI 7, age 21y) and someone who is older and having a sexual relationship with him is almost immoral (“*No, I did not have an affair with him because he is old to me and I should respect him as my father*”, IDI 8, age 20y). This point is further illustrated by the following quotes:

P: Sugar daddy is a person who has a family. If you are in relationship with him is like he is abusing you because he is older than you and has his wife.

IDI 11, aged 19y

P: A boyfriend is still young and your age but a sugar daddy is an old man, not my type and in other ways he would be abusing me.

IDI 13, aged 20y

The general perception was also that there is a particular dependency and an expectation of being provided for by sugar daddies when young women are single or double orphans illustrated by “*you find that your parents has passed away and you are left alone and you don’t have a plan, you don’t have anything to do you are left alone, so you will think if I have a relationship with that one he will help me.*” FGD2, high SES

6.3.3d Boyfriends and their role in facilitating young women’s access to items

In this qualitative sample, most young women reported that they start relationships at the age of 15-16y and are sexually active by ~17y. More than half the young women in the sample reported having ever had two or more boyfriends and they seem to partner with their peers who are close in age. The average female respondent was ~2.5 years younger than her most recent male partner. Only one young woman had a partner 10 years older than her. The baseline survey data suggested greater age differences between partners, but even here, most partners were only 5-7 years older than young women. Most often young women appear to remain longer within the same

partnership, either because they got pregnant, they fell in love or were financially dependent on their partner. Boyfriends were considered to be a source of money and gifts; however the factors that drive choice of partner appear more nuanced and complicated.

This qualitative study illustrates that the choices of whom to accept proposals from are far from arbitrary. For some, a man's financial potential (*"not having money for school uniform or for body lotion, hence thinking about getting a boyfriend" FGD 3, low SES*), his physical attractiveness and looks (*"cheese boy" (good looking)*), his popularity (*" many girls are interested in him and when he proposes a girl she will agree no matter what because she will want to be part of girls he's proposed to"*, FGD 1, low SES), his fashion sense (*"types of jeans, shoes, t-shirt that he's wearing"*) and how marriage-worthy he is, are decisive factors.

For most, known boys or men who can provide money or gifts are esteemed partners. Thus, characteristics such as status (*"The reason why I date the handsome guy it is just because he have money and people will take you serious and I will be famous, something like that" FGD 4, high SES*), his reputation and confidence and are all very important to young women when making a choice about a boyfriend.

I: Ok. How does a young woman choose a boyfriend?

P2: Some is money and some you find that they first look how the boyfriend wears, you see? They check the label clothes, so most of the girls look that or if they have money...when they look if you have money, most of the things cause by that, like when you know that that person has money and you think he will give you so is what cause that.

P3: Some check the behaviour.

P4: Some will first check if that man is driving a car or a wheelbarrow or bicycle... [I: they laughed] so you will be able to ride with him or not.

FGD2, high SES

When probed on motivations for being in a relationship or entering a sexual relationship, young women reported becoming involved in relationships for several, often overlapping reasons. These included: satisfying feelings of love and emotions, man's ability to give gifts or money and

having social pressure from peers. I have elaborated on these below but these themes are discussed in more detail in Chapter 8.

- Strongly positive feelings of love and affection were often cited as reasons for starting a new relationship. Love was mentioned as being associated with the desire for sexual intercourse and feelings of pleasure, warmth and exploration, as well as enjoying life with somebody and having someone with whom to talk freely and discuss problems (although the last point was only mentioned by a couple of young women).

P4: Because if you love someone you have to share everything together, so you won't live with someone if you don't communicate you have to ask how life is. Life is tough and if something is hard you have to solve it like this. You have to love someone who you know that you will share anything in the world happening to you.

FGD 1, high SES

When asked privately in an IDI their primary reasons for engaging in a sexual relationship and whether they felt like they had to have sex in exchange for money or gifts received, 14 of the 19 young women said they were in the relationship for love and that “strong feelings for each other” resulted in them engaging in sex. One young woman also said that she was in it as her “hormones were active”.

Most young women certainly perceive the relationship to be more serious when have engaged in sex (“You won't sleep with someone if you don't love him; you sleep with someone if you love him” *FGD1, low SES*). Also, when asked if they would continue in the relationships if they did not receive money in exchange, one young woman was quick to say that money doesn't always need to be there citing that “he might earn it later on”.

I: Would you stay with him and how would it [man not providing you with money or gifts] change things for you?

P: It won't change anything and I will continue loving him. IDI 8, aged 20y

P4: You can have a relationship with someone but not because of the money, you have relationship with him because you love him.

FGD1, low SES

Some young women mentioned infidelity by financially successful men suggesting that men are more likely to be loyal, if they were not wealthy. Depending on the character of the man, “*he might or not have money and behave in a certain way*” FGD 1, low SES, which is based on how endowed he is financially.

- Man’s ability to buy gifts and provide money. Boyfriends’ provision of financial and material support was mentioned extensively by young women in both FGDs and IDIs as a reason for becoming involved in relationships. In the FGDs, when asked what motivates young women to be in relationships, two-thirds of young women explicitly said that it was for money or material goods. The remainder were more reticent about admitting that it was money that motivated them to engage in a relationship. Privately though, most young women were likely to back away from group consensus and to say that it was love that made them engage in sexual relationships with men.

Nevertheless, despite saying that they are in love, there is a clear, but implicit understanding that the need for money and gifts are extremely important in all relationships, even when characterised by love. However, young women did make the distinction between “being opportunistic” and “feeling provided for and looked after”.

I: Mmm... the one you had a relationship with, where did you meet him?

P: At school. I wanted him to help me. Like when I need money to use he was able to help me. And he was able to buy for me things like hair extensions. When I wanted it he was able to give me money to buy it. I just wanted him to help but it was not important.... I was feeling happy about it [receiving money].

I: Tell me did you feel like you had to have sex with him to receive money or gifts.

P: No. It was the issue of love.

IDI 18, aged 20y

You can love a person even if he doesn’t have money but some other people say I love this one because... and find that they have 3 partners and tell themselves that I love this one because I want him to buy me something and it happens that she can say I love this person and I want him to buy me clothes at the end of the month and buy me airtime and etc.

FGD 1, high SES

Also, a few young women reported that if financial security comes from other sources (i.e. a brother or parents) then reliance on a boyfriend is reduced, hence relieving the pressure from the relationship.

I: Ok, if a boy can't give you what you want, what can you do?

P: I will keep quiet and I will not worry.

I: But would you stay with him?

P: Hmm...I will still love him because I don't expect money; the only thing I want is love not all those things. I also don't worry that much because if I told my brother that I want something he does it for me.

IDI 15, aged 20y

However, a couple of young women in the IDIs openly admitted their material motivations as being stronger than the romantic elements.

I: What are your primary reasons for engaging in sexual relationship?

P: People are not trustworthy. He will tell you that 'when I finish school I will come back to you.' And you will listen to him because you are still young. To be honest the reason why I did it [have sex] is just because there are some of the things that my parents were not having. So I thought it will be better.

I: Did it make a difference after you did it?

P: To do things with a person because you want him to support you. There was no difference.

I: You wanted him to help you with money?

P: Hmm (yes)...

IDI 14, aged 19y

I: What are the main reasons you are with him?

P: It's because I like things... it's a status. He buys me airtime. I call him and friends. And boast on them that I have been bought airtime. I feel good, something like that.

I: What would you do if he didn't buy you things you want like airtime?

P: I will just leave him, why doesn't he buy me airtime it will mean he buy it for someone else...

IDI 17, aged 20y

Particularly in the FGDs, young women were fairly mercenary about categorising men as “rich and desirable”. Some of the participants in the FGDs openly expressed their preference for being with a same age partner, but the likelihood of these men having a lucrative job was slim hence were less likely to be able to provide for these young women. Similarly, as most young women were young and inexperienced, they aspired for a ‘perceived better life’ filled with potential, such as a man with a car, man who can provide her with money or buy her things. Thus, aspirations to “fit into the crowd” drive their desire to engage in relationships, so that they can be like others.

So it happens that they have relationship with men because they have good things like cars?

P2: Yes it happens. To have a relationship with someone who own a nice car because when I am sitting with my friends I will tell them that I ride with a nice car. And then I will influence them not to have relationships with school boys. They have to date those who are working.

FGD 1, low SES

Some young women mentioned that gifts help increase their social acceptance among friends, and makes them feel more ‘feminine’ (“he buys me things that I should have it as a girl”, IDI 8, 20y). They did not report, in turn a feeling of being compelled or obliged to have sex in exchange for these items. For example, in IDI 8, the age difference between the young woman and her boyfriend was six years, she felt a strong attraction towards him from the outset. He also provided her with gifts that are generally associated with courtship, such as lingerie and roses for Valentine’s Day. Thus, she felt special and valued, but she did not mention feeling forced into having sex with him for these gifts. In addition, the perceptions of her friends, family and community of her boyfriend’s perceived wealth play a role in her choice of partner.

In the IDIs, ten young women had said ‘yes’ to the question in the baseline quantitative survey on transactional sex (“whether young women felt like they had to have sex to get the money and/or gifts”). On further probing, six of these young women said that they are with their partners for love and that they did not feel like they had to have sex in exchange for items or money. However, on further probing, they did reveal a transactional element to their relationships beyond

gift-giving that is typically associated with romance. This concept has been discussed in much more detail in my second qualitative chapter (Chapter 8) hence am not elaborating on it here.

Thus, a major theme that has clearly emerged from the transcripts is that as part of the courting rituals of these young women, intimate relationships are intertwined with money. It appears that the rules and norms surrounding sex in exchange for money/gifts are intricate and even ambiguous and gifts and money are important even in relationships characterised by love. Yet money exchange does have one persistency: that a sexual relationship cannot exist without a male-to-female transfer of money or gifts. In the IDIs, most young women (n=17) who have or have had a boyfriend received money from that boyfriend at some point during their partnership. Also, it seems like the first transfer of money or provision of a gift (usually airtime) and corresponding sexual act marks the beginning of the relationship, and, although over time the amount given may change, continued provision of money sustains the relationship.

What is important to mention is that when young women describe motivations for their relationships, and refer to 'other' young women they tend to portray 'them' as materialistically motivated and status oriented social climbers. However, when asked about their own motivations for being in a relationship, they project a different image that is nothing like what they've described about the others. These projections of undesirable truths onto others, "they are like that not me" strongly underlines the transactional expectation-laden girlfriend-boyfriend relationship. Social pressure demands that the girls speak of relationships as being 'for love', but the reality appears maybe to be otherwise.

Overall, it is important to mention that few young women felt that they had to have sex because of receiving gifts, but that gift giving was still considered an essential component of all relationships.

- Peer pressure also plays a big role in influencing young women to have relationships, as some girls attribute their acceptance of proposals to their friend's wishes. This was both in terms of improved status by having a sugar daddy (*"girls that are engaging with sugar daddies have better food such as Polony (type of meat) sausages, bread with Rama (margarine)"* – FGD 5, low SES) or in having relationships with same age boyfriends who lure them with the promise of a better life - especially if young women see that other young women are in better family circumstances.

I: Other than poverty what other things that makes young women seeking relationships?

P3: Peer pressure, you find that you want to compare yourself with your friends, and in her family they are richer you will end up engaged yourself in something bad because you want to get what your friend is getting in her family.

P1: Friends have influence.

FGD 4, high SES

P: It's for status and you see I have grown up, but they don't maintain me here at home. Or they don't show me ways. A friend like when we are together and maybe she says my boyfriend bought me this and then I decide that I have to find a boyfriend so he can buy things for me also... IDI 17, aged 20y

6.4 Limitations

Before interpreting the findings, some limitations should be considered.

First, due to ethical reasons, as well as policy guidelines of the funding body (HPTN) of the main trial (in which this research is embedded), I was limited to sampling baseline young women from the control arm of the trial who were 18 years of age or above. This restricted my sampling pool for FGDs and IDIs. In addition, there were restrictions related to timing of the data collection and availability of fieldworkers; thus the data collection could only be done through the months of December 2011 and January 2012. This had some implications on the availability of the young women, who were busy due to the school holidays. For example, a number of young women

would consent to participate, but would not show up on the day of the FGD. As I could only schedule the FGDs over the weekend, household domestic duties or travel to Johannesburg to visit relatives resulted in no-shows. Even though I managed to conduct five FGDs and had wide-ranging discussions, this study could have benefited from a larger pool of participants to draw from.

Second, in general any discussion of sexual behaviours carries with it some social stigma and, as such, it is likely that interview participants may not have been completely open about their sexual behaviours. However, I feel that this study overcame this obstacle by: a) conducting in-depth interviews in a private setting, such as the participants own house b) assuring participants that this research was only going to benefit the community and that their interview data would be kept anonymous, c) discussing general topics in the FGDs and more personal questions in the IDIs. I did find that in this study, the use of FGDs and IDIs complemented each other well, as the FGDs permitted free flow of information in a group setting. Young women were less hesitant to speak about the sexual behaviours, as they were explicitly asked to talk generally in the FGDs. In fact they were quite open discussing sugar daddies and young women in the FGDs than in the IDIs. Thus, the larger themes around their motivations to have a sexual relationship were better explored privately in the IDIs. Related to this, I felt that young women spoke more openly about sugar daddies in the FGDs and were quite blunt about categorising men as rich and desirable. However, their responses were much more subdued in the IDIs. They were quick to refer to other young women by saying that “young women demean themselves by chasing men for items” maybe for social desirability reasons.

Furthermore, there might be a selection bias as all these young women are part of a large trial and have to be enrolled in school in order to be eligible to participate in the study. In addition, the trial has a HIV education component to it, which was limited to pre and post-HIV test counselling. As this level of HIV education could be received at any of the clinics in the area or through media, I

do not believe that it changes the study findings in any way. However, it is important to recognise it when interpreting the findings.

Finally, due to time and monetary constraints, I was unable to interview boys or men and get their perspective on young women's motivations for being in relationships. Future research in the same study site should explore men's perspectives to compare responses and enrich these findings.

6.5 Discussion

This study adds to the growing body of research around young women's motivations for and engagement in transactional sex; both of which extend beyond either sex for subsistence or sex for consumerism. There are three major findings that emerge from this research.

The first is that in a modern consumerist society, the distinction between a need and a want is blurred. Items that will contribute to enhancing status, peer acknowledgement and social standing are viewed as almost as important as 'needs'. In the first couple of FGDs, young women classified almost everything as a 'need'; thus items such as make up, hairstyles, *Hlokoloza* (mini-skirts) or colour blocked jeans were "needs" Even items that they consider a "want" or "desirable", such as expensive phones are actually hidden needs that contribute to making young women feel confident and gives her a sense of belonging to her peer or social group. This aligns with Leclerc-Madlala's (2004) research with unmarried young women aged 15-25 in an urban township of Durban, South Africa – which indicated that the practice of transactional sex is best illustrated by a continuum, where rewards or gifts can vary between what are generally perceived to be 'needs' and what are generally understood as 'wants'. However both are always represented and expressed as 'needs' (87)

This study shows that many 'needs' appear to be more about social standing or self-esteem than only poverty (e.g., food and nice uniforms were necessary to avoid being teased and feeling humiliated instead of being barriers to school attendance). Constructs of luxury (wants) and

necessity (needs) are specific to individuals and is relative from person to person depending on their social position, socio-economic status and the variety of goods to which they are exposed (e.g. for some young women, *Rama* margarine is a desire or luxury, which might not be the case for another individual from a higher socio-economic bracket). As Belk (1988) argued in his paper, when poor people engage in luxury or conspicuous consumption, they consume for social acceptance and to enhance their social status by conforming to what they see higher income people consuming rather than the intention of merely showing-off (220). Furthermore, from these findings, we see how the pursuit of expensive items or items for personal enhancement is not just a mere exercise of consumption for consumption's sake, but one that is necessary for survival; survival from social exclusion or loneliness (or needing to belong). Hence, the findings suggest that sexual exchange linked to subsistence and sexual exchange linked to consumption are not necessarily mutually exclusive.

I have attempted to apply the groupings from the participatory exercise to Maslow's hierarchical approach. In his paper (1943) '*A Theory of Human Motivation*', Maslow breaks down human desires in terms of both physiological and safety needs as well as aspirations for love and affection, esteem, and self-actualisation (149). Previous research that has been done on the topic of adolescence, aspirations and materialism using Maslow's framework have been done in the context of high income countries (154,155). This study is one of the few that has been done in a developing country context and the first that applies Maslow's framework to understanding the motivations around transactional sex.

The need to belong and the need to fulfil esteem needs (which in turn is linked to the development of self-worth, status and recognition) are important elements in Maslow's hierarchy of needs framework (149,150). For adolescents, self-esteem appear to be intrinsically linked to materialistic motivations and peer influence or peer pressure is often cited as the reason why adolescents value material goods and popular brands (221). Hence, a young woman would feel less insecure and more likely to feel accepted if she possesses fancy items or what has been

classified as “expensive or personal enhancement items” for boosting her status, self-esteem and feeling recognised within her peer group. Additionally, young women openly acknowledge that when they wear certain types of clothes or possess certain types of cell phones, they ‘feel like other people’, and this is linked to feelings of belonging, of being loved and security. An important aspect of peer relationships in adolescence is the perception that one is accepted by peers. Bukowski and colleagues found that students (aged 10 & 11) who were not well accepted felt a lower sense of belonging, and also reported greater loneliness than their better accepted peers (222). In addition, affiliation with certain peer groups may necessitate identification with group values and norms. In order for a person to experience a sense of belonging, he/she may be required to conform to a certain extent and individuals who will not or cannot conform to the norms of the group, or are different in any way, may be laughed at or excluded from the groups.

Thus, if Maslow’s hierarchy of needs framework was applied to these findings to better understand young women’s classification of luxury versus items of necessity and motivations for obtaining these items, one can infer that young women’s notions of survival extend beyond just biological and physiological needs (food, clothing, shelter) and that the need for belongingness within their peer group, as well as the need to fulfil their status and esteem needs are perceived to be essential to their survival.

The results illustrate that even though practical items fulfil the biological, physiological and safety needs; and personal enhancement items, expensive and entertainment items fulfil the belongingness/love and self-esteem needs; the hierarchical approach does not apply in this order to adolescent needs and wants. In a situation of extreme poverty (irrespective of degree of poverty or socioeconomic status), unstable household structure, scarce economic opportunities and a rapidly globalising economy in South Africa, adolescents have ‘admitted’ needs (which are the need for items that are considered practical, such as food or clothes) and then ‘hidden’ needs, which are actually their ‘wants’ or aspirations. These hidden needs (such as expensive clothes, make up, cosmetics, Blackberry) appear to play a pivotal role in these young women’s quest for

feeling attractive, achieving happiness, feeling successful and feeling accepted within their peer group. Thus, all leading to improved self-esteem and impacting their status in society (where they feel like they are “coming of age”). The findings from this research quite clearly indicate that the classification of items as a need and a want are fairly arbitrary and that the motivations for sexual exchange are not driven merely by survival or consumerism. Rather such motivations are driven by higher order needs such as the need to belong, be accepted within their peer groups, have higher esteem and status, which are significant for self-actualisation among young adolescent rural young women.

Young women’s preoccupation with fashionable clothing and shoes (*Carvela (Italian branded shoes)*, *hlokohoza (layered skirt)*, *tekkies*) is aligned with being an adolescent and the developmental stage where most young people are highly sensitive to their outward appearance as shown in research done in Cape Town. (16). However, through the lifting of restrictions of Black people’s movements, improved road infrastructure to rural areas, the influx of goods from other counties and increased access to visual and print media in the post-apartheid area, previously “remote” rural areas have gradually opened up socially and geographically. These macro-level changes have played a role in exposing young people to globalised images and availability of goods (16). In addition, one could also argue that there are different role models for this generation than there might have been for previous generations. During apartheid, there was not the same access to images of successful Black people as there are now, which makes it easier for young Black women to identify with role models. Thus, irrespective of young women’s household socio-economic position, aspirations for items appear to be influenced by access to media and advertisements, peer groups, globalisation or macroeconomic changes in the country, television shows and a strong desire to be socially accepted.

The second finding is that young women clearly aspire for a variety of items, but their household economic situation along with circumscribed economic opportunities in the area, imposes spending constraints. However, most young women are not willing to accept these restrictions

and their economic reality, and either get in relationships to have a steady conduit through which money or gifts flow in; or in a small number of cases, are involved in odd jobs, such as yard cleaning, hairdressing or domestic cleaning⁴⁸. This appears to be more the case when parents are not willing to ‘indulge’ or provide them with an extra allowance to obtain “fancier or more expensive” items or entertainment related items. In some cases this may happen if young women cannot access more money for personal enhancement items, such as sanitary pads or roll-on deodorants, which need replenishment every month.

From the qualitative sample, young women seem to meet their partners quite easily, and economic exchange seems to be an integral part of these romantic relationships. In my qualitative sample, almost all the young women have at least one boyfriend who is providing them with money or gifts, if he is in an economic position to afford to buy them. Thus, a form of transactional sex or sexual exchange occurs where men (mostly same age or at the most five years older) act as providers of money and gifts, with sex exchanged as a result. One could argue that poverty contributes to young women’s engagement in such transactional sex. However, what emerges from the qualitative research is that the picture is more complex where young women seek boyfriends out of an aspiration for social mobility, economic independence or simply a life enhanced by expensive clothes and fancier items. These findings align with research by Wood and Jewkes in South Africa, which also shows that young women equated sexual relationships as important arenas for asserting peer status and gaining self-esteem, in addition to being a source of excitement (223). In a way, young women are exhibiting agency in choice of partners and this has been discussed further in Chapter 8.

Typical constructions of male–female relationships prominent in the field of HIV either portray male-to-female money exchange in sexual partnerships as commercial sex/prostitution (26). Or, suggest that material exchange for sex is exploitative, as women are poor and have limited

⁴⁸ It is important to locate this statement in the broader social context that there are not many economic opportunities for young women in this area. Most of the population do not have extra income for paying for domestic services, there are very few unskilled work opportunities for young women and most young women are not trained or skilled for doing any higher level tasks.

economic opportunities (224). Yet, from the qualitative findings, one can see a far more nuanced relationship between sex, love and gifts. Women want to be the object of love (and desire) from their male partners, but also expect money or gifts as an expression of this desire so that they can buy whatever they please. This aligns with research conducted in Malawi where verbal expressions of love are not given weight unless accompanied by money transfers (70). A number of young women rationalise their behaviour of coveting items or gifts and genuinely believe that they are in it for love (that they engage in sex for love). If they have a boyfriend, they do expect either money or gifts, but in all these cases the implication is love and not sex for gifts/money. There is also an implicit understanding that young women also engage in relationships because of either peer pressure, or a matter of status to be in a relationship.

Based on these findings, transactional sex does not appear to be solely about sex or money; rather it has to do with establishing, maintaining, and “sustaining ties that bind a man and a woman in a social relationship of unequal interdependence⁴⁹” (60: p1) at the time of the exchange, a relationship that may be re-activated in the future. In addition, the exchange of money and gifts for sex does not have to be exploitative in nature. Rather there appears to be a transactional component that is present, accepted and normative in many young women’s romantic relationships. I have expanded on this point further in Chapter 8.

Third, and somewhat related to the point above, is that participants (particularly in the FGDs) frequently mentioned the existence of sugar daddies, and that young women have relationships with them either to fulfil basic needs, but more often to satisfy their consumerist desires. However, when probed further in the IDIs, none of the participants admitted to personally engaging with sugar daddies. There was clearly a negative connotation associated with sugar daddies across the spectrum; as a person who is ‘abusive’, is substantially older than them (>10 years or more) and disrespectful towards young women. There was recognition that in a context

⁴⁹ Unequal interdependence because usually the person providing money or gifts is in a stronger bargaining position within the relationship (by virtue of being the provider in the relationship). Hence could dictate terms of the relationship.

of economic deprivation, sugar daddies are a source by which young women can access things they might not be able to afford otherwise. In addition, in a setting where awareness of diseases, including HIV infection is high; many young women mentioned that sugar daddies would give them diseases and put them at risk, along with the social stigma associated with engaging with one. Thus, overtly engaging in sexual relations for money or gifts with a sugar daddy was ostensibly considered closer to sex work/prostitution, as the negotiation in the exchange is explicit, whereas having a relationship with a boyfriend (even if it is as a source for money or gifts) is still nuanced in its meaning and significance. As Macphail and Campbell have described in their research, it could be that most young women do not feel like relationships with boyfriends of the same age put them at risk for HIV infection, probably because their perceived risk is not as much with a boyfriend who they can trust and relate to at the same level (91).

Early in 2013, claims made by the South African Health minister, Mr. Aaron Motosoaledi (225) were that:

“Sexual relationships between young women and older men are the cause of the staggering percentage of girls who test HIV positive – at least 28% of schoolgirls across South Africa. It is clear that it is not young boys who are sleeping with these girls. It is old men. We must take a stand against ‘sugar daddies’ because they are destroying our children. The men buy the young women gifts and there is pressure on campuses especially to look a certain way, so the young women fall for the men’s offers. You also hear of men paying a student’s rent, buying the girl’s airtime, paying for school fees and paying for her hair and nail [treatments].”

While this claim might be true, the findings from this study indicate how relationships with sugar daddies are not necessarily rampant as previously suggested as young women seem aware of associated risks. Same-age relationships seem more the norm, with a transactional component of romantic relationships being more common. Furthermore, the above newspaper article also defined transactional sex as “intergenerational sex or the relationship between a young woman

and an older man in which sex is traded for material goods”. However, it is important to recognise that the definition of transactional sex is not straightforward. As the exchange of gifts or money for sex also occurs within the context of similar age relationships, coated in the veneer of love (from the perspective of the young woman), transactional sex seems to be more than just an “emotionless”, contractual dynamic, being perceived to be a mark of a woman’s worth and self-respect (66). As transactional sex per se is not with an older man or complete stranger, does not necessarily imply that there is no HIV risk for young women. Issues such as partner concurrency, partnering with high risk men (i.e. men who have multiple concurrent partners) or irregular condom use (perceived risk of no condom use might be considered lower due to familiarity and trust) within an existing same-age relationship may still increase young women’s vulnerability to HIV infection.

6.6 Conclusion

In this chapter, I have sought to better understand young women’s desires and needs and the conceptualisation of transactional sex in different contexts. The findings show that the classification of needs and wants is fairly arbitrary and that exchange practices are driven both by subsistence and consumerist desires. In this study setting, many young women are poor with aspirations that extend beyond their current means. They therefore appreciate an economic benefit gained from having sexual relationships. Yet, such money transfers take on deeper meaning; with young women interpreting the receipt of money from their partners as loving gestures. In addition, the findings from this study suggest that relationships with sugar daddies are not rampant, as young women seem very aware of associated risks. Same-age relationships seem much more the norm, with a transactional component of romantic relationships being fairly normative.

Finally, it is important to reconsider notions of ‘transactional sex’ in future HIV prevention programmes, such as conditional cash transfer programmes for keeping young women in school or peer education programmes for adolescents that focus on developing the knowledge, attitudes,

beliefs and life skills required for youth to engage in healthy behaviours and assess whether it is linked to increased HIV risk and if so, the implications for interventions.

CHAPTER 7: Mediation analysis between young women's engagement in transactional sex and HIV/HSV-2 infection

7.1 Chapter overview

In Chapter 6, I use qualitative methods to explore young women's perceptions on items they consider a need and a want and the strategies they use to obtain these items, including transactional sex. In this third empirical chapter of my thesis, I use the baseline quantitative HPTN 068 data to assess whether there is an association between young girls' reported engagement in transactional sex and their HIV and HSV-2 status and whether the relationship is mediated by a range of different characteristics of her sexual partnerships. Section 7.2 gives a brief introduction of the chapter which includes the purpose of this chapter and a diagram that illustrates the pathways I explore for this analysis. Section 7.3 discusses methods relevant to this chapter – the sample and construction of variables. Section 7.4 presents the findings, section 7.5 includes a discussion of the strengths and weaknesses of the findings and the implications of my results.

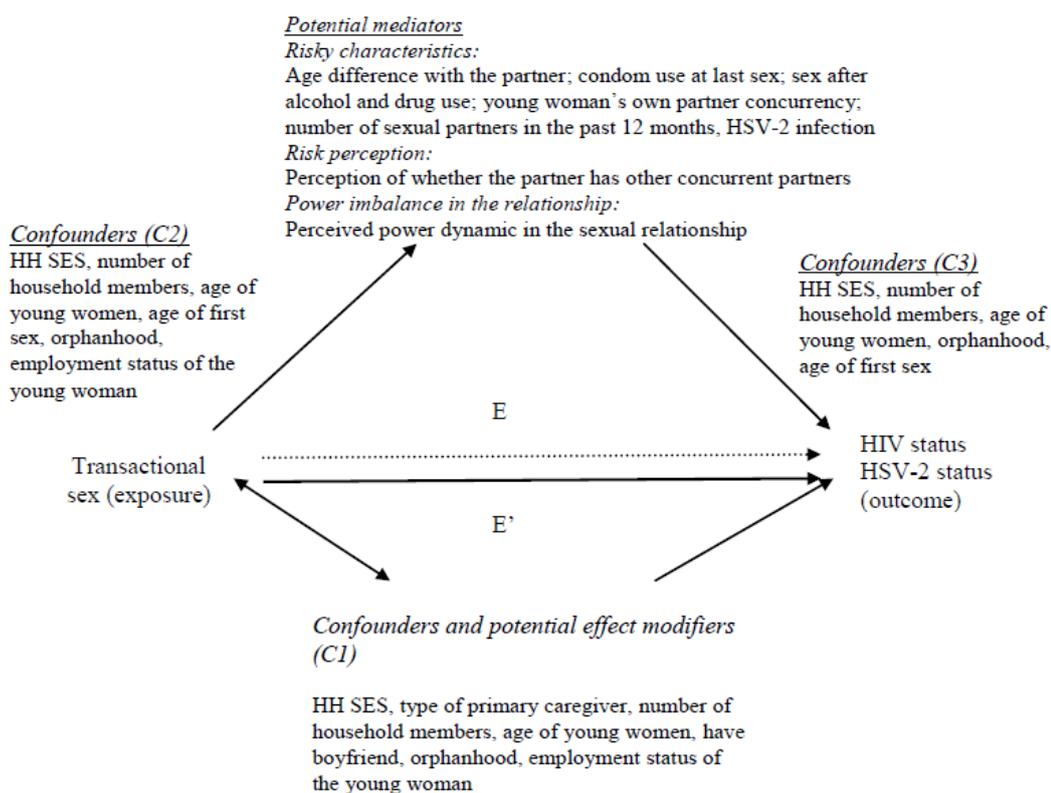
7.2 Introduction

As described in detail in Chapter 2, young women in sub-Saharan Africa are 3-4 times more likely to be HIV-infected than boys or men (30,226). One of the relationship dynamics that is likely to be associated with adolescent girl's increased vulnerability to HIV is transactional sex or sexual exchange. There are a range of factors which may drive this vulnerability – such as sexual relations between a younger girl and an older man (who is more likely to be HIV infected) (18–20), sex under the influence of alcohol or drugs (21,22), having multiple sexual partners or engaging in a relationship with a man who concurrently has other partners (23–25) – which together contribute to making a young woman vulnerable to HIV infection. In addition, partnership dynamics, such as an unequal power dynamic within a relationship, resulting in inconsistent use of condoms, concurrent sexual partners also in turn increase HIV risk (26,28,72).

However, to date there is limited epidemiological data on this association between transactional sex and HIV infection among young women. In addition, Herpes simplex virus type 2 (HSV-2), the primary cause of genital herpes, is a commonly used biomarker of sexual activity because the presence of HSV-2 antibodies is highly associated with past sexual behaviour. An increasing body of evidence suggests that HSV-2 infection is important for HIV infection. Meta-analyses have demonstrated that prevalent HSV-2 is associated with a 2- to 4-fold increased risk of HIV acquisition (227) suggesting that, in areas of high HSV-2 prevalence, a high proportion of HIV is attributable to HSV-2 (228). In addition, a recent study by Karim, Kharsany et al (2014) among high school students (male and female) in rural Kwazulu Natal, South Africa showed that HSV-2 infection increased the risk of HIV infection almost four-fold in female versus male students (229),

Thus, the purpose of this analysis is to explore whether there is an association between young women's engagement in transactional sex and HIV and/or HSV-2 infection, and assess whether this relationship is mediated through certain risky behaviours, such as: sex with an older partner, inconsistent last use of condoms, sex after alcohol or drug use, her own perceived concurrent partnerships, number of sexual partners in the past year, her risk perception in terms of partner's concurrency and the perceived power dynamic in the sexual relationship. As illustrated in figure 7.1, my hypothesis is that young women who report engaging in transactional sex are more likely to be HIV and/or HSV-2 positive and that this relationship is mediated by risky sexual behaviours, a low perception of risk in their partnerships and power imbalance in the woman's sexual partnership.

Figure 7.1: Hypothesised mediation model between young women’s engagement in transactional sex and HIV/HSV-2 infection 1



E - Total effect of exposure on the outcome via potential mediators, adjusting for confounders

E’ – Direct effect of exposure on the outcome after adjusting for potential mediators

The following equation outlines the variables included for calculating the *total effect* of transactional sex on HIV or HSV-2 infection:

$$f(\text{HIV and/or HSV-2 infection}) = \beta_0 + \{\beta_1(\text{transactional sex}) + \beta_2(\text{HH SES}) + \beta_3(\text{type primary caregiver}) + \beta_4(\text{number of HH members}) + \beta_5(\text{orphans}) + \beta_6(\text{number of sex partners past 12 months}) + \beta_7(\text{sex partners in past 12 months}) + \beta_8(\text{work for money}) + \beta_9(\text{age of young woman})\}$$

The following equation outlines the variables included for calculating the *direct effect* of transactional sex on HIV or HSV-2 infection:

$$f(\text{HIV and/or HSV-2 infection}) = \beta_0 + \{\beta_1(\text{transactional sex}) + \beta_2(\text{age difference with the partner}) + \beta_3(\text{inconsistent condom use}) + \beta_4(\text{sex after alcohol and drug use}) + \beta_5(\text{young woman’s own partner concurrency}) + \beta_6(\text{number of sexual partners in the past 12 months}) + \beta_7(\text{perception of whether the partner has other concurrent partners}) + \beta_8(\text{perceived power})\}$$

dynamic in the sexual relationship) + β_9 (HIV or HSV-2 infection)} + \{\beta_{10} (HH SES) + β_{11} (type primary caregiver) + β_{12} (number of HH members) + β_{13} (orphans) + β_{14} (number of sex partners past 12 months) + β_{15} (sex partners in past 12 months) + β_{16} (work for money) + β_{17} (age of young woman)}

7.3 Methods

The conceptual framework presented in Chapter 3 (section 3.3) guided my analysis and choice of exposure, confounding and mediating variables⁵⁰. Mediation analysis was conducted to better understand the relationship between self-reported transactional sex and HIV and/or HSV-2 and is typically applied when a researcher wants to assess the extent to which the effect of an exposure is explained, or is not explained by a given set of hypothesised mediators (also called intermediate variables). For a description of mediation analysis please see [section 4.5.4.B](#).

7.3.1 Sample

The sample used for this analysis is a subset of the entire sample of young women who reported ever having had vaginal or anal sex (n=693). The analysis only included cases with no missing data for the chosen variables giving a sample size of 627 young women for the model with HIV HSV-2 as the outcome variables.

7.3.2 Variables

Provided below are details on the constructions of variables used in this analysis.

Biological outcome variable.

HIV serostatus at baseline was assessed with two HIV rapid tests (230) done in parallel with at least one being FDA-approved. The *Uni-gold™Recombigen® HIV* (Trinity Biotech plc, Bray, Co. Wicklow, Ireland) was the FDA-approved test used. The *Determine™ HIV-1/2* (Alere

⁵⁰ Mediating or intermediate variables are behavioural, biological, psychological, or social constructs that transmit the effect of one variable to another variable (277).

Medical Co.,Ltd, Matsudo-shi, Chiba, Japan) test was used as the second, non-approved rapid test. If both of the HIV rapid tests were non-reactive, no further testing was done. If one or both of the HIV rapid tests was reactive, a CD4 cell count was performed and confirmatory test was performed using an FDA-cleared Western blot test. An algorithm was prepared in consultation with HPTN Network Laboratory and was validated before the start of the study. If the Western blot was negative or indeterminate, additional testing might have been done based on the case. If the Western blot was positive, a second Western blot was performed using a new sample within 2 weeks. If the participant was confirmed to be HIV-infected (if both Western blots are positive, using samples from two different study visits), no further HIV testing was done at follow-up visits. The participant received appropriate post-test counselling and was referred for HIV care (193).

HSV-2 testing was performed using the Kalon assay (Herpes Simplex Type 2 IgG ELISA, Kalon Biologics, Ltd.) with a cut-off of 1.5. This assay has been shown to have the best performance for HSV-2 detection in African populations (231) with a recent systematic review of publications reporting performance of commercially available HSV-2 tests against a gold standard (Western Blot or monoclonal antibody-blocking EIA) showing that Kalon had sensitivity of 95% (95% CI: 93%-97%) and specificity of 91% (95% CI: 86%-95%) (232).

Main Exposure variable

The main exposure variable was ‘ever having had transactional sex’, shortened to ‘transactional sex’ and was a binary variable (yes/no) for sex in exchange for money and/or gifts. The questions for constructing this variable, transactional sex were taken from the partner grid module of the baseline survey, which asks the young woman about her sexual and relationship history with her three most recent partners, starting with the most recent partner. The survey questions were:

The four steps I undertook to derive this variable were:

- 1) Variable ‘transactional sex for money’ coded 1 if participant said yes to “*Did you feel like you had to have sex with [initials] because they gave you money?*”;
- 2) Variable ‘transactional sex for gifts’ coded 1 if participant said yes to “*Did you feel like you had to have sex with [initials] because they gave you things?*”;
- 3) Variable ‘transactional sex for money ‘and’ gifts’ coded 1 if participant had said yes to question (1) “*Did you feel like you had to have sex with [initials] because they gave you money?*” and question (2) “*Did you feel like you had to have sex with [initials] because they gave you things? above*”; and
- 4) The final variable ‘transactional sex for money ‘and/or’ gifts coded 1 if participant said yes to “*Did you feel like you had to have sex with [initials] because they gave you money? or “Did you feel like you had to have sex with [initials] because they gave you gifts or both gifts and money?*”

The final variable used in the regression analysis referred to as ‘transactional sex’ was binary (no/yes) for ‘*money and/or gifts exchanged for sex*’ with any or all 3 partners. Reference group coded as 0 is young women who responded negatively to question 1 and 2.

Confounders (C1, C2, C3)

The variables that were selected as confounders in the transactional sex and HIV/HSV-2 relationship (C1) were based on the literature and unadjusted analysis. These included HH socioeconomic status (SES), type of primary caregiver, number of household members, being an orphan (either one or both parents), age of young woman and employment or work status of the young woman (233). In addition, confounders for the relationship between transactional sex and each of the potential mediating variables (C2), included HH SES, orphanhood, age of young woman and number of household members. Confounders for the relationship between each of the potential mediating variables and HIV/HSV-2 (C3), included HH SES, orphanhood, age of young woman and number of household members and age of first sex.

The methods used to construct each confounding variable have been described in Chapter 5. I have presented these again as a reminder.

Household (HH) socioeconomic status (SES) was calculated using the module on food and non-food expenditure in the household questionnaire. The measure was derived by summing all household spending on food and non-food expenditures, dividing it by the number of household members. A categorical HH SES measure was then obtained by dividing this measure into deciles (1-10). Total per-capita food expenditure was calculated by summing the market value of all food items grown, purchased, or borrowed over the last 30 days and dividing this amount by the total number of household members. Total per-capita non-food expenditure was calculated by summing the amount spent on non-food items over the past 30 days, specifically personal items, transportation, utilities, insurance, household items, clothing and shoes, health care, education, and miscellaneous purchases and dividing this amount by the total number of household members. *This variable was calculated by the main study team and provided to me to maintain consistency in this variable, across all study analyses.* For the purposes of my analysis, I then re-categorised the SES variable from deciles to three groups: low (1-3), medium (4-7), high (8-10).

Number of household members which took values from 1-20 in the questionnaire, was categorised into 4 categories – 1-3; 4-5; 6-7 and >8; *type of primary caregiver*, which was measured as a categorical variable with 6 categories: mother, father, older brother and sister, aunts and/or uncles, grandparents and cousins, was reduced from 6 to 4 categories: mother, father, brother /sister, other blood relative; *being an orphan* (defined as either one or both parents is dead), which was binary and was constructed from the question on if the mother was alive and if the father was alive; *the age of young women*, which was recorded as a continuous variable from 13-21 years was re-categorised into two groups of 13-15; 16-21 for equal sample size in each category; the age of first vaginal and/or anal sex was constructed from the questions “*how old were you when you first had vaginal sex? How old were you when you first had anal sex?*” and was re-categorised into two groups - <15 years and 15 years and older; and employment status of

the young woman was recorded as a binary variable and constructed from the question “*Did you do any work for pay or family gain, including payment in kind such as food or housing?*”.

Potential mediators

Potential mediators around partner characteristics and certain relationship dynamics were selected based on the literature and their possible role as mechanisms through which transactional sex works to affect HIV and HSV-2 infection. These potential mediating variables are: age difference with partner, inconsistent last condom use, sex under the influence of alcohol or drugs, young women’s partner concurrency, sexual partners in the past 12 months, power dynamic in the partnership and young woman’s perception of her partner’s concurrent relationships. The variable, *lifetime number of partners* was initially included, but after investigating collinearity with the variable *number of sexual partners in the past 12 months*, I chose ‘*sexual partners in the past 12 months*’. This was also because the partner grid asks about the young woman’s three most recent partners and all the related questions are geared towards events in the past 12 months. In addition, since HSV-2 infection increase the risk of HIV infection and being infected with HIV infection increases the chances of contracting HSV-2, both variables were included in the mediation analysis.

The steps for derivation and categorisation of each measure are discussed below:

- *Age difference with partner*: Age difference with partner was calculated by first asking the age of each of the 3 most recent sexual partners, then calculating the age difference with each partner, calculating the mean of the three age differences to obtain a single continuous age difference variable. This was then categorised into 3 groups: Up to 5 years older than young woman; more than 5 years older than young woman and same age or younger than young woman. For the analysis, the category ‘upto 5 years older than young woman’ served as the reference group;
- *Condom use at last sex* with any partner was recorded as a binary variable (no/yes) and was constructed from the question “*Did you use a condom with [...] the last time you had sex?*”;

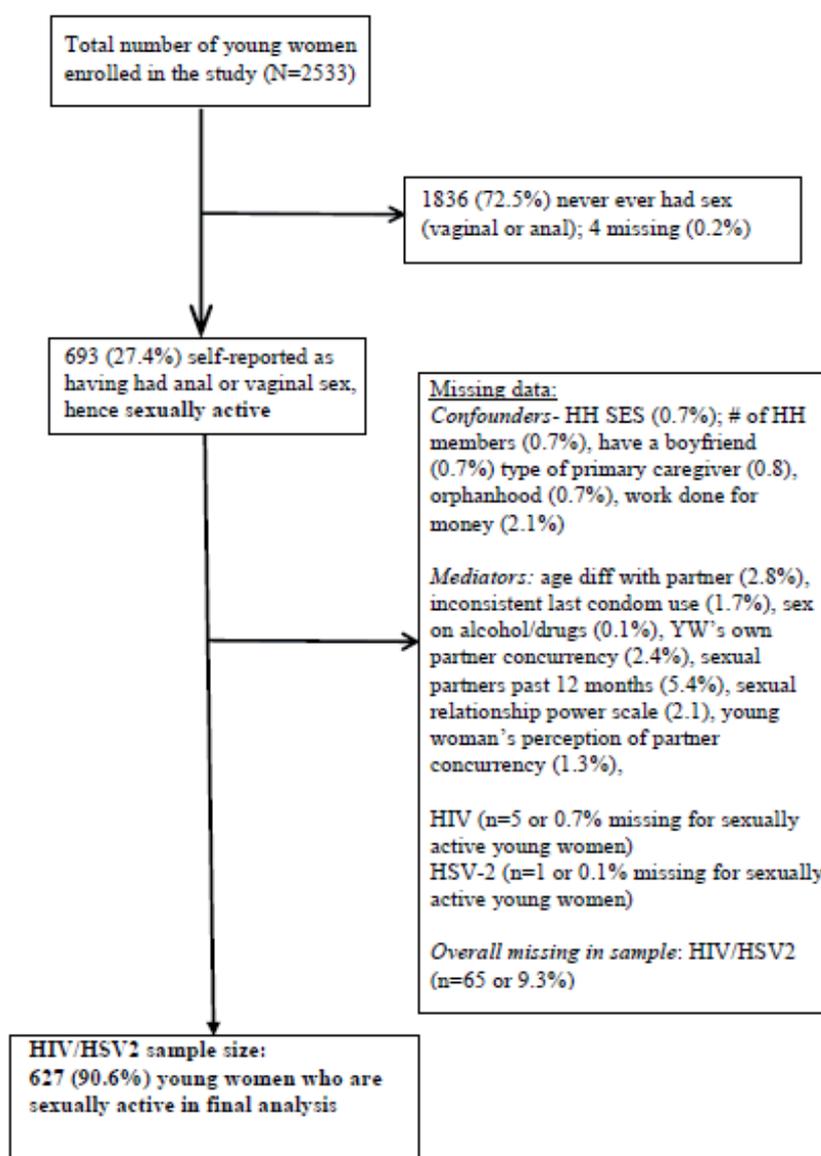
- *Sex on alcohol or drug use* was recorded as a binary variable (no/yes) and was constructed from the questions: “*have you ever had sex while you were drunk on alcohol?*” and “*have you ever had sex while you were high on drugs?*”
- *Sexual relationship power scale (SRPS)*. A sexual relationship power scale (12-items, Cronbach’s alpha=0.83), previously shown to be associated with incident HIV among in South African women (11,60) was used to measure gender power equity. Each item was assessed on a 3-point Likert scale and the measure was scored from 0-24 and categorised into tertiles of the measure. For the analysis, the tertile with lowest equity served as the reference group;
- *Young women’s own partner concurrency* was binary and coded as “1” if the woman had had outside partners during any of her last three relationships. The variable was constructed from the question: “*During the time that you and [...] have had a sexual relationship, have you had any other sexual partners?*”
- *Young women’s perception of her partner’s concurrency* was categorical and constructed from the question for all 3 partners. “*As far as you know, during the time that you and [initials] have had a sexual relationship, has [initials] had any other sexual partners, such as girlfriends, wives or sex workers? The categories were: no (concurrent partner), yes (concurrent partner) and don’t know;*
- *Young women’s number of sexual partners in the past 12 months* was recorded from 0-15 and was categorised into 4 groups: 0, 1, 2, >3.

7.3.3 Missing data

There was little missing data in this dataset. With the exception of the variable, *number of sexual partners in the past 12 months* (where missing data was ~4%), almost all the exposure variables had less than 3% missing data. This include cases where young women have ‘refused to answer’ or “skipped the question”; ‘don’t know’ was also coded as missing, as the percentage of this response code was exceedingly small. Given these small proportions, missing data are unlikely to bias estimates significantly. I examined all data for improbable values and these values were checked against written records and amended accordingly or coded as missing. No attempt was

made to replace missing data and these were not included in the final models. Please see figure 7.2 below for flowchart on final sample size.

Figure 7.2: Flowchart for final sample size in analysis between transactional sex and HIV/HSV-2 infection 1



7.4 Analytic approach

First, to get a better understanding of the characteristics of the sample, I calculated summary statistics to explore the distribution of HIV/HSV-2 status by socio-demographic information (i.e. household structure and the characteristics of her sexual partnerships) among sexually active

young women. I also calculated it for the sample of young women who had engaged in transactional sex only (see Appendix 11). Unadjusted analyses were done to obtain unadjusted Odds Ratios (OR) and p-values (using likelihood ratio test) for the relationship between a given set of socio-demographic variables, self-reported transactional sex and mediators with HIV/HSV-2⁵¹ (please see tables 7.1a and 7.1b).

Furthermore, in order to also get a better understanding of the relationship that the exposure variable (transactional sex) has with each of the mediating variables, I created [table 7.2](#) which shows both unadjusted odds ratios and odds ratios adjusted for confounders, which are household SES, number of household members, type of primary caregiver, age of young women, having a boyfriend and being an orphan. I performed unadjusted and multivariable regression analysis for each mediating variable as the outcome. Of the 8 mediating variables, 4 were categorical. These were: age-difference with partner, young women's perception of partner concurrency; sexual partners in the past 12 months and sexual relationship power scale (SRPS). For each of these variables, I did multinomial regression analysis (using the 'mlogit' command in STATA).

95% confidence limits were calculated using standard methods for estimating confidence intervals from survey data. In addition, overall p-value estimation was done using likelihood ratio test (LRT) test for categorical variables and linear test of trend to obtain a p-value for ordered categorical variables.

Mediation analysis

There were two steps in the mediation analysis. First, I calculated the *total effect of the exposure on the outcome*. To calculate this, I developed a model of the association between transactional

⁵¹ Please note that unadjusted analyses between socio-demographic variables and transactional sex was done in Chapter 5 to test unadjusted associations and identify possible confounders.

sex and HIV and HSV-2 adjusting for all confounders⁵² in this pathway. I then calculated the *direct effect of the exposure on the outcome*. For this, I developed a model that included the exposure, mediating and confounding variables to assess whether the resulting association was mediated (or not) through the hypothesised mediators mentioned earlier.

1. *The total effect of the exposure on the outcome*

To calculate the total effect of transactional sex on HIV and HSV-2, I constructed a model with the main exposure and confounding variables, which were household SES, type of primary caregiver, number of household members, age of young women, orphanhood (single or both parents) and employment status of the young woman and adjusted for all of these variables. I investigated collinearity between the variables included in the analysis and when the addition of one variable increased the standard error of the original variable, the new variable was not included. (e.g., sexual partners in the past 12 months (Var a) versus lifetime number of sexual partners (Var b) where the addition of b increased the standard error of a, thus the decision to not include b was made (given that they were both measuring the same question, except one had a shorter time span, hence better suited for recall). I also tested for interactions between transactional sex with household SES and orphanhood and did not find evidence of any associations. A likelihood ratio test was done to assess the contribution of each variable to the overall fit in the final model, especially the main exposure variable, transactional sex.

2. *The direct effect of the exposure on the outcome*

Before calculating the direct effect of transactional sex on HIV and HSV-2 and in order to test the relationship between transactional sex (exposure variable) and each of the mediating variables, I first constructed seven models for each mediator, adjusted for respective confounders. The

⁵² The identification of exposure and confounding variables were a priori guided by my conceptual framework and the unadjusted analysis. Even though the relationship between some of the variables (e.g. type of primary caregiver or socioeconomic status) was statistically weak in the unadjusted analysis, I decided to include the chosen variables, because the literature suggests that these variables are associated with HIV/HSV-2 (202,278).

confounders were household SES, orphanhood, number of household members and age of the young woman, which were identified from the literature and unadjusted analysis. Then, to test the direct effect of transactional sex on HIV and HSV-2 i.e. not via the mediators, I used a stepwise approach of adjusting for each mediator with the exposure (transactional sex), outcome (HIV and HSV-2) adjusted for confounders. The final model was developed after adjusting for all confounders (exposure/outcome, exposure/mediator and mediator/outcome) and all mediators. A LRT test was done to determine fit of models and p-value was noted. For the estimation of ORs in ordered categorical variables, the category with the least risk was taken as baseline. Test of linear trend was done for ordered categorical variables. Clustering at the school level was accounted for by using cluster-robust standard errors (“vce (cluster schoolname)”).

7.5 Findings

Of the overall study sample (n=2533), 10 young women had data missing for HIV and of the remaining 2523 young women, 3.1% (n=77) were HIV positive. More than half of HIV positive young women self-reported as being sexually active (52% or n=40). For HSV-2 infection, 5 young women had missing data and of the remaining 2528 young women, 4.8% (n=123) were HSV-2 infected. Almost 2/3 of HSV-2 infected young women self-report as being sexually active. Of the overall sample of 2533 young women, 0.7% (n=17) were co-infected with HIV and HSV-2 infection. For other summary statistics and a description of the study sample (for both the household and young women), please refer to [Chapter 5](#).

7.5. A Unadjusted analysis

[Table 7.1a and 7.1b](#) presents the distribution of HIV or HSV-2 by socio-demographic and partnership characteristics of sexually active young women (n=693). Overall, 5.8% (n=40) of sexually active young women were HIV-positive and 12.0% (n=83) had HSV-2 infection. Of all the young women that said yes to engaging in transactional sex (n=95 or 13.8% of sexually active young women), 10.5% (n=10) were HIV-positive (compared to 5.1% (n=30) for those who did

not report engaging in transactional sex), and 14.4% (n=14) were HSV-2 positive (compared to 11.6% (n=69) for those who did not report engaging in transactional sex).

Among young women who were HIV positive (n=40), 85% (n=34) of them were between 16-21 years, 42.5% (n=17) were orphans (one or both parents dead) and the mother was the primary caregiver for 60% (n=24) of HIV positive young women (please refer to [table 7.1a](#)). Among young women who were HSV-2 positive (n=83) almost 90% (n=74) were between 16-21 years and 34.9% (n=29) were orphans (please refer to [table 7.1b](#)).

In the unadjusted analysis, engagement in transactional sex (OR: 2.2, CI 95% 1.04-4.67, P=0.04), working for money (OR: 2.1, CI 95% 1.07-4.21, P=0.03) and being an orphan (OR: 1.8, CI 95% 0.9-3.4, P=0.08) are all associated with increased odds of having HIV (although for orphans, statistical significance is borderline). Most of the potential mediators do not show any strong association with HIV infection in the unadjusted analysis, other than increasing age difference with partner. Young women whose partner is 5-10 years older than them have 3.1 times the odds of engaging in transactional sex than young women whose partner is less than or 5 years older than them (CI95% 1.34-6.7, p=0.01). In addition, young women who are HSV-2 infected have 5.2 times higher odds of being HIV positive (CI95% 2.61-10.33, p=0.00) in the unadjusted analysis.

The odds of HSV-2 infection increases with age. Thus, young women in the 16-21 age category have 2.5 times higher odds of HSV-2 infection compared to young women aged 13-15 (CI 95% 1.22-5.12, p=0.01). Young women from medium level SES household have 0.6 times less odds of HSV-2 infection compared to young women from low SES, however the statistical significance is borderline (CI95% 0.3-1.0, p=0.07). In terms of mediators and HSV-2 infection, a larger age-difference between partners increases the odds of having HSV-2 infection. Thus, young women whose partners are 5-10 years older than them have almost twice the odds (OR: 1.9; CI95% =0.99-3.6, p=0.05) as young women with partners closer to their age. Likewise, young women

who have had more sexual partners in the past 12 months (OR: 2.6, CI 95% 1.20-5.87, p=0.001), are more likely to be infected with HSV-2 in the unadjusted analysis. In addition, young women who are HIV infected have 5.2 times higher odds of being HIV positive (CI95% 2.61-10.33, p=0.00) in the unadjusted analysis.

Table 7.1a: HIV distribution by socio-demographic and partnership characteristics among sexually active young women (unadjusted analysis) (N=693, HIV n=40)

	N (=693) (%)	HIV +ve (n=40)	UOR	95% CI	p-value	Linear test of trend*
Transactional sex (n=688)					0.05[#]	
No	593 (86.2)	30 (5.1) [^]	Reference			
Yes	95 (13.8)	10 (10.5) [^]	2.2	1.1-4.6		
Age (n=688)					0.25 [#]	
13-15	151(21.9)	6 (15.0)	Reference			
16-21	537 (78.0)	34 (85.0)	1.6	0.6-3.9		
Currently have boyfriend (n=688)					0.04[#]	
No	151 (21.9)	4 (10.0)	Reference			
Yes	537 (78.0)	36 (90.0)	2.6	0.9-7.5		
Socio-economic status (SES) (n=688)					0.22 [#]	0.9
Low	220 (40.0)	15 (37.5)	Reference			
Medium	276 (40.1)	11 (27.5)	0.6	0.2-1.3	0.16	
High	192 (27.9)	14 (35.0)	1.1	0.5-2.3	0.85	
Number of household members (n=688)					0.38 [#]	0.2
2-3 members	87 (12.6)	8 (20.0)	Reference			
4-5 members	232 (33.7)	15 (37.5)	0.7	0.3-1.7	0.40	
6-7 members	219 (31.8)	9 (22.5)	0.4	0.2-1.1	0.01	
>=8 members	150 (21.8)	8 (20.0)	0.5	0.2-1.5	0.25	
Primary caregiver (n=687)					0.22 [#]	0.6
Mother	467 (68.0)	24 (60.0)	Reference			
Father	22 (3.2)	1 (2.5)	0.9	0.1-6.8	0.90	

	N (=693) (%)	HIV +ve (n=40)	UOR	95% CI	p-value	Linear test of trend*
Brother/sister	65 (9.5)	8 (20.0)	2.6	1.1-6.0	0.02	
Other blood relative	133 (19.3)	7 (17.5)	1.1	0.4-2.4	0.9	
Orphans (n=688)					0.08 [#]	
Parents alive	481 (69.9)	23 (57.5)	Reference			
One of both parents dead	207 (30.1)	17 (42.5)	1.8	0.9-3.4		
Age of first sex (n=629)					0.56 [#]	
< 15 years	126 (20.0)	9 (24.0)	Reference			
>15 years	503 (80.0)	29 (77.0)	0.8	0.37-1.73		
Work done for money (n=678)					0.04 [#]	
No	531 (78.3)	25 (64.1)	Reference			
Yes	147 (21.7)	14 (35.9)	2.1	1.1-4.2		
HIV distribution by sexual partner characteristics						
Age diff with partner (n=673)					0.04 [#]	0.07
< 5 years older than YW	526 (78.2)	2 (62.5)	Reference			
>5 years older than YW	69 (10.2)	9 (22.5)	3.1	1.34-6.74	0.01	
Same age or younger than YW	78 (11.6)	6 (15.0)	1.7	0.66-4.2	0.28	
Condom use at last sex (n=681)					0.78 [#]	
No	208 (30.5)	13 (32.5)	Reference			
Yes	473 (69.4)	27 (67.5)	0.9	0.46-1.80		
Sex on alcohol or drugs (n=686)					0.57 [#]	
No	634 (92.4)	36 (90.0)	Reference			
Yes	52 (7.5)	4 (10.0)	1.4	0.47-4.05		

	N (=693) (%)	HIV +ve (n=40)	UOR	95% CI	p-value	Linear test of trend*
YW's own partner concurrency (n=676)						
					0.67 [#]	
No concurrent partners	410 (60.6)	23 (57.5)	Reference			
Yes concurrent partners	266 (39.3)	17 (42.5)	1.2	0.60-2.19		
Sexual partners past 12 months (n=655)						
					0.13 [#]	0.12
1	516 (78.8)	25 (65.8)	Reference			
2	96 (14.7)	10 (26.3)	2.28	1.06-4.92	0.03	
>3	43 (6.6)	3 (7.9)	1.47	0.42-5.09	0.54	
Sexual relationship power scale (n=678)						
					0.50 [#]	0.97
High power	199 (30.3)	10 (25.6)	Reference			
Medium power	294 (44.8)	21 (53.8)	1.4	0.66-3.15	0.31	
Low power	163 (24.8)	8 (20.5)	0.9	0.37-2.53	0.96	
YW's perception of partner concurrency (n=684)						
					0.81 [#]	
No (concurrent partner)	165 (24.1)	8 (20.0)	Reference			
Yes (concurrent partner)	247 (36.1)	15 (37.5)	1.3	0.52-3.06	0.59	
Don't know	272 (39.8)	17 (42.5)	1.3	0.55-3.10	0.54	
HSV-2 infection (n=687)						
					0.00[#]	
No	605 (88.1)	25 (62.5)	Reference			
Yes	82 (12.0)	15 (37.5)	5.2	2.61-10.33		

^ Calculated as column percentage # Overall p-value association based on LRT test

*When applicable p-value estimation for ordered categorical through linear test of trend;

**Unadjusted odds ratio estimation through logistic regression

Table 7.1b: HSV-2 distribution by socio-demographic and partnership characteristics among sexually active young women (unadjusted analysis) (n=693)

	N (=693) (%)	HSV-2 +ve (n=83)	U OR	95% CI	p- value	Linear test of trend*
Transactional sex (n=692)						0.43[#]
No	595 (85.9)	69 (11.6) [^]	Reference			
Yes	97 (14.0)	14 (14.4) [^]	1.3	0.69-2.38		
Age (n=692)						0.01[#]
13-15	151 (21.8)	9 (10.8)	Reference			
16-21	541 (78.2)	74 (89.1)	2.5	1.22-5.12		
Currently have boyfriend (n=692)						0.02[#]
No	151 (21.8)	10 (12.0)	Reference			
Yes	541 (78.2)	73 (87.9)	2.2	1.10-4.37		
Socio-economic status (SES)(n=692)						0.01[#] 0.32
Low	223 (32.2)	29 (34.9)	Reference			
Medium	276 (39.9)	22 (26.5)	0.6	0.32-1.04	0.07	
High	193 (27.9)	32 (38.5)	1.3	0.77-2.29	0.30	
Number of household members (n=692)						0.10[#] 0.02
2-3 members	87 (12.6)	17 (20.5)	Reference			
4-5 members	233 (33.7)	29 (34.9)	0.6	0.30-1.13	0.11	
6-7 members	219 (31.6)	24 (28.9)	0.5	0.26-0.99	0.05	
>=8 members	153 (22.1)	13 (15.7)	0.4	0.17-0.83	0.01	

	N (=693) (%)	HSV-2 +ve (n=83)	U OR	95% CI	p- value	Linear test of trend*
Primary caregiver (n=691)						0.11 [#]
Mother	470 (68.0)	47 (56.6)	Reference			
Father	47 (56.6)	3 (3.6)	0.7	0.20-2.46	0.58	
Brother/sister	65 (9.4)	9 (10.8)	1.0	0.25-4.15	0.98	
Other blood relative	134 (19.3)	24 (28.9)	1.4	0.37-5.04	0.62	
Orphans (n=692)						0.32 [#]
Parents alive	483 (69.8)	54 (65.1)	Reference			
One or both parents dead	209 (30.2)	29 (34.9)	1.3	0.78-2.07		
Age of first sex (n=633)						0.13 [#]
< 15 years	127 (20.1)	11 (13.9)	Reference			
>15 years	506 (79.9)	68 (86.1)	1.6	0.84-3.20		
Work done for money (n=682)						0.59 [#]
No	533 (78.1)	66 (80.5)	Reference			
Yes	149 (21.8)	16 (19.5)	0.8	0.47-1.51		
HSV-2 distribution by sexual partner characteristics						
Age diff with partner (n=677)						0.04[#]
< 5 years older than YW	530 (78.2)	63 (76.8)	Reference			
>5 years older than YW	69 (10.2)	14 (17.1)	1.9	0.99-3.59	0.05	
Same age or younger than YW	78 (11.5)	5 (6.1)	0.51	0.19-1.30	0.16	
Condom use at last sex (n=685)						0.55 [#]
No	209 (30.5)	23 (27.7)	Reference			
Yes	476 (69.5)	60 (72.3)	1.2	0.69-1.94		

	N (=693) (%)	HSV-2 +ve (n=83)	U OR	95% CI	p- value	Linear test of trend*
Sex on alcohol or drugs (n=690)						
No	638 (92.5)	74 (89.2)	Reference			0.23 [#]
Yes	52 (7.5)	9 (10.8)	1.6	0.75-3.40		
YW's own partner concurrency (n=680)						
No concurrent partners	411 (60.4)	43 (52.4)	Reference			0.11 [#]
Yes concurrent partners	269 (39.6)	39 (47.6)	1.4	0.91-2.30		
Sexual partners past 12 months (n=659)						
1	519 (78.7)	47 (61.8)	Reference			0.001[#]
2	97 (14.7)	20 (26.3)	2.6	1.46-4.64	0.001	0.001
>3	43 (6.6)	9 (11.8)	2.6	1.20-5.87	0.01	
Sexual relationship power scale (n=682)						
High power	213 (31.3)	21 (25.6)	Reference			0.21 [#]
Medium power	297 (43.5)	34 (41.5)	1.2	0.66-2.10	0.57	0.08
Low power	172 (25.2)	27 (32.9)	1.7	0.92-3.13	0.09	
YW's perception of partner concurrency (n=688)						
No (concurrent partner)	165 (24.0)	16 (19.3)	Reference			0.47 [#]
Yes (concurrent partner)	250 (36.3)	30 (36.1)	1.3	0.67-2.41	0.46	
Don't know	273 (39.7)	37(44.6)	1.5	0.78-2.71	0.23	

	N (=693)	HSV-2 +ve	U OR	95% CI	p-	Linear test
	(%)	(n=83)			value	of trend*
HIV infection (n=687)					0.00[#]	
No	647 (94.2)	68 (81.7)	Reference			
Yes	40 (5.8)	15 (18.3)	5.2	2.61-10.33		

[^] Calculated as column percentage # Overall p-value association based on LRT test

*When applicable p-value estimation for ordered categorical through linear test of trend;

**Unadjusted odds ratio estimation through logistic regression;

Table 7.2 shows both the unadjusted and adjusted results from the logistic regression analysis on the association between transactional sex and each of the mediators adjusted for confounders, which are HH SES, number of household members, type of primary caregiver, age of young women, having a boyfriend and being an orphan.

The results (after adjusting for the confounders mentioned earlier), shows that young women who said that they had engaged in transactional sex have 3.1 times higher odds of having sex under the influence of alcohol or drugs (CI 95% 1.55-5.71, $p=0.002$) and 1.86 times the odds of having concurrent partners (CI 95% 1.18-2.91, $P=0.01$). From the multinomial adjusted analysis, young women who have engaged in transactional sex have 1.7 times higher odds of having low scores in the SRPS relative to high score after adjusting for confounders (CI 95% 0.96-3.12, $P=0.06$) compared to those you do not engage in transactional sex.

Table 7.2: Odds ratios from logistic/multinomial regression analysis on the association between transactional sex and each of the mediators (n=633)

Outcome		Unadjusted OR	95% CI	p-value**	Adjusted OR*	95% CI	P value**
^Outcome: Age difference with partner							
	>5 years older versus upto 5 years older			0.37			0.51
	No TS	Reference			Reference		
	TS	1.35	0.69-2.66		1.33	0.40-1.58	
<hr/>							
	Same age/ younger versus upto 5 years older			0.56			0.51
	No TS	Reference			Reference		
	TS	1.22	0.62-2.38		1.25	0.43-2.61	
<hr/>							
Outcome: Condom use at last sex				0.37			0.33
	No TS	Reference			Reference		
	TS	1.25	0.76-2.04		1.27	0.77-2.10	
<hr/>							
Outcome: Sex on alcohol or drugs				0.01			0.001
	No TS	Reference			Reference		
	TS	2.56	1.32-4.98		3.10	1.55-5.71	
<hr/>							
Outcome: YW's own partner concurrency				0.07			0.01
	No TS	Reference			Reference		
	TS	1.83	1.18-2.84		1.86	1.18-2.91	
<hr/>							
^Outcome: Sexual relationship power scale							
	Medium power versus high power			0.73			0.70
	No TS	Reference			Reference		
	TS	0.91	0.2-1.56		0.52	0.51-1.56	
	Low power versus high power			0.09			0.06

Outcome		Unadjusted	95% CI	p-value**	Adjusted OR*	95% CI	P value**
		OR					
	No TS	Reference			Reference		
	TS	1.63	0.93-2.86		1.73	0.96-3.12	
^Outcome: YW's perception of partner concurrency							
	Concurrent partnership versus no concurrent partner			0.06			0.06
	No TS	Reference			Reference		
	TS	0.60	0.34-1.03		0.59	0.34-1.03	
	Don't know versus no concurrent partner			0.09			0.10
	No TS	Reference			Reference		
	TS	0.63	0.37-1.09		0.63	0.36-1.09	
^Outcome: Sexual partners past 12 months							
	2 partners versus 1 partner						
	No TS	Reference			Reference		
	TS	0.98	0.52-1.85	0.95	0.92	0.48-1.77	0.81
	>3 partners versus 1 partner						
	No TS	Reference			Reference		
	TS	1.98	0.93-4.23	0.08	1.91	0.86-4.21	0.11

^ Categorical variables – performed multinomial regression

*Adjusted for confounders including HH SES, number of household members, type of primary caregiver, having a boyfriend, age of first sex, age of young women and being an orphan;

Unadjusted odds ratio estimation through logistic regression;

All records with missing data excluded

** P-value calculation through likelihood ratio test.

7.5 B Mediation analysis

Table 7.3a shows the total effect of transactional sex on HIV after adjusting for confounders. The results demonstrate that young women who report engaging in transactional sex have 2.3 times higher odds of being HIV positive (CI95% 0.92-5.6, p=0.04).

Table 7.3a: Effect of transactional sex on HIV adjusted for all confounders among sexually active young women (n=628[#])

TS and HIV	Adjusted OR [^]	95% CI	P-value*
No	Reference		
Yes	2.4	1.05-5.30	0.05

[#]Records with missing data excluded.

[^] Adjusted for confounders (age of young woman, having a boyfriend, socio-economic status, type of primary caregiver, number of household members, age of first sex, orphan and work done for money)

*P-value estimation through Likelihood-ratio test.

Table 7.3b shows the direct effect of transactional sex on HIV, which is the effect of transactional sex on HIV not via the mediators. The results presented below show both the overall result with the model after adjusting for all confounders and mediators, as well as for each mediator with transactional sex and HIV/HSV2 infection.

The results below show that young women engaging in transactional sex had 2.5 times higher odds of being HIV infected (CI95%: 1.11-5.96, p=0.05) in the overall model. There was not much variation in the odds ratios for transactional sex and HIV adjusted for confounders between the different mediators.

Table 7.3b: Effect of transactional sex (TS) on HIV adjusted for confounders and mediators (n=628[#])

	Variables		Adjusted OR[^]	95% CI	P-value*
Overall**	TS[^]+ all mediators	No	Reference		0.05
		Yes	2.5	1.09-5.64	
Model 1	TS[^] + Age diff with partner	No	Reference		0.03
		Yes	2.3	1.06-5.00	
Model 2	TS[^] + condom use at last sex	No	Reference		0.04
		Yes	2.4	1.05-5.32	
Model 3	TS[^]+ sex under alcohol/drugs	No	Reference		0.04
		Yes	2.3	1.04-5.30	
Model 4	TS[^]+ YW's partner concurrency	No	Reference		0.04
		Yes	2.3	1.05-5.21	
Model 5	TS[^]+ sexual relationship power scale	No	Reference		0.03
		Yes	2.5	1.08-5.67	
Model 6	TS[^]+ YW's perception of partner concurrency	No	Reference		0.04
		Yes	2.4	1.02-5.40	
Model 7	TS[^]+ sexual partners last 12 months	No	Reference		0.05
		Yes	2.4	0.96-5.42	
Model 8	TS[^] + HSV-2 infection	No	Reference		0.06
		Yes	2.3	0.98-5.35	

[#]Records with missing data excluded.

[^] Adjusted for all confounders (age of young woman, having a boyfriend, HH SES, type of primary caregiver, number of household members, age of first sex, orphan and work done for money)

**Adjusted for all mediators (age-difference with partner, condom use at last sex, sex under the influence of alcohol and drugs, young women's own partner concurrency, sexual relationship power scale, perception of partner's concurrency, sexual partner in the last 12 months, HSV-2 infection)

*P-value calculated through likelihood-ratio test

Thus, the estimated total effect (table 7.3a) of transactional sex and HIV had an odds ratio of 2.4 and the direct effect (table 7.3b) had an odds ratio of 2.5. There is a very small difference in the size of the effect between the two models (where the estimated direct effect is slightly higher than the estimated total effect). Given that there is little variation in the two results, it appears that most of the effect of transactional sex on HIV is direct, and not going through any of the mediating variables that have been included for this analysis.

Table 7.4a shows the total effect of transactional sex on HSV-2 after adjusting for all confounders. As shown in the table below, transactional sex did not show any statistically significant association.

Table 7.4a: Effect of transactional sex on HSV-2 adjusted for all confounders among sexually active young women (n=604[#])

TS and HSV2	Adjusted OR [^]	95% CI	P-value*
No	Reference		
Yes	1.3	0.62-2.81	0.44

[#]Records with missing data excluded.

[^] Adjusted for confounders (age of young woman, having a boyfriend, socio-economic status, type of primary caregiver, number of household members, age of first sex, orphan and work done for money)

*P-value estimation through Likelihood-ratio test.

Table 7.4 b shows the direct effect of transactional sex on HSV-2, which is the effect of transactional sex on HSV-2 not via the mediators. Similar to the models constructed for transactional sex and HIV, in order to test how each mediator variable mediates the association, I modelled each mediator with transactional sex and HSV-2 adjusted for confounders. The overall effect (shown in the first row) was developed after adjusting for all confounders (exposure/outcome, exposure/mediator and mediator/outcome) and all mediators. As shown in table 7.4b, the relationship between transactional sex and HSV-2 is not statistically significant.

Table 7.4b: Effect of transactional sex (TS) on HSV-2 adjusted for confounders and mediators (n=632)

	Variables		Adjusted OR [^]	95% CI	P-value*
Overall**	TS[^]+ all mediators	No	Reference		
		Yes	1.1	0.48-2.36	0.88
Model 1	TS[^] + Age diff with partner	No	Reference		
		Yes	1.2	0.59-2.87	0.51
Model 2	TS[^] + condom use at last sex	No	Reference		
		Yes	1.3	0.63-2.78	0.47
Model 3	TS[^]+ sex under alcohol/drugs	No	Reference		
		Yes	1.3	0.63-2.79	0.45
Model 4	TS[^]+ YW's partner concurrency	No	Reference		
		Yes	1.3	0.61-2.67	0.51
Model 5	TS[^]+ sexual relationship power scale	No	Reference		
		Yes	1.3	0.60-2.72	0.51
Model 6	TS[^]+ YW's perception of partner concurrency	No	Reference		
		Yes	1.3	0.63-2.84	0.45
Model 7	TS[^]+ sexual partners last 12 months	No	Reference		
		Yes	1.2	0.57-2.63	0.61
Model 8	TS[^] + HIV infection	No	Reference		
		Yes	1.1	0.52-2.54	0.70

[^] Adjusted for all confounders (age of young woman, having a boyfriend, HH SES, type of primary caregiver, number of household members, orphan, age of first sex and work done for money)

**Adjusted for all mediators (age-difference with partner, condom use at last sex, sex under the influence of alcohol and drugs, young women's own partner concurrency, sexual relationship power scale, perception of partner's concurrency, sexual partner in the last 12 months, HIV infection)

*P-value calculated through likelihood-ratio test

I have attempted to also measure the association between young women who engage in transactional sex and HIV and HSV-2 co-infection (as the outcome). There was no evidence of an association in the unadjusted analysis. This could be partly attributed to the sample size being too small (n=17), hence not enough statistical power to demonstrate evidence of an association between transactional sex and HIV and HSV-2 co-infection.

7.6 Discussion

This cross-sectional analysis explored the relationship between young women's engagement in transactional sex and her HIV and/or HSV-2 risk in Mpumalanga province, South Africa. In summary, the results of this analysis shows that young women who report engaging in transactional sex (or sex in exchange for money or gifts) had increased odds of testing HIV seropositive at the time of the interview, after adjusting for age, household socio-economic status, the type of primary caregiver, household size, orphanhood, if she currently has a boyfriend and is working for money. This finding supports a couple of studies that have found an association between HIV risk and transactional sex in South Africa, which includes a cross-sectional study on transactional sex and HIV in pregnant women (aged 16 years and older) in Soweto, South Africa (60) and a longitudinal study on transactional sex and HIV incidence among young women (aged 15-26) enrolled in a HIV prevention programme in Eastern Cape, South Africa (11). The evidence base for quantitative studies looking at the association between transactional sex and HIV among young women is growing, but still sparse. Thus, this finding highlights the importance of understanding how transactional sex affects HIV risk, especially among young women (11).

The findings show that transactional sex does not appear to be associated with HSV-2 risk. HSV-2 the primary cause of genital herpes, is a commonly used biomarker of sexual activity because the presence of HSV-2 antibodies is highly associated with past sexual behaviour (228,234,235). In addition, prevalent HSV-2 infection is associated with a three-fold increased risk of HIV acquisition among both men and women in the general population, suggesting that, in areas of high HSV-2 prevalence, a high proportion of HIV is attributable to HSV-2 (228). In this study, the unadjusted analysis shows that young women who are HSV-2 infected have five times higher odds of being HIV infected. As this study and past research shows that transactional sex is associated with sexual transmitted infection and HIV risk (60), one could have expected to see an

association between transactional sex and HSV-2 infection. However, HSV-2 biomarker testing has considerable challenges in sub-Saharan Africa in terms of imperfections in test specificity (discussed in limitations later) and in populations with low or moderate prevalence of HSV-2 infection, as might be expected for adolescents, the potential for false positive test results is substantial (234). Thus it is not surprising that there is no association between transactional sex and HSV-2.

Importantly in this analysis, I found that transactional sex and HIV association does not appear to be mediated by any of the pathways/variables that might have been hypothesised to account for this association, such as being HSV-infected, having an older partner (up to 5 years or more than 5 years older), not using a condom at last sex, young women having concurrent partners, her partner having concurrent partners, number of sexual partners in the past year or sex under the influence of alcohol or drugs.

The analysis did however suggest that young women who reported transactional sex are more likely to: have had sex under the influence of alcohol or drugs, have concurrent partners, to score low on the sexual relationship power scale (SRPS) in the adjusted analysis. A low score on the SRP scale indicates less power in terms of relationship control, negotiation or decision-making (as indicated in Table 7.2). Thus, even though the specific variables tested do not mediate the relationship between transactional sex and HIV, there may be more complex and nuanced ways that some factors (e.g., alcohol or lack of condom use) mediate risk. In chapter 5, the findings suggest that alcohol might be used as a currency of sexual exchange in this setting and that both men and women can have an implicit understanding that accepting alcohol implies consent for sexual favours. As literature from Cape Town, South Africa suggests, alcohol has been associated with decreased inhibition and less likelihood of condom use (22); ethnographic research suggests that some young women who frequent *shebeens* (township bars) do so with the

expressed intention of finding men to pay for their drinks and entertainment (13) and that sexual encounters usually follow after drinking alcohol and therefore are less likely to be protected by condoms (113). Also, in cases where sex is transacted for alcohol in bars, men who engage in these relationships and acts maybe substantially more controlling, patriarchal and violent than other men (23,53) hence making it challenging for young women to negotiate condoms.

Furthermore, even though ‘condom use at last sex’ did not mediate the relationship between transactional sex and HIV, it is still possible, as literature suggests that in the context of established relationships, which are generally distinguished by emotional attachment and trust, condom use is less consistent or likely (91,236–238). Thus, young women might report using condoms in their last sexual encounter, but this does not necessarily predict consistency in condom use in the relationship. Indeed, there are measurement challenges associated with using the variable ‘condom use at last sex’ as a proxy for ‘consistent condom use’. Despite the natural appeal of using “last sex” as the recall period, it is not known whether this proxy event is a valid representation of adolescents’ condom use behaviours over longer periods of time (239). In conjunction with this, is the issue of social desirability bias related to self-reported sexual behaviours, particularly condom use where participants tend to over-report condom use as it is a behaviour that is expected of them (more details discussed below). My qualitative work in the next chapter (see chapter 8) attempts to probe further how love and romantic notions intersect with the transactional element in relationships and how trust in the relationship might potentially result in inconsistent or less condom use. Material or financial need may also introduce an explicit power imbalance into sexual relations and women in qualitative studies often report that they are less likely to request condom use when material gain is at stake (61,67,91).

Additionally, research suggests that a differentiating characteristic between formal sex work and transactional relationships is that women in formal sex work seem to have more independence

and power to insist on condom use upfront, whereas in transactional sexual relationships, as the exchange of sex for money or gifts is more nuanced, there might be a bolstered sense of male entitlement where men perceive that gifts of cash result in a woman accepting sex on his terms, which are often without condoms and without space to assert preferences for monogamy (11,62).

To fully understand the reasons why transactional sex is associated with women's HIV risk, it is also useful to consider alternative factors such as rape and intimate partner violence. Research has shown that experience and increasing severity of male intimate partner violence was associated with increasing odds of reporting transactional sex with non-primary partners (23). In addition, in a study conducted in the Eastern Cape province in South Africa, young women may also face rape and physical violence from men who anticipated that financial outlay would be reciprocated by sex and women often tolerate physical or sexual violence in order to sustain relationships which provide critical income (223). Thus, for this analysis, unaccounted for factors such as potential partner violence, dynamic within the household or family and substance use problems were not adjusted for in the models, thus my results need to be interpreted accordingly (10).

Furthermore, in this study, transactional sex has been defined only in terms of money or gifts exchanged for sex and does not differentiate by the 'type' of relationship (e.g., primary long term partner versus casual partner) or possible motivations for engaging in that relationship (i.e. whether money or gifts are the critical motivating factor behind the existence of the relationship or motivate a particular sexual encounter). The receipt of gifts or money from a partner often form part of relationships in Sub-Saharan Africa and accessing money or items may or may not be a key motivating factor in such unions (57,70). It was impossible to assess whether material gain was the primary motivation for sex in the young woman's relationship because of the way

the question on transactional sex was asked in the survey⁵³. Thus, depending on how the relationship is perceived by either party (as being transactional rather than gift-based) has implications for understanding power dynamics surrounding sexual decision making within a relationship hence condom negotiation which has implications for HIV risk.

Importantly, in this study, young women's number of sexual partners does not appear to mediate the relationship between transactional sex and HIV infection. This is counter to expectation because previous research has shown that young women who have transactional sex generally have more sexual partners than other women (29). These relationships are commonly parts of webs of concurrency (i.e. the density of concurrency across a network of sexually connected individuals) (54), although many secondary sexual relationships are not necessarily transactional (23). Developing an understanding of the transactional element in relationships (in terms of young women being exposed to a network of 'high risk' men) (240) and further understanding the types of relationships (casual or long-term) that determine vulnerability to HIV risk is beyond the scope of this thesis, but needs to be explored further.

Finally, as discussed above, relationship dynamics are complex and nuanced and can be used to explain a part of the association between transactional sex and HIV risk. However, I should emphasise the importance of measurement challenges that partially account for the lack of mediation in these results. Related to this, it is important to acknowledge the significant role that social desirability bias plays in self-reported sexual behaviours (241). The expected direction of social desirability bias is that respondents will over-report condom use, since they believe that condom use is expected of them. Turner and Miller hypothesised that social desirability bias creates systematic non-random bias where people reporting "always" condom use are more likely

⁵³ The question on transactional sex in the survey asks whether young women felt like they had to have sex to receive money or items from their partners. There is no question that elicits information on the motivations behind the exchange or transactional encounter.

to be misrepresenting their condom use than those who report “never” condom use (242). This makes estimating the predicted effect of social desirability bias extremely difficult. Another example of how social desirability might be biasing self-reports is observed in the reporting of number of sexual partners. Numerous studies have found that women report fewer sexual partners than men (243). Even the question on transactional sex is subject to under-reporting. Despite the use of methods, such as audio computer-assisted self- interviews (ACASI) which eliminate the need for respondents to report social undesirable answers face-to-face, it is important to acknowledge the important role that social desirability bias plays when interpreting these findings.

This study had a number of strengths and limitations. In terms of strengths, the outcome variables, HIV and HSV-2 are biological endpoints, thus the outcome being measured is not just self-reported sexual behaviours, which are subject to a number of biases, such as recall bias or false reports (244). The data collected for a wide range of self-reported behavioural measures allowed us to verify and contextualise effects on biological outcomes. In addition, as my research is part of large randomised controlled trial funded by the HIV Prevention Trials Network (HPTN), there are a number of quality checks (explained in Chapter 4) on the data which are standardised and rigorous.

In terms of limitations, the cross-sectional nature of the data makes interpretation and direction of causality complex. As the exposure and outcome are being measured at the same point in time, it is difficult to make a definitive case for a variable being either a confounder or mediator. For example, the decision for whether number of sexual partners should be considered as a confounder or mediator depends on how the transactional sex variable has been conceptualised. If transactional sex is conceptualised as something that pre-dates most sexual activity (i.e. there is some inclination to engage in transactional sex) then one can make the case for this driving the

number of sexual partners, and sexual partners would be considered to be a mediator. If, however the motivation to engage in transactional sex is driven by the number of sexual partners (i.e., the more sexual partners a young woman has, more likely she is to engage further in transactional sex), number of sexual partners could be a confounder of the association between transactional sex and HIV. Based on my initial conceptual framework, I have conceptualised number of sexual partners as a potential mediator; however this decision is open to debate.

As transactional sex and all the mediating sexual behaviour variables are self-reported, they are subject to recall and measurement bias. Question time-frames were chosen to be consistent with other studies (where applicable) and to facilitate recall (*e.g., sexual partners over the past 12 months? Or condom use in the last sexual encounter?*). However, individuals seldom have perfect recall of sexual events even over short time-frames. Self-completion of the questionnaire and the option of skipping questions resulted in some missing data on some items. I have not replaced any missing values. Furthermore, as mentioned above, social desirability bias is problematic in studies that rely on self-reported sexual behaviour data, for questions such as use of condoms (usually biased towards over-reporting) or the number of sexual partners (usually biased towards under-reporting by young women). As we have biological data as outcomes, some of the issues around validity can be addressed (245,246) through triangulation of results.

The use of biomarker data in HIV prevention studies is quite well-developed. US PEPFAR and other donor have invested considerable sums in sub-Saharan Africa in staff training establishing well-equipped laboratories, as well as useful tools for testing and protocols for improving HIV test sensitivity, specificity and cost. However, HSV-2 testing has not experienced a similar investment. In particular, there are validity problems with HSV-2 testing, as manufacturers' cut-offs with African populations potentially inflate prevalence findings (247). There has been a growing call for HSV-2 test kit manufacturers to determine optimal cut-off standards for sub-

Saharan populations (234). Also, HSV-2 infection tends to be asymptomatic; only 10–25 % of people with antibodies for the condition are aware that they have genital herpes (235). Adolescents without symptoms may deny ever having sex, thus complicating the clinical picture. In addition, local departments of health and STI authorities in sub-Saharan African countries are much less familiar with HSV-2 pathology and treatment than with HIV and some other STIs (234). For this study, HPTN and the laboratories involved with HSV-2 testing have taken substantial precautions to validate the HSV-2 test results. Nevertheless, I have mentioned these limitations so that results are interpreted accordingly.

There is a recognised problem of eliminating confounding in observational epidemiology without over-adjusting the models (248). Having tested the model for confounding, interactions and effect medication, I am confident that presented models have been appropriately constructed and fit the data well. However, there might still be unmeasured confounding of the transactional sex-HIV relationship that need to be considered when interpreting findings (249).

Finally, this analysis was conducted on baseline data of a sample designed for a randomised controlled study. Thus certain questions, such as the question on transactional sex were determined prior to my involvement in the study. Ideally, it would have been useful to collect information about partner characteristics to distinguish young women's perceptions of transactional sex in the context of a love relationship versus casual partner. Even though, the question around type of partnership was included in the survey, the sample sizes were too small to detect any significant differences and were thus not included in the model.

7.6 Conclusion

In conclusion, the findings presented in this chapter lend quantitative support to the assertion that transactional sex is an important factor in the spread of HIV in South Africa. However, this study

calls into question many of the pathways put forward as possible mechanisms through which transactional sex increased HIV acquisition. Young women are very vulnerable and much less able to influence their own risk of HIV than men of the same age or older women (11). Measurement issues around how transactional sex is conceptualised is complex and need to take into account the intricate and intertwined roles of poverty, consumerism and aspirations in the design of research and programmatic initiatives. In addition, men's perspectives are needed in future research. In the following qualitative chapter, I attempt to further understand the complexities of transactional sexual relationships among young adolescent women using the lens of social exchange theory to elucidate my findings.

CHAPTER 8: Structural context of young rural South African women's motivations for sexual exchange: perceived agency and perceived relationship with HIV infection

8.1 Chapter overview

In this final empirical chapter, I present additional analysis of the qualitative data from in-depth interviews and focus groups with young women. Using a developmental model of social exchange theory suited to adolescent relationships, the purpose of this chapter is to explore the structural and cultural context of young rural South African women's motivations for sexual exchange, the degree of agency they perceive and exhibit in these sexual exchanges and the perceived relationship this has with HIV infection. As my focus is on young women's relationships, I also consider the role of the community and the family in influencing young women's engagement in transactional sexual relationships. I provide a brief summary of the theory that underpins this research in Section 8.2. I have not expanded on this section as details have been provided in Chapter 3 (section 3.3a). In section 8.3 I present the integrated findings from my thematic content analysis of focus group discussions and in-depth interviews and present the discussion of the findings along with the limitation in section 8.4.

8.2 Theoretical underpinnings

The fundamental dynamic that I explore in this chapter is sexual exchange and young women's motivations for engaging in relationships characterised by material exchange for sex. I use social exchange theory as the theoretical lens to help interpret some of my findings. Although different views of social exchange have emerged, social exchange theorists such as Emerson (1976), as well as Blau (1964) agree that most intimate interactions depend on gaining a reward or profit from the relationship and that social exchange involves a series of interactions that potentially generate obligations through the interdependence that eventually arises (127,128). Thus,

interdependence, which involves mutual and complementary expectations is considered a defining characteristic of social exchange (129).

Reciprocal interdependence emphasises ‘dependent interpersonal transactions’, whereby an action by one person leads to a response by another. If a person supplies a benefit, the receiving person is expected to respond in kind (130,140). In this tradition, a “reciprocal exchange” is understood as one that does not include explicit bargaining (131,132); instead expectations of reciprocity are a key element of the exchange (133). Therefore, one person’s actions are contingent on the other’s behaviour. Parties of exchange may also *negotiate* rules in the hope of reaching beneficial arrangements (138,139). Negotiated agreements tend to be more explicit and *quid pro quo* than reciprocal exchanges, and often are part of an economic transaction. In addition, the duties and obligations exchanged are fairly detailed and understood. Generally, reciprocity produces relationships that are better suited to romantic relationships by allowing for individuals to be more trusting of and committed to one another (141)

For this chapter, I explore adolescent young women’s motivations to engage in transactional sexual relationships and subsequently whether their actions evolve from reciprocal expectations and/or negotiated arrangements. I draw from a developmental model of romantic relationships (137) that holds that exchange serves as a fulcrum around which romantic relationships are organised and considers the role of the community and family (but on the basis of young women’s reports) on young women’s behaviours. Across adolescence maturation and development further transform social exchange through changes in the nature of the relationship and resources available and by age-related alterations in social norms and expectations.

8.3 Methods

A detailed description of the qualitative study methods used for this thesis, including a description of the instruments used, the sampling strategy, the ethical issues and the analysis plan was given in Chapter 4 (section 4.6). Outlined below is a brief description of the sample and study details that are particularly relevant for this chapter.

8.3.1 Sample

This qualitative study used a combination of five focus group discussions (FGDs) and 19 in-depth interviews (IDIs). FGDs were used to raise and explore relevant topics, which assisted in determining the structure and focus of the IDIs. Themes which emerged in the FGDs were then probed further and deeper in the IDIs.

As a reminder, sampling for the study was restricted to young women aged 18 years and above, in the baseline control arm (young women who did not receive the cash intervention). Also, based on feedback from the ethics committee, I did not use any criteria related to young women's sexual behaviour to inform the selection of participants for the FGDs, and I took care not to probe any aspect of participants' own personal sexual behaviour or relationship choices and motivations. FGD participants were young women who were selected from the main trial only using the socioeconomic status (SES) variable to ensure that each focus group includes girls from a similar economic background.

For the IDIs, I was allowed to select young women who had reported being sexually active and had responded positively to the question on transactional sex (*"Did you feel like you had to have sex to get gifts or money from your partner?"*) in the baseline survey. Ten of the 19 young women recruited for the IDIs had said "yes" to this question. The remaining nine were young

women who participated in the FGDs and (based on their responses) were invited to participate in the IDIs. I use integrated results from both the FGDs and IDIs to describe my findings below.

8.4 Findings

During the coding process, three dominant themes appeared that provide insights into the nature of young women's sexual relationship and their engagement in transactional sex. Section 8.4.1 describes young women's reported aspirations and goals which arose as a predominant feature in most young women's narratives. I have presented this as the introductory theme in order to contextualise findings; section 8.4.2 describes transactional sex within the context of their relationships and section 8.4.3 is organised into sub-themes which capture specific characteristics of these relationships; and young women's expressed agency in their sexual encounters.

8.4.1 Negotiating aspirations and expectations in rural Agincourt

From the narratives, it appears that young women have high aspirations and hope to achieve them through education. Both in the FGDs and IDIs, participants spoke of the strong connection between education and future success and achievement. Discussions ranged from the importance of attending school, completing their studies to learning in order to fulfil their life goals and aspirations. The majority (three quarters) of young women in the IDIs said that they wanted to have secure and lucrative jobs and expressed a deep seated need to feel economically independent, which they hoped to achieve through education.

There was also widespread acknowledgement (particularly in the FGDs) that education could potentially deter 'those' (other) young women from engaging in sex for material goods and would in turn contribute towards a successful future. This would in turn decrease their reliance on an older man or on sex as a resource to get items.

P4: But some don't accept it [not receiving financial support from family or friend], they make sure that they get it and you find that a girl involves herself with older men and sleeps with them so she can get what she wants.

P2: Some become sex workers and then get money so they can buy what they want.

P4: When parents and uncles failed to give you what you asked you end up think of sleeping with men and think that maybe they will give you what you want.

FGD2, high SES

There appeared to be general recognition among young women of the value of education and schooling, as opening up doors to a 'better future' with a secure job, more financial independence and autonomy.

P2: Sometimes it [engaging in sex for money or gifts] is caused by lack of education and now education is the key to success and you know that when you are educated you can do everything for yourself, but if you are uneducated.... an educated and uneducated people's minds are different. Let's take my sister here is educated and I am not. She will tell herself that "I am educated and I will do anything for myself" and then I don't think like her. Maybe I think of selling my body (sex worker) so I can help myself when I am not educated.

FGD3, low SES

Thus, many young women appeared to understand academic achievement to be a keystone accomplishment leading to long-term security through employment.

P: I will give an example. If you are not educated you can find yourself doing bad things like stealing, selling the body to be able to get what I want. If I'm not educated and when I want clothes and you find that I'm too old and parents are no longer taking care of me, at the end I will try to sell my body (sex worker), but if I'm educated I will be having everything because I will be having my own money.

IDI 10, aged 20y

Employment and the need to feel independent seemed to recur across most young women's narratives. A few young women also indicated that economic independence and financial

success would change the power imbalance within their romantic relationships and would provide them with choices.

P4: I want to learn and pass. And further my studies so we can be successful, and have our own families where we cannot ask [for] other people's belongings and buy what we want.

P1: We want a good future and not ask (borrow) from anyone because when you do something for yourself it means you want to be successful in future. So if you don't have money or you are unemployed you will not reach your goals.

FGD1, high SES

P: [My aspiration] is to be educated...to pass grade 12 and I wish to get the better results then I further it until to the University level. After that I get a job and according to my wish I wanted to be a lawyer or social worker... They are earning enough money in a week so that I can be able to improve my household. When I look at my household I understand that we are better, but I'm not satisfied with this household.

IDI 10, aged 20y

A couple of young women expressed a desire to have a better life than their parents, as illustrated by this quote *"I want to work for them, build a house and further my studies while working because are the things my parents didn't succeed on"* (IDI 5, YW 20 y). Some young women mentioned that even if parents were unable to support them they would *"read my books so that I can get Bachelor [degree] so that I can get a bursaries"* IDI 14, YW 19y. A theme that resonated throughout was self-reliance and independence (i.e. maintaining a sense of dignity), having access to their own money and having choices, which includes making their own spending decisions. In addition, despite economic opportunities being circumscribed in the area, young women had their hope and ambitions pinned on escaping their current cycle of poverty. Young women also indicated their intention to increase their share of disposable income and contribute towards savings for the future, such as this young woman below:

P4: We want good jobs not to wash people's clothes. If you wash people's clothes you will not get enough money because they will give you R500 (£27.50) and R500 is a little amount. But if you have a good job you will count R500 as nothing because you will earn enough money and also be able to save it in the Bank. FGD 1, low SES

The type of jobs young women aspired to range from status-enhancing, well-remunerated positions such as a TV presenter, chartered accountant, pilot, electrical engineers to jobs, to jobs considered to be respected and established such as office-based jobs to jobs which were socially-oriented and focused on giving back to the community, such as social worker, paramedic, traffic cop or a police woman. When probed further on the desire to be a traffic cop or police woman, one young woman mentioned the gravitas associated with wearing the uniform hence boosting self-esteem which in turn would give her the perceived confidence to end the relationship with her unreliable boyfriend, if he continued not treating her correctly.

P: I want to be a traffic cop...And when I am wearing a uniform with boots, you can see that I am tall [feel important]. I think that the uniform will suit me. Or a police woman. I think that the uniform will suit me, so I can arrest criminals that abuse us during the night. Like today I saw one of the traffic cops looking young, wearing sunglasses, the uniform with boots and t-shirt inside the pant And wish one day it will be me wearing that.

I: What about relationship, will you continue to live with your boyfriend?

P: No I will dump him; I want a serious husband who will marry me.

IDI 17, aged 20y

Alongside employment aspirations, young women also maintained high aspirations for their relationships and retained dreams of marriage and motherhood; 13 of the 19 young women said that they would like to get married and have children. Although most of them said they want this only after finishing their education and feeling secure in a job, making statements such as “I want to be educated so that I can able to take care of my family” IDI 16, age 20y. At least five young

women referred to having a more luxurious life (referring to living in better quality houses where the roof is constructed with zinc or with tiles (as opposed to cheaper quality cement roofs) or having more expensive clothes and eating more expensive food.

Not all young women felt that marriage would improve their lives. Rather they felt that along with marriage came familial responsibilities and they thus preferred being independent: *“Some don’t want marriage, they just want to work and have their own money”* FGD2, high SES or this young woman who said: *“I want to have a beautiful family and we want to stay with our children only not his parents. Haa... some of the parents like to control.”* IDI 12, age 20y. Four young women envisioned a partner who would be supportive of their (young women’s) career and also have his own independent life. These narratives suggest that even if young women have relationships to support them in their current situation, they aspire for a future that holds promise both in terms of better relationships and jobs.

P: [My aspiration is] is to work and able to support my family. I want to continue further my education [until tertiary level] until I get a job and be able to help my family. [I want to become] a paramedic. [And a relationship with someone] who is educated and the one who will help me continue with my education until I get a job.

IDI 18, age 20 y

8.4.2 Reciprocal or negotiated arrangements in adolescent sexual relationships

The term "exchange" implies giving something in return for something received previously or simultaneously, or in anticipation of something to be received in the future. By specifying that something is given in return for something else, reciprocity is made the key element of exchange (133). Formal obligations are generally not necessary for an exchange to occur. Nevertheless, an informal obligation might be felt and a psychological debt incurred when a still-unreciprocated gift is received. As Mauss (1966) proposed if an obligation is not felt then the gift is not

considered to be part of an exchange; reciprocity and gift exchange are both required to build relationships (135,136).

Building on these notions of social exchange theory around reciprocity and negotiation described in Chapter 3, in terms of expectations from both parties of whether money or gifts are exchanged for sex, almost all of young women in the IDIs (n=15) said that there was no explicit agreement upfront about receiving money or gifts from their boyfriends. Feelings of love appeared to primarily motivate sexual relations and any exchange that occurred between the young women and partners was for love, as stated by this young woman:

I: What are the main reasons that you are with him?

P: It is because of love

I: Is there anything else besides love?

P: Nothing more it's all about love.

IDI 4, aged 18y

However, despite being clear that it is love (not money or gifts) that motivated young women to have relationships, there did seem to be an implicit expectation that it is the man's responsibility to provide for them.

P: No...he doesn't expect anything because he knows that we love each other and we can meet anytime.

I: Ok, what about you? If you agree to have sex with someone are there things that you expect in return?

P: No... I don't expect anything. Every time he always gives me money.

I: That is why you said you were not expecting anything?

P: Hmm...

IDI 3, aged 19y

Furthermore, this expectation was clearly gendered, with no intimation that men could also expect gifts from their girlfriends. Thus, along with the expectation that men have to fulfil the

provider role, young women appeared to have a perceived sense of entitlement related to receiving gifts or money.

P: Aaa, I won't leave him [if he didn't buy items that she needs or wants]. Like it can happen that I ask for something from him and he tells me that he doesn't have money at that time but he will buy it for me the time he will get money. I can accept and keep reminding him. He will later give me money to buy it.

IDI 19, aged 20y

In addition, a couple of young women were clear that there was a clear reciprocal expectation of receiving money from their boyfriend if they had sex with him illustrated by this young women:

P [if I agree to have sex with someone] I expect money.

I: Hmm... Ok, what will you do if he didn't give you that money?

P: I will not come back.

IDI 9, aged 19y

Some young women appear to feel ambiguous towards money received, especially if their boyfriends' current economic circumstances were difficult and were willing to wait for the future when a boyfriend did make money. An example is this young woman in IDI 8 (*age 20y*), who appeared to be happy that there was mutual love which would take her through times when he was unable to provide for her.

P: There are times where he said he don't have money and will buy it for me if he has money. I accept it because as human being I know that there are times where he doesn't have money.

I: Don't you sometimes think of breaking up with him because he doesn't give you things?

P: I don't think of it.

IDI 8, aged 20y

Some other young women also esteemed gifts for their symbolic value and the feelings associated with giving and receiving the gift rather than economic value. This was especially appreciated when the gift was spontaneous and unexpected, rather than stemming from a place of obligation:

P: I feel happy [after receiving these gifts] because sometimes you find that I was not expecting it he just surprises me.

I: Do you feel like you can have sex with him to receive money or gifts?

P: No...Sometimes he used to buy it for me; we didn't agree that he will buy gifts for me then I sleep with him.

IDI 12, aged 17y

Another young woman was keen to stress didn't want to give the impression that she was with him for his money, as "he will think that I don't love him. And I only want things from him". *IDI 19, aged 20y*. There was a mention of "feeling valued" in the initial stages of relationship by a young woman when she received gifts from her boyfriend. However, as the relationship progressed, he discontinued buying her things, which she attributed to familiarity and her boyfriend not feeling the need to prove himself to her anymore.

P: Since I stay with him he doesn't buy me gifts.

I: Ok, but before you stayed with him, was he buying you gifts?

P: Yes, he bought me some gifts.

I: Why do you think there are changes of how he was doing in the past and now?

P: I think it is because I was not staying with him in the past and now I stay with him.

IDI 19, 18 years

Or this quote from another young woman that illustrates how transactions are so completely embedded in adolescent relationships that they are not even visible anymore.

I: If you agree to have sex with someone are there things that you expect in return?

P: I'm not expecting anything as long as he remembers me when he has money

IDI 15, aged 20y

In addition, money is used to acquire social status, with both sexes benefiting from female partners' improved social standing. Young women appear to use the money received to buy items, such as clothes, shoes, underwear, cosmetics and body lotions which in turn brought both them and their boyfriends' admiration from their peers.

8.4.2a Transactional sex occupies a subtle position within the continuum of relationship interdependence and resource exchange

As described in the section above, most young women were in relationships they report as being primarily motivated by love. Providing money, gifts or favours to girlfriends was important in courtship and particularly valued when the young woman desired items such as cosmetics, expensive shoes, expensive cell phones or when resources at home were limited. The gifts that young women received ranged from earrings, jewellery, perfumes, flowers to gift cards from big department stores. Apart from the monetary value, the act of receiving a gift was seen as being symbolic, and reflected the young woman's perceived value or self-worth. Particularly when young women perceived there not to be an expectation of sex from the men from whom they received the gifts. The gifts also made them feel like they would be better accepted by their peers and were considered to enhance and promote their status and self-esteem.

I: In what way are these gifts that you receive important to you?

P: Is important because I am able to bathe and be neat and also help my mom not to buy anything for me. I feel happy a lot.

I: Do you feel you had to have sex with him for the gifts he gives you?

P: No.

IDI 13, aged 20y

Ten of the 19 young women participating in the in-depth interviews were purposively sampled for the IDIs as they had said yes to the question on transactional sex in the baseline survey. However, when probed further in the in-depth interviews and when asked the transactional sex question (*i.e. did you feel like you had to have sex to receive these items from < partner type>?*) all of them responded negatively. I have created table 8.1 below to tabulate this discrepancy:

Table 8.1: Discrepancy between baseline survey and in-depth interviews

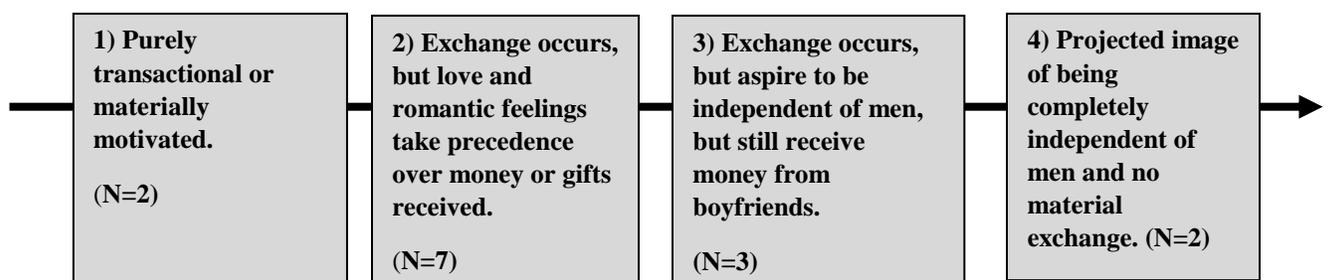
IDI	Yes to transactional sex in baseline survey	Yes to transactional sex in IDIs	Currently have one or more partners
1	Yes	No	Yes
2	Yes	No	Yes
3	Yes	No	Yes
4	No	No	Yes
5	Yes	No	Yes
6	No	No	Yes
7	No	No	No
8	No	No	Yes
9	Yes	No	Yes
10	Yes	No	Yes
11	No	No	Yes
12	No	No	Yes
13	Yes	No	Yes
14	Yes	No	No
15	Yes	No	No
16	Yes	No	No
17	No	No	Yes
18	No	No	No
19	No	No	Yes

Based on table 8.1 above, 14 of the 19 women interviewed reported that they currently had one or more boyfriends. Of these 14 young women, 7 had said yes to the question on transactional sex in the baseline survey, but these men occupied different positions in their lives. For three of these young women, obtaining and keeping boyfriends was a primary pursuit. For others, there was a deep-seated need to be educated, further their education and be independent by having access to their own money, which would then give them control over their wants and desires. This group of young women were less dependent on romantic or sexual relationships.

The three remaining young women who had said yes to engaging in transactional sex in the baseline survey were not in relationships at the time of the interview. In fact, they were keen to maintain their independence to complete their education and not get distracted with boyfriends.

Thus, an important theme that emerges from this discrepancy between the baseline survey and IDI responses is that young women’s conceptualisation of ‘sex in exchange for money and gifts’ seems inconsistent. Their interdependence on their boyfriends or partners and their rationale for engaging in an exchange-like relationship appear to be varied in terms of the value attached to it by participants. These characteristics of exchanges ranged from purely transactional or personal gain focussed to interdependence in the relationship (which is organised around mutual benefits and love or romantic feelings) to complete independence from men. These can be considered to act along a continuum, with each of the characteristics below coming from different examples that were described in the in-depth interviews (see figure 8.1 below). Presented below are specific examples pertaining to each grouping or category, which illustrate three quarters (n=14/19) of the young women interviewed who had boyfriends.

Figure 8.1: Interdependence in young women’s relationships along a continuum 1



The first category is for young women who are in purely transactional or materially motivated relationships. An example is of a young woman, aged 21 years (IDI 6), who mentioned having four boyfriends, but is only in love with the father of her child. Apart from the father of her child, the other three boyfriends were concurrently providing money/gifts to her. She seems blunt about

the material motivation for the relationship, noting that if the gifts stopped: *"I won't continue to date him [current boyfriend] and will date others."* It is clear that she would leave them all if they failed to provide her with items or give her money. Her boyfriends are not older men, but rather her same-age peers. She states she *"will be angry and will date others"* if they don't provide her with things; but when asked explicitly whether her boyfriend expects sex in return for the gifts, she says no. She considers herself to be a morally upright person and the more powerful partner in her relationships, noting, *"I would dump my boyfriend, if he didn't give me what I wanted"*. She aspires to become a social worker and get married in the future. She does not appear to have any misgivings or moral dilemmas about her arrangement with these men. She appears to view gifts or provision of money as an entitlement. Only two young women fell into this grouping from all my in-depth interviews, as most young women were reticent about the materialistic motivation behind their relationship.

The second category is young women who appear ambivalent about the money received from their sexual partners— giving more importance to love and romantic feelings – despite being in difficult economic and financial situations. An example of this is a young woman aged 20 years (IDI 18) who reported having to borrow stationery and books for school from her friends but felt ashamed about it. Consequently, boyfriends are a source of money for her, but she is clear that her sexual relationship with him is not contingent on receiving money. She equates sex with her partner with love when she says *"I'm not ready to be paid because we never agreed upon money we just loved each other"*, but it appears that she is also in the relationships for items with statements like *"He was able to buy for me items like hair extensions. When I wanted it, he was able to give me money to buy it"*. In turn, this reinforces the inherent tussle she faces about the transactional element of her relationships (i.e. feelings of love versus economic exchange) illustrated by *"It [money] was not important to me but I was running short of it. I just wanted*

him to help but it was not important". However she also expects fidelity from a relationship and wants a person who will understand and support her and who she could rely on. Currently, she has opted to not have a boyfriend, as she is keen to concentrate on her studies, which she intends to finish and become a paramedic, as financial security in the future is very important for her. A large proportion of young women (n=7) fell into this second category where love and romantic feelings take precedence over the money or gifts received.

The third category includes young women – like participant 17 – who aspire to be independent of men, but need them for material support. This young woman (aged 20 y (IDI 17)) is from a poor family where her parents are separated; she has three siblings and her mother is the sole earning member of the family. Being the eldest child, she is expected to take on domestic responsibilities, in addition to going to school (*"It's hard because I wake up and bathe the youngest child in the morning and go to school late"*). While she has accepted her situation, it is not easy as she juggles multiple responsibilities, which in turn affects her studies and performance at school. Her mother gives her money to buy items such as school uniforms and school books. She appears to be fashion and status conscious and is aware of all the latest trends that are popular with her peers (*"..because I want to look the same with friends"*), thus social acceptability is very important to her, as is having extra money. For her, having a boyfriend is a matter of status as indicated by statements such as, *"It's because I like things... [I: we laughed] it's a status."* She demands and accepts gifts from boyfriends, but these are specific items such as airtime (and not clothes) which are easier to hide from her mother when she gets questioned about the source of the gift. She expects absolute fidelity in her relationships and is empowered enough to break up with boyfriends if they do not treat her well (*"He's the second one. I dumped the first one because he misbehaved. He was having lots of girlfriends and then I decided to dump him before he infects me with diseases because I am still young"*). She was clear that she is not serious about her

present boyfriend and has no intention to get married to him. In terms of work, she aspires to become a policewoman particularly because the aura that surrounds this position seems attractive to her (*"wearing a uniform as she feels it will suit her"*). Marriage and having a family are also part of her future plan. Also, the young woman expects to have her wants met by the father of her child and says that she would leave him if he did not provide for her. However, she is not ready to admit that she is actually in a relationship that is exchange-oriented or transactional in nature, even though implicitly she is being provided for by her boyfriend. Around a fifth (n=3) of young women fell into this category.

The fourth category includes young women who appear to be completely independent of men with no reliance on exchange. For example this young woman aged 21 years (IDI 2) projects an image of being completely independent of men and seems highly status conscious making statements such as *"I will be 'the' person among the people and when people see me coming from there they will turn their heads and look at me"*. The young woman's boyfriend provides her with money; however she is clear that she is not dependent on him for resources and in fact, prefers to buy things with her own money and strives for equality in her relationships. Another example of a young woman projecting a similar image is the young woman, aged 20 years (IDI 14) aspiring for complete financial independence where she would return the money her boyfriend would send her for her to purchase things at school because she did not want to give him the impression that her motivation to be with him was financial and not love.

P: Some of the people they are expecting that [something in return], but I don't take money if the person gives me. Even if it's your boyfriend you don't take it. I was feeling like I'm demeaning myself, like I will always have sex with men so that they will give me money.
IDI 14, aged 20y

Overall, it seems like strong perceived social norms around material exchange for sex seem to taint gift-giving in relationships. Even if gift-giving or provision of money seems to occur as part

of dating and courtship, there are a group of young women who are challenging it (i.e. receiving money from boyfriends), for the same reason that there are some young women who are not challenging it: Many young women visualise an independent and autonomous self in the future. Some use relationships and sexual exchange as a means to achieve independence whereas others eschew it, as a threat to that very same independence.

8.4.2b Perceived family and community's role in young women's engagement in transactional sex

Young people experience profound changes through adolescence that shape behaviour in romantic relationships, thus individual development is transformed as intellectual advances improve interpersonal skills. In addition, adolescent romantic relationships are influenced by values and expectations of parents and peers as indicated in the developmental model of social exchange theory (137,148). A large proportion of studies mainly from developed countries have been conducted on how parents influence adolescent sexual behaviour (250,251). There is also a growing body of literature from sub-Saharan Africa on the role of parents in young people's behaviour (252,253).

In this study, when young women were probed on their family or parent's role in transactional sexual encounters, they were more forthcoming with their responses in the FGDs where there was general acknowledgement that parents did play a role in these sexual exchanges. However, there was almost no mention of parents and their role when young women were questioned individually. Excerpts from the FGDs indicate that there are varying degrees of complicity in parental involvement in young women's engagement in transactional sex; from the parent who turns a blind eye, to parents who are referred to as 'selling' their daughters. In particular, young women reported that some parents from low SES families appear to subconsciously be complicit

in their daughter's strategy for obtaining items, as long as it contributes to the household's economy.

P3: Some parents like it but when they see that their situation at home is bad and there is nothing she can do and then they shut their mouth because they also want to get food...

P4: Some parents like it because when her child come with plastic bags with food and know that they didn't send her to town...but they don't say anything they just leave her inside the house with those plastics and also have that food.

FGD 2, high SES

This is perceived to be the case in single parent households, households with female guardians or families headed by step-parents or guardians, where there is a likelihood of young women in the household being encouraged (either subliminally or openly) to engage in sex in exchange for money or items, in order to supplement money in the household or obtain certain items for the household.

P1: Find that she (parent) doesn't have anything so she wants it.

P5: Like female parents because they know that when you come back you will bring money and you will give her. And find that the household head he's against it and when you are gone he ask your mom where you are and she will say she doesn't know. And when you come back your dad shouts at you, your mom will be against it.

FGD3, low SES

P4: Yes, because some say go he will give you money. Like you find that my biological mother sells me to older man. So she can get money.

FGD5, low SES

As presented in the excerpt above, it appears that in the case of some lower SES families, young women mention that parents encourage them to engage in sexual relationships with older men as long as it contributes towards household needs. However, there are others who think this is an

excuse from young women who would rather resort to sexual exchange as a strategy to obtain items that are more consumer-oriented rather than wait to earn their own money to purchase items. According to some participants, all of these young women have choices, the ability to make decisions or disagree with their parents, so they are using parental pressure as an excuse for an act they actually are willing to engage in. In higher SES families, young women acknowledged that it was not about not having basic items, it was more a case of young women aspiring for more, hence supplementing items that their parents give them.

P4: Some you find that their parents give them money and find that that money it's not enough to buy what she want and then say it's better to add the money.

P2: Some you find she likes it and that is what she want not a pressure.

FGD4, high SES

There seemed to be an understanding that in such families there is a sense of “easy money” and that household circumstances contribute to being a “push” factor and young women use this as a mechanism to buy items for personal enhancement (not only basic items).

P1: They demean themselves, but they are demeaning because they want something and they don't get it that is why they engage themselves in sexual intercourse.

P3: I cannot blame them, it is because of their situation that force them to do it. You find that she need something but there is nowhere she can get it, she end up engaged in relationships so that she can get cosmetic, make-up and money and phone.

FGD4, high SES

Some FGD participants also mentioned that in certain households – particularly low SES households-- it was either the parent’s refusal to indulge them with items that they considered unnecessary; or their inability to afford items (i.e. desperate circumstances at home) which

subsequently leads to young women engaging in a relationship with an older man or a sugar daddy and putting themselves at risk for HIV infection.

P5: Yes you demean yourself like when you want something and your parent don't give you and then you decide that it's better to seek relationships with older men so they can help you... and then that old man will sleep with you and then when you go to him tomorrow you find that he don't care about you anymore.

P3: And then he doesn't care about you meanwhile he has infected you with HIV/AIDS. And then you will be sick where it will be impossible to go to him or sleep with others.
FGD3, low SES

In terms of community perceptions around sexual exchange, from the FGDs, it appears that the community had a negative perception of young women who seem to be engaged in transactional sex. These young women were the subject of gossip and judgemental statements like, “...find that your neighbours are not happy about your actions and then they talk about it everywhere and say that that mother is not good because her child go out and come back with things like groceries..”. FGD3, low SES. They were perceived to be prostituting themselves or engaged in sex work or social climbers and opportunistic, as they are in pursuit of a man in order to improve their status in the community.

P4: Say [...] sleeps with people so she can get money.

P3: And they talk about you because they saw you.

P4: Yes and they won't talk about something they didn't see.

P1: And when they look, they see that today you go out with this one and tomorrow is that one.

P4: And you find that you [young woman] don't want a pedestrian you want someone who has a car and today the Jetta parks and tomorrow is BMW, and then Condo. And a Pajero.

P1: A Pajero and then a Quantum, and they all see that and when they talk you think they are wrong meanwhile they see what you are doing
FGD1, low SES

Irrespective of whether the motivation to engage in transactional sex is for survival or materialistic reasons, there appears to be particularly negative comments when the young woman is perceived to be engaging in a relationship with an older man or has multiple partners.

P: To sleep with a man so they can provide something - it is demeaning in community because the person you will get and say I want to sleep with him, he's someone's husband... And he will never sleep with you in the room when he loves his wife -- the one who's in his house. He has to sleep with you on the street and when a person sleep with you on the street is not undermining?

I: It is.

P: And here in our community they say there are woman who welcome visitors. Who knows they say there are girls who welcome visitors.

IDI 2, age 21y

8.4.3 Young women's expressed agency in sexual encounters

Material exchange for sex does not merely provide a passive means for the attainment of desired ends, but is a conduit by which females may exercise 'agency' in initiating exchange (56). 'Agency' for the purpose of this analysis, is defined as "an individual's ability to make and enact considered choices in the pursuit of particular end. Although possessed by the individual, agency is structured by a person's socially shaped internality and constrained in expression by social and economic circumstances" (20: p350).

Agency in choice of (any) partner and negotiation of initial terms of the encounter

The activities of partner selection and managing multiple partners suggest potential agency among young women. Young women appear to use criteria such as looks, romance ("love"), status of the person and money (or ability to provide) as factors that determine partner choice. Money or gifts received seem to make young women feel more physically attractive and more confident (as they get items that contribute to their appearance), which results in feelings of improved self-esteem and status in the community and feeling accepted. In addition, they would

also have disposable income and spend it in whichever way they choose, such as to buy food, clothes, shoes, underwear and cosmetics or to pay for school fees and transport.

Sexual exchange could be viewed as allowing young women to express agency in a space where options for women are constrained (i.e. limited family resources or circumscribed employment opportunities) (101). The health literature tends to portray young women as passive victims who simply wait for men to propose and then acquiesce (50,61). However, evidence from this study suggests that young women approach sexual relationships based on their own desires (both sexual and material). In this study, young women appear to find partners based on set criteria (i.e., looks, money or status) that they have determined for themselves, which in turn has a positive impact on their well-being. The perception seems to be that the confidence of being in a relationship would likely open doors, as the money received would help pay for vocational or tertiary courses to provide them with skills and knowledge to get jobs that they aspire towards.

When asked about what they would do if men did not provide them with money or gifts, 5 of the 19 young women were negative about it. Their responses ranged from wanting to split up with their boyfriend with statements like *"I'd be angry with him and split up with him"* (IDI 6, 22y) or *"love him, but would break up with him"* (IDI 1, 19 y) to feeling annoyed, but love takes precedence, despite not receiving gifts illustrated by, *"I would argue with him, but it would not change anything in the relationship, as I love him"* (IDI 9, 22y), or *"would be worried and I would wonder why he isn't able to get me the items I want"* (IDI 12, 20y). They appear to feel like this because they most likely feel valued based on the gifts received. Yet, there appears to be an expectation that *eventually* men will provide young women with the items they desire. This clearly indicates that relationships where there is not an exchange of gifts are not held in high

regard and are in need of improvement – suggesting that there is expectation of gifts no matter what young women might say when asked.

I: What would you do if he didn't buy the items you need or want?

P: Aaa, I won't do anything. Like it can happen that I ask for something from him and he tells me that he doesn't have money at that time, but he will buy it for me the time he will get money. I can accept and keep reminding him. He will give me money to buy it.

IDI 19, 21 y

On the other hand, there were a few young women (like the example below) who were very clear that the expectation and receipt of gifts was part of courtship and love and that they were not dependent on their partners as a source of income. This derives from an understanding of sex as a valuable resource.

I: Ok. What would you do if he didn't buy you items you want, it might need or want?

P: As I've said...I don't depend on the boyfriend that he will give me the money. And I don't care about boyfriend's money and he also knows that I didn't fall in love with him because I am desperate. I have my own money and it's enough for me....I don't depend on him and is what makes people date sugar daddies because of money. That's why I tell myself that money is nothing. Is important to me but if you are after the money...you won't get it all the time and you will end up do bad things.

IDI 2, 21y

By contrast, some young women in the IDIs find sex without exchange to be demeaning and claim that they would still expect gifts even if they had sufficient money of their own.

I: Hmm... so what would you do if he didn't buy the items you need or want?

P: Hmm...I will be worried.

I: Would you stay with him and how would it change things for you?

P: Nothing will change... but I will be always worried because he didn't buy items that I want

IDI 12, 19 y

Furthermore, in almost all the FGDs, participants said that young women use their sexuality as a resource in order to get something they desire or need and are thus in control of their choices. The literature shows how exchange seems to be generally considered an acceptable way for young women to initiate sexual activity, as ultimately when it comes to desires, boys want sex and girls want items. (56,59). Young women know that men want sex from them and they are unable to accept their situation at home and also desire items, which their parents or guardians would not support, they end up using sex as a means to obtain items. There is awareness though that in such relationships (sex for money or sex for gifts) young women might be placed in a situation of limited choice and negotiating influence with regard to protected sex, as men who are providing them with these items are more likely to be in control of the situation. Hence young women might be made vulnerable to HIV, if the necessary precautions are not taken.

P1: Yes is correct because young women of nowadays if she wants something from the boy she think she cannot get it without having sex with that boy, even the boys they use to say I cannot do something for you we must first have sex.

P3: He will tell you that he cannot do this and this for you because he doesn't trust you so you must have sex with him, then he will do something that you want. If your situation is not good you will accept it. If situation at home is good she will wait for her parents until the right time then they will do it for her.

P2: It is not good because she will sleep with the person who is infected then she will get infected.

FGD 4, low SES

P5: Yes you demean yourself like when you want something and your parent don't give you and then you decide that it's better to seek relationships with older men so they can help youand then that old man will sleep with you and then when you go to him tomorrow you find that he don't care about you anymore meanwhile he has infected you with HIV/AIDS. And then you will be sick where it will be impossible to go to him or sleep with others.

FGD 3, low SES

In terms of control or power within the relationship, the general claim, especially in the FGDs (in particular with high SES participants) was that young women are in a position to choose their partners and determine whether they want to be with someone irrespective of their economic and family circumstances. Thus, technically they can negotiate the terms of the relationship. However, some other young women believe that men are the ones who exert control and tend to be emotionally exploitative, as they are financially better placed.

P3: You want to know who has power between a man and a woman.

I: Yes in their relationships.

P3: Oh! I will say is a man because a woman begs...

I: Mmm...how?

P3: Because you want money.

P5: I don't agree with P3. Women have power...Because she has a right to do what she wants in her own time. When I say I don't like you anymore, I don't and you won't force me.

P4: Even if you beat me or you don't but what's left I did tell you. FGD5, high SES

A few young women in the FGDs were of the opinion that sex for gifts or money makes them feel like they are in charge as no one else has made the decision for them (*"It's true if you have a relationship with someone he will want to sleep with you so he can do anything you want"* FGD 2, high SES). In addition, there is mutual benefit in the exchange i.e. the man's desire to get sex from the young woman, will make him provide whatever she wants or need as items to make her happy. In one FGD, there was a reference made to certain men who are opportunistic and are around as long as they need emotional support, but desert these young women as soon as they (men) make money.

I: So does it happen that he dumps you when he gets the money and lives like a person who has money now?

P4: It happens because when he has money he become too excited.

P1: But some even if he get the money he will remember that you loved him the time he didn't have money and then by so doing he will never leave you....but they are rare.

I: So when he leaves you when he has money, how do you feel?

P1: No I will never allow him to come to me because I will be educated by the time. So I won't have a problem with him on that time because you will find that I will be educated and then I will get someone. Even if he comes back I won't take him back.

FGD3, low SES

This theme about young women being in control when sex was exchanged for money was expressed less emphatically in the IDIs, possibly due to social desirability reasons or a perceived sense of freedom when one has to speak hypothetically about an issue⁵⁴ or it could be that they are sharing a socially acceptable narrative rather than what really happens⁵⁵. In the IDIs, young women appeared more reluctant to openly admit that sex in exchange for money or gifts is a conduit by which young women can express their sexuality and feel like they are in control. In almost all the IDIs, the young women understood the question (“*Some people say that young women are taking control of their lives by using sex to get what they want – what do you think?*”) to imply sex with sugar daddies or older men and immediately responded by saying that they felt that it was demeaning. Even when this was clarified that it could also be a same age boyfriend, most of the young women still continued to have the opinion that the concept of transactional sex is demeaning to them.

I: Ok, some people say that young women are taking control of their lives by using sex to get what they want; others say that it's demeaning. What do you think?

P: They are demeaning themselves because some of the girls they go to their boyfriends aiming that they will get money...We are from different families so some of them they don't have it.

IDI 3, aged 20y

⁵⁴ In the FGDs young women were asked to respond to questions generally (not relating it back to personal anecdotes). Whereas in the IDIs, young women were asked questions related to their personal situations.

⁵⁵ Reminder that 9 of the young women from the FGDs were invited for the IDIs

However, the young woman in IDI 4 claims that within relationships, if there is love, money should not be an expectation. But, if there is an agreement that the young woman has had with her boyfriend about being provided for, then it's more acceptable, implying an expectation of money or gifts in the future illustrated by this quote below:

I: If someone has sex because she wanted to get paid. So what do you think?

P: I think it is not good but if you have an agreement with that person it will be fine. If you love each other, it is not good if you want to be paid...he will surprise you someday...not asking him about money because you are in love...money is just additional in a relationship.

IDI 4, aged 18y

Despite receiving support from their boyfriends, some young women were able to take the initiative and end the relationship with their boyfriends if they felt mistreated; *"He was bullying me. And I don't like that kind of a person because even I can bully him"* or they find that he's cheating on her with other young women. This was despite the fact that their boyfriends were supporting and providing for them financially.

I: Ok. If a boy can't give you what you want, what do you do?

P: I shout at him.

I: You shout at him... [I: we laughed]?

P: It means he gives someone else.

IDI 17, aged 20y

I: Why did you break up with the father of your child?

P: He likes girls more.

I: Oh, he has many girlfriends?

P: Mmm...

IDI 7 aged 21 y

Some young women also mentioned that they would discontinue their relationship with their boyfriend if they were not to receive gifts. Particularly when an expectation of receiving gifts was already in place and he discontinues providing her with gifts, as shown in the excerpt below:

I: What would you do if he didn't buy you the items you need or want?

P: I will be angry.

I: You will be angry?

P: Mmm...

I: Will you continue to be with him?

P: No. I will date others.

I: How would it change things for you if he doesn't buy you these things?

P: Why at first he was doing it and now don't.

IDI 6, age 22 y

Whilst young women appear to have considerable agency at the point of choosing partners, once the choice is made, their negotiating or bargaining power within the relationship appears to weaken in some aspects. This is particularly so when it comes to negotiating condom use and partner infidelity, hence potentially putting themselves at risk for HIV⁵⁶. Young women appear to be nervous about their first sexual experience and are not always good at negotiating condom use or discussing HIV status. For example, the young woman in the excerpt below said she was fearful of her first sexual encounter with her boyfriend and was inexperienced to ask her boyfriend about his HIV status or to request him to use a condom. However, even if young women are not directly expressing agency, there is some sense of proxy agency being expressed in the example above where the young woman probes her boyfriend's friends to get an understanding of whether he is a good person and trustworthy.

I: Ok, what was it like on your first day after sex?

P: It was painful. I was scared, because he asked me in the morning if I will like to bathe I was scared... I was even scared to eat food.

I: Did you go to the family planning before you have sex with him?

P: Yes I did... I was using injection (contraceptive). He did not tell me about his status, and before I go to him I asked his friend what kind of a person he is... I got his information first from his friends. I asked [them] about his behaviour, they said he is

⁵⁶ Important to mention that the topic of coercion or rape was discussed in the context of whether young women had experienced anything negative in their relationships and some young women in the FGDs did mention situations where young women are forced into relationship by men especially if they are older. This was mentioned less in the in-depth interviews.

a good person...I also asked who lives with him in his family...they said he lives with his parents and siblings.

I: Did you plan with him to go to the family planning or you have just thought for yourself.

P: I didn't tell him, but he told me that he heard that I'd been for family planning, when I asked him how he had heard he got angry and asked me to leave.

I: Ok, did he know your status?

P: He didn't know.

I: So you were not afraid of HIV?

P: I did trust him, but after we did it I was scared.

I: But did you asked him about his status?

P: No...

I: Did he ask you about your status?

P: No...

IDI 3, aged 20y

For some young women, non-condom use in the relationship could be due to their restricted ability to request condoms during sexual acts. Thus, the room for negotiation related to condom use or HIV testing can be difficult or it appears that young women have to bargain to practice safe sex. For the most part they (young women) seem too willing to please their boyfriend, hence compromising their own wishes (to use condoms) or are concerned that they would need to return gifts if they request condoms during sex.

I: Does it change your sexual behaviour with him like don't use a condom?

P: No, sometimes we do use condoms and sometimes not.

I: Mmm...but it is because he gives you gifts when you don't use a condom or is something else?

P: No is just that I feel happy when I see the gifts or maybe say we don't have to use a condom and maybe at the end I win and use a condom.

IDI 1, aged 19y

I: Currently, are you using a condom with your boyfriend?

P: No, it never happens.

I: Is there any other risky sexual behaviour as he's giving you money or gifts?

P: Yes.

I: Like what?

P: When he buys you a cell phone he wants it back.

IDI 6, aged 22y

Also, according to some young women, there seems to be a perception among males that if the young woman insists on condom use, she is HIV infected. Thus, making it difficult for the young woman to express her wishes or “needs” at the risk of him thinking she is untrustworthy.

I: Did you protect yourself when you started to make sex?

P: Yes, we were using a choice (condom) and when time goes by, he refuses to use condoms.

I: Mmm...when did you fall pregnant?

P: I was 15 years old, at first we used a choice (condom) and he told me that it means I am taking him as he's sick and then we went for blood test and then told us that we are not sick and then we decided to stop using condoms.....Then I fall pregnant.

IDI 1, aged 19y

However, some young women reported that they would stand their ground and negotiate condom use because they realise the value of safe sex and are insistent about it.

I: Ok, if a boyfriend gives you money or gift, does that change your sexual behaviour with him?

P: No...

I: Like if you were using condoms with him you feel like you don't have to use it because he is giving you gifts?

P: No...

I: It doesn't change you?

P: No...

I: Why you say it didn't change you?

P: Because condom protects

IDI 9, aged 22y

The lack of trust in their partner's fidelity was acknowledged to be a barrier to a healthy relationship. Young women appear to not be ignorant of their partner's infidelity and refuse to

tolerate it, especially if there was lying involved. But on the other hand there are some who generally are reluctant and fearful to end the relationship.

P4: You can love someone but there is no trust anymore. There is no trust anymore because you can tell yourself that I trust him...And you don't know what he's doing wherever he is and even if you call telling each other that you loves one another but you don't know what he's doing where he is now. And you can go together to do blood test, but if you are in distance you cannot trust him. It's hard to trust hi

FGD 1, low SES

Another potential issue that could deter some young women from feeling confident about their choices is the perceived tussle in their minds between the motivation behind the relationship they are engaged in (sexual exchange for material support) and formal prostitution or sex work. Some of these young women equate sleeping with sugar daddies or engaging in sex for money or gifts as sex work. These young women constantly need to reassure themselves that they are not engaged in sex work despite their motivations and transactional nature of their exchange.

P2: Like those who sell their bodies (sex workers) on the street.

P1: It's true because a parent can buy you what you want but there are things that she's unable to do. And then said its better I do this and that so I can buy what I want.

FGD 3, low SES

"I will be happy if my boyfriend gives me money or gifts and will expect him to provide for me later, if he can't now"

IDI 8, age 20 y

Some young women also alluded to feeling pressured to engage in sex (wherein he threatens to leave her if she doesn't sleep with him) despite the fact that she loves him and is being provided for.

P2: Some don't demean themselves because you find that she's forced like when you are in a relationship with someone he will say I will leave because you don't want to sleep with me and it means you don't love me. Meanwhile love is not about sex. Is just love and understand each other only.

FGD 2, high SES

Overall, young women appear to express agency when initiating a relationship both in terms of the choice of partner and criteria they use to select partners. Non-condom use is a risk factor for HIV in any sexual encounter, irrespective of whether it is considered a transactional sexual encounter. However, what appears to make transactional sex risky is that it places young women in a place of limited choice and agency (with regard to protected sex) hence making her vulnerable to HIV.

8.5 Discussion

This qualitative study adds to the growing body of research around transactional sexual relationships among young adolescent women in rural South Africa and has attempted to provide some insights into how sexual relationships are negotiated among a specific group of school-going adolescents. Specifically, using a developmental model of social exchange theory which is suited to adolescent romantic relationships, I attempt to elucidate the complexities of transactional sexual relationships among young adolescent women.

The evidence from focus group discussions and in-depth interviews conducted in rural Mpumalanga province, South Africa suggests that in contrast to the quantitative survey findings, material exchange for sex was quite common among young women in non-marital relationships. There are three main findings which emerge from this research.

First, young women have a deep-seated desire to feel economically independent from their families and partners. Similar to research on youth growing up in comparable resource-constrained settings, young women appear to have shaped their aspirations and goals in ways that account for the limited job opportunities present (254). The value they placed on education was shaped to some extent by the potential for financial independence. This is similar to some research in higher income settings, such as from the United Kingdom (UK) and Australia which

showed that adolescents in these settings are strategic in their approach towards education and view it as a keystone accomplishment leading to long term security through employment (255,256). The majority of young women aspire to get rewarding jobs and live a better life than their parents. Research in other resource-constrained settings among adolescents has shown that secondary schooling is also an educational stage when young people develop impressions about their own ability vis-a-vis their peers (257). It is also a time when they perceive their likely academic attainment and thus form tentative ideas about when they may make their exits from the educational system (254). Furthermore, even if the immediate opportunities are lacking or constrained, most look outside the area for work, and many come to realise that it is necessary to move to cities or towns in order to find work. Thus, education in this context appears to be seen as giving the chance for social mobility.

Furthermore, in this study there appeared to be recognition among young women that securing their own financial resources will ultimately improve their negotiation or bargaining position in their romantic or sexual relationships. This would open doors to a better future where young women have free reign in terms of financial independence. Therefore, education is the ticket to a better life. This aligns with research that is increasingly drawing attention to the complex ways in which structure and agency, personal and contextual factors all interact to influence the transition from childhood through adolescence to adulthood. Female adolescents in particular are socialised into relational (whether with peers, boyfriends or family) rather than an autonomous roles and this makes them vulnerable to the actions and behaviours of others (258). As adolescence is a vulnerable developmental stage, relationships have the potential to undermine confidence and self-esteem (219). Most young women also maintain high aspirations when it comes to marriage and starting a family, although this was preferred after they finished their education.

Second, the link between sex and receipt of money or gifts is nuanced and a normal part of courtship among adolescents. In this sample, young sexually active South African women appear to mostly partner with others of similar age; their motivations include acquiring social status, improving their self-esteem, finding suitable long-term partners and gaining sexual companionship. From a social exchange perspective, Foa identified status, love, service, goods, money and information as types of resources exchanged in romantic social exchanges (143). Thus, sex is an act of love for some adolescents, a status symbol for others, and an exchange of goods and services for a few (137). In addition, adolescent maturity and experience alter the resource value of sex and its significance is altered based on the specific source providing the resource. In-depth interviews demonstrate that exchange practices are driven by young women's need for economic resources; many are poor and appreciate an economic benefit gained from having sexual relationships. For some young women, it is more than need and the money received through sexual exchange that helps fulfil their materialist or consumerist desires, which is rooted within cultural and economic processes of globalisation (17). Lack of alternative sources of income also drives young women to engage in sex for money, as shown in data from Madagascar (12). Yet, such money transfers seem to take on a deeper meaning for most young women in this study. Young women interpret receipt of money from their partners as loving or romantic gestures and as an indication of how much she is valued by her partner. Thus, money exchange is an implicitly understood reciprocal obligation that both forms and sustains sexual relationships among young women; all such partnerships are characterised by male-to-female money transfers whether these partnerships be casual and short-lasting or more enduring.

The findings illustrate the complexity of transactional sex and the way it is positioned in the literature. This suggests that the term 'transactional sex' commonly used within the field of HIV is too blunt an instrument to be used to categorise different relationships, where money exchange takes place not always in the context of sex, and where even though money may be given, the

primary motivation for the relationship is love. The findings show that alongside being a resource, the provision of money or gifts has an important symbolic meaning, where money transfers, as gifts, indicate a young woman's value and shows the commitment of the man. A sudden absence of or a decline in the amount given may show her lack of worth to the man, and, in all likelihood, could be the end of the relationship. This finding lends support to similar research done in Malawi (70) and Uganda (69) where the sub-text of exchange that underlines sexual relationships is not overt and negotiations that take place were not explicit, as other research in both Zimbabwe (216) and Tanzania (57) suggests. Both in Zimbabwe and Tanzania, research shows that young women actively used their sexuality as an economic resource, and within the constraints of macro-social factors, they often willingly entered into relationships primarily for economic gain (57,216).

As Poulin's work in Malawi shows, if a young woman were not to receive money from her partner, she would consider it to be an insult and viewed to be ridiculous by her peers. This implies that the practice of money exchange between couples is inter-twined with socio-cultural expectations of transfers between kin (70) and also builds on work by Belk and Coon (1993), which explored gift-giving and exchange in the context of dating relationship among young people in the USA. Their findings point to how the social exchange model of gift giving views dating partners as quasi kin. As a result, gifts are expected to be valued for their symbolic worth rather than their economic worth and there is reciprocity that takes place where provision of the gift, makes the receiver secure, trusting of the partner and satisfied, resulting in an implicit bond formed between the parties.

Even if the social exchange model does not view dating partners as commodities, the gift-giving motivation is still considered egoistic rather than altruistic to the extent that there is a quid pro quo expectation between the giver and recipient (133). This data shows that young women do not

perceive an expectation of sex from the partner's side when gifts or money are provided. However, all of them do engage in sex when provided resources because it is their way of reciprocating their love and appreciation for their boyfriend, which sometimes stems out of a feeling of obligation, but not always. Nevertheless, they need to maintain a balance and not appear to be opportunistic and only driven by the promise of receiving gifts or money. This echoes the work of Nyanzi et al, among young adolescent school-going women in Uganda, where if young women appear to be too interested in money they may be stigmatised as 'loose'. On the other hand, if they are not interested in money at all they may be suspected of being infected and wanting to spread HIV (59).

As described earlier, interdependence is a characteristic feature of social exchange theory where increasing interaction between partners is key to maintaining the relationship (137). In this study, young women's interdependence on their boyfriends or partners and their rationale for engaging in an exchange-like relationship was varied in terms of the value attached to it by participants, thus ranging from purely transactional or personal gain focussed to interdependence in the relationship (which is organised around mutual benefits and love or romantic feelings) to complete independence from men. But, ultimately this shows that exchanges serve as points around which romantic relationships are organised. For most young women there is (an implicit) expectation of being provided for by their partners. As Luke et al (2012) showed in Kisumu, Kenya that the amount of transfers received by young women was significantly associated with having sex, with a higher frequency of sex, and with inconsistent condom use, even after controlling for measures of love and commitment. These findings support the hypothesis that (on average) money and gifts take on a transactional function within premarital relationships in the first month irrespective of the initial motivation (i.e. love or materialistic aspiration of the young woman). Ultimately, if young women view their partners as providers and are dependent on them for income (given limited opportunities otherwise) they run the risk of being in the weaker

position when it comes to bargaining for safer sexual behaviours. This has been illustrated in research by Barnett and Maticka-Tyndale (2011) that the constituent features of any particular exchange usually illustrates the actors' level of social power (56). When the form of the payment looks more like a gift, it reflects the sex-giver's weakness in their ability to use sexual exchange to reach desired ends. When the form of the payment looks more like entitlement, the sexual exchange dynamic is more reflective of agency on the part of the sex-giver. Across situations, however, the money-giver has higher social and economic status than the sex-giver. That power is nonetheless contested. Finally, it is important to keep in mind structural constraints shape the context in which these issues play out.

The findings illustrate that a range of factors influence young women's decisions to engage in sexual exchange. In particular, the motivations may be related to factors outside of the relationship, such as parents and peer influence. These findings are consistent with the developmental model of social exchange in adolescent relationships; peer influences (proximal factor) shaping norms and opportunities to initiate relationships, select partners and exchange resources (137) and family members (distal factor) – who are acting for personal gain and to perpetuate the gene pool – select prospective mates (for young women) who demonstrate reproductive fitness with displays of physical attractiveness, goods, money and status (137) influence exchange in adolescent relationships.

Third, following on from the previous section on reciprocal arrangements, gift giving and power, sexual exchange is one of the few aspects of youths' sexual behaviours that features female agency. This is because it could be viewed as a situation where young women are frequently positioned as actively seeking desired ends (56). A dominant discourse in many interviews indicates that adolescent young women have considerable decision-making control over the process of relationship formation and termination, something referred to as temporal agency

(159) and they use it to their advantage. They can and do choose which partners they want, and can and do choose to end partnerships; these decisions are of critical importance in determining what one does with one's sexual body, which has profound implications for risk of HIV infection. Girls usually assess the attributes of potential partners in some combined form: attractiveness, peer group behaviour and money are all considered when deciding whether to acquire a partner and with whom to partner. In addition, many young women choose not to engage in sexual relationships at all, frequently claiming being too young, or needing to finish school, as having a boyfriend would 'disturb their education'. In addition to direct agency, in situations where the young woman checks on her man's trustworthiness by validating it with his friends is an example of proxy or indirect agency. In this case the young woman is aware of potential risks, but is afraid of communicating this to her boyfriend hence had to check indirectly.

But, even though young women express agency in choice of partners, their agency appears weakened once they are in a relationship and rarely translates into decisions about STI and HIV risk reduction or pregnancy prevention. Once the choice is made, it is almost as though they have made decision to submit themselves to male authority. As relationships develop, bargaining power tends to increase for the male partner. Wamoyi et al in ethnographic research done in Tanzania show that more money or gifts were necessary to seduce a young woman into starting a sexual relationship than to have sex on subsequent occasions (57). In this study, young women complain that their boyfriends stopped giving gifts once they were co-habiting – something they attributed to familiarity and availability. Also, condom-use and HIV-testing are both inconsistent once the young woman is in a serious relationship. As 'trust' is built within relationships, condom use becomes irregular and this data shows that young women are aware of the consequences of not using condoms, but submit to their boyfriend's demands to not use condoms for fear of violence, of their boyfriend leaving them or of creating an impression that they themselves are HIV infected. This reflects findings from Macphail and Campbell's research on

South African youth and condom use, where trust in the partner is given as a dominant reason for not using condoms; however this trust is seldom based on a negative HIV test or discussion about sexual histories (91). In a way there is an expectation of agency once young women have achieved certain goals in life, through education and work. In the meantime their lack of agency places them at risk of HIV infection. Furthermore, from this data it appears that young women engage in potentially unsafe sexual practices in order to arrive at a position of safer sex in the future (i.e. some young women use relationships to provide them with the means to gain an independent future). Even though some young women challenge the notion that young women have relationships to obtain items, it appears that they have the same reasons for challenging it, as young women who do not challenge it (i.e. they all want to reach their longer term aspirations). In research among young females in two provincial communities in New Zealand, the authors note that women tend to favour achieving self-reliance through employment rather than relationships and traditional roles (258). Young women in this New Zealand study are caught in a transition towards this long term aim (of economic independence) and their current vulnerable position resulting in them making high risk choices to facilitate future independence. Thus, the authors suggest that while the present situation for these young women was a rich relational milieu, the future was a time for developing self-reliance. Their selves appeared to be segmented into a present that was relational and a future that was occupational (258).

Finally, in terms of the association between transactional sex and young women's vulnerability to HIV infection, the sample of young women chosen for my research study are part of the larger randomised controlled trial which includes HIV and HSV-2 education and counselling. As a result, most young women appear to have a high level of awareness related to HIV and HSV-2 infection. The findings suggest that young women's need to feel independent, successful and to fulfil her needs and wants, places her in a non-negotiable position vis-a-vis her partner, who by virtue of being the provider, is in a more dominant position in terms of bargaining power. The

IDIs indicate that young women seem to be in relationships where they are reliant on their partners for money and gifts. Despite having romantic notions of what they want from the relationship, underlying it all very clearly is the need to be looked after by the man, in the form of money. This makes the balance between the emotional and transactional elements in a relationship blurred. Adolescent relationships are normatively transactional and these young women do seem to genuinely love their partners. It is however that gifts and material exchange are an inherent component of relationships and demonstrations of young women's worth and the strength of their relationship.

Thus, given the transactional element of these relationships, the avenues for HIV are clear due to the potential for unprotected sex (without condoms) and networks of concurrent partnerships (both by young women and their partners) which in turn increases the pool of high risk individuals. Furthermore, young women's eagerness to please their partners puts them in a position where they might yield to anything and are then in a non-negotiable position because of reliance on their partners. Also, men's desirability as sexual partners seems to be closely related to their perceived affluence. Given the current distribution of HIV, it appears that the most 'desirable men' (based on wealth and status) might also be more likely to be infected, since they could afford to maintain more than one partner, to change them frequently, or come from urban areas (53). All these factors combined results in the young women being vulnerable to HIV infection.

In terms of limitations in this study, apart from limitations in data collection mentioned in Chapter 7, a significant limitation of this data is that I didn't interview men and the generalisability of results from qualitative data. The first is getting men's perspectives around gift giving, the expectations or obligations they might feel as 'providers', as well as their opinions on transactional sexual encounters, would have vastly enriched this data. The second is

that as sampling for my qualitative data was restricted to rural young women who were 18 years and above, sexually active and enrolled in school, this limits the generalisability of the data to other non-school going young women, under 18 year olds and young women who are not sexually active. Hence the applicability of my results have to be interpreted accordingly. Other general limitations have been detailed in Chapter 9.

8.6 Conclusion

In this chapter I have qualitatively explored young rural South African women's motivations for sexual exchange, the degree of agency they perceive and exhibit in these sexual exchanges and to some extent the perceived relationship with HIV infection. The findings show there is recognition among young women that securing their own financial resources will ultimately improve their negotiation or bargaining position in their romantic or sexual relationships, as well as open doors to a better future, where young women have financial independence. In addition, young women interpret receipt of money from their partners as loving or romantic gestures and as an indication of how much she is valued by her partner. Thus, money exchange is an implicitly understood reciprocal obligation that both forms and sustains sexual relationships among young women; all such partnerships are characterised by male-to-female money transfers whether these partnerships be casual and short-lasting or more enduring. Also, the term transactional sex and the way it is positioned in the literature might be too blunt an instrument for defining these relationships, where money exchange takes place not always in the context of sex. Furthermore, money has symbolic meaning, where money transfers, as gifts, indicate a young woman's value and shows the commitment of the man. Finally, due to the transactional nature of sexual relationships among adolescent young women, young women's risk for HIV is increased. This is due to the potential for unprotected sex without condoms (as the young woman is in a non-negotiable position especially related to condom use) and she is also exposing herself to a potential network of high risk individuals, thus making herself vulnerable to HIV infection.

CHAPTER 9: Discussion

9.1 Chapter Overview

Using a combination of quantitative and qualitative methods, I sought to meet the research aim which is to explore what factors are associated with young women's engagement in transactional sex, the underlying motivations for their engagement, and the degree to which sexually active adolescents who report engaging in transactional sex, or having particular patterns of consumption, are more likely to be infected with HIV or HSV-2, in the context of the HPTN 068 ("Swa Koteka") trial in rural South Africa. The four specific objectives of the thesis were as follows:

- Objective 1: To quantify whether at baseline, young women's household's socio-economic status (SES) and other socio-demographic characteristics are associated with their reported engagement in transactional sex and the relationship between transactional sex and consumption patterns.
- Objective 2: To explore qualitatively, young women's perceptions about what consumption items they consider 'necessary' (need) or desirable ('wants), the motivations for acquiring these different items, and the potential role of transactional sex in their acquisition.
- Objective 3: To quantify the association between young women's reported engagement in transactional sex and their HIV and HSV-2 status and whether the relationship is mediated by different aspects of sexual behaviour and/or relationship dynamics.

- Objective 4: To explore qualitatively young women's perceived motivations for engaging in transactional sex, the degree of agency they perceive and exhibit in these exchanges, and their perceptions on the relationship between transactional sex and risk of acquiring HIV.

In this final chapter of my thesis, I briefly summarise the main findings of my quantitative and qualitative findings, with specific reference to my research aim, as well as the specific research objectives. I discuss the major weakness and strengths of the research, the similarities and differences to other literature and consider the implications of the findings with regards to theory and public health practice, and make suggestions for future research.

9.2 Main findings of thesis

The results of each chapter and the analysis, as well as the chapter specific discussions, were presented in the specific results chapters (chapters 5 to 8). For this reason, below I have synthesised the findings by chapter as well as some that are across results chapters.

9.2a Household socio-economic status (SES) does not appear to be associated with young women's engagement in transactional sex; young women who report working for money appear more likely to be engaged in transactional sex (than young women who do not report working for money)

In the first part of quantitative objective 1 (chapter 5), I explored the relationships between household socio-economic status, household characteristics and young women's reported engagement in transactional sex and consumption patterns. The findings show that in the multivariate analysis, household socioeconomic status (SES) did not show any association with transactional sex, with little variation in reported engagement in transactional sex between the SES categories. Interestingly, there was a U-shaped relationship between the primary caregiver

educational level and transactional sex with young women whose primary caregiver had at least a primary education less likely to engage in transactional sex than those with no education. However, it appears that with a primary caregiver with a matric or tertiary education, the odds of young women engaging in transactional sex increase again. A possible explanation for this is that primary caregivers with some education are knowledgeable enough to prevent the young woman from engaging in transactional sex. However, with further education, it may be that the primary caregiver is working in the city or is preoccupied with other responsibilities, and so is not around enough to provide parental or caregiver oversight. This aligns with some literature from other parts of sub-Saharan Africa, that suggests that parents (or primary caregivers) play an important role in young people's sexual behaviours and that absent parents (potentially because they are employed elsewhere and are not present) can impact on young women's decision-making around sexual partnerships (217,259). This U-shaped type of relationship is similar to Jewkes' research in causes of intimate partner violence and female education, where the relation has an inverted U-shape, with protection at highest and lowest education levels. In this case, she argues that a possible reason for the inverted U-shape is that having some education enables women to challenge current norms, but this carries a risk unless the woman is sufficiently empowered through education (218).

Interestingly, young women who worked for cash – even if it was for domestic, low-paying jobs such as hairdressing or yard-cleaning – were more likely than those who did not work to report engaging in transactional sex. The direction of causality underlying this association is unclear. It may be that young women recognise the social importance of acquiring certain goods and items, to enable them to attain a certain look, which may help them achieve their efforts towards social mobility, and so they engage in transactional sex to acquire items, which in turn enable them to find employment. This aligns with research conducted with young women in a township in Cape

Town by Zembe et al who found similar results that young women who were employed were more likely to report engaging in transactional sex (16) Alternatively, young women could potentially be earning money to spend on items that enhance their physical appearance (such as make-up, hairdressing, etc.), in order to make themselves more attractive to get the attention of men with whom they can have receive or expect material gain.

9.2b Young women who report engaging in transactional sex seem more likely to consume items for entertainment in combination with items considered essential and expensive (i.e. school fees, transport to school and food and groceries)

In the second part of the quantitative analysis (chapter 5), I explored the relationship between transactional sex and young women's consumption patterns. I used factor analysis to group the list of items⁵⁷ young women report consuming, and then, using the findings from my qualitative research, created mutually exclusive categories to describe the resulting patterns of consumption. The three resulting groups were: low cost luxury items (used as a reference group for this analysis), high cost essentials (with some low cost luxuries) and entertainment related and birth control group only.

The multivariate analysis showed evidence (despite weak statistical association) that poor women who engage in transactional sex have higher odds of consuming entertainment related items, such as beer and alcohol, movie and music concert tickets and birth control/condoms compared to young women who do not engage in transactional sex. The findings provide some evidence of an association between consumption, lifestyle and culture. There is an association between young women who engage in transactional sex and their purchase of certain types of essential items that

⁵⁷Scented soap, skin creams or lotions; cell phone, airtime or ringtones; shoes, clothing or underwear; make-up or cosmetics; hairdressing; cool drinks, chips or sweets; food/groceries; movies or music; beer or other alcoholic drinks; birth control and/or condoms; school uniform or supplies; transport to work or school.

are considered slightly more expensive (such as school uniforms and transport to school). This aligns with qualitative research conducted among school students aged 14-25 years in rural Uganda (59) and rural Tanzania among youth (57) which shows that transactional sex may be motivated by extreme poverty, and to procure food and essential clothing. Research from Tanzania suggests that in circumstances when young women are not receiving financial support from their parents, they are likely to seek support from sexual partners (217). However, absolute poverty is not the sole reason for young women's engagement in transactional sex, with qualitative research from Tanzania also showing that if young women feel the need to supplement the existing amount of money they have, they might use transactional sex as a means to reach this goal (15).

9.2c The distinction between items considered a need and a want seems unclear and motivations to acquire items extend beyond basic and consumption needs to fulfil higher order needs

In the first qualitative chapter (chapter 6) I used focus group discussions, in-depth interviews and data from participatory exercises conducted in the focus groups in order to better understand young women's conceptualisations of a need or a want, and their source for obtaining different items. I have attempted to apply the groupings from the participatory exercise to Maslow's hierarchical approach. In his paper (1943) '*A Theory of Human Motivation*', Maslow breaks down human desires in terms of both physiological and safety needs as well as aspirations for love and affection, esteem, and self-actualisation (149). Previous research that has been done on the topic of adolescence, aspirations and materialism using Maslow's framework have been done in the context of high income countries (154,155). This study is one of the few that has been done in a developing country context and the first that applies Maslow's framework to understanding the motivations around transactional sex.

From the data it appears that in a modern consumerist society, such as South Africa, the distinction between a need and a want is blurred. Items that will contribute to enhancing status, peer acknowledgement and social standing are viewed as almost as important as 'needs'. The pursuit of expensive items or items for personal enhancement is not just a mere exercise of consumption for consumption's sake, but one that is necessary for survival; survival from social exclusion or loneliness (or needing to belong). This need to belong and the need to fulfil self-esteem needs (which in turn is linked to the development of self-worth, status and recognition) are important elements in Maslow's hierarchy of needs framework (149,150). For adolescents, self-esteem appear to be intrinsically linked to materialistic motivations and peer influence or peer pressure is often cited as the reason why adolescents value material goods and popular brands (221). Hence, a young woman would feel less insecure and more likely to feel accepted if she possesses fancy items or what has been classified as "expensive or personal enhancement items" for boosting her status, self-esteem and feeling recognised within her peer group. Particularly in rapidly globalising economies, with a rise in consumerism and exposure to westernised products, young people buy items based on peer group preferences. This is best illustrated by an excerpt from Aapola, et al's work on young women's cultures and friendships: "...it can be said that friends are important for girls in today's industrialised societies as a site for identity creation, which is an ever more demanding and difficult process requiring constant attention to emerging choice" (11: p131).

Even items that young women consider a "want" or "desirable", such as expensive phones may fulfil more basic human needs: they make young women feel confident and gives them a sense of belonging to their peer or social group. This aligns with Leclerc-Madlala's (2004) research with unmarried young women aged 15-25 in an urban township of Durban – which indicated that the practice of transactional sex is best illustrated by a continuum, where rewards or gifts can vary

between what are generally perceived to be 'needs' and what are generally understood as 'wants'. However both are always represented and expressed as 'needs' (87)

If Maslow's hierarchy of needs framework was applied to these findings to better understand young women's classification of luxury versus items of necessity and motivations for obtaining these items, one can infer that young women's notions of survival extend beyond just biological and physiological needs (food, clothing, shelter) and that the need for belongingness within their peer group, as well as the need to fulfil their status and esteem needs are perceived to be essential to their survival.

The results illustrate that even though practical items fulfil the biological, physiological and safety needs; and personal enhancement items, expensive and entertainment items fulfil the belongingness/love and self-esteem needs; the hierarchical approach does not apply in this order to adolescent needs and wants. In a situation of extreme poverty (irrespective of degree of poverty or socioeconomic status), unstable household structure, scarce economic opportunities and a rapidly globalising economy in South Africa, adolescents have 'admitted' needs (which are the need for items that are considered practical, such as food or clothes) and then 'hidden' needs, which are actually their 'wants' or aspirations. These hidden needs (such as expensive clothes, make up, cosmetics, Blackberry) appear to play a pivotal role in these young women's quest for feeling attractive, achieving happiness, feeling successful and feeling accepted within their peer group. Thus, all leading to improved self-esteem and impacting their status in society (where they feel like they are "coming of age"). The findings from this research quite clearly indicate that the classification of items as a need and a want are fairly arbitrary and that the motivations for sexual exchange are not driven merely by survival or consumerism. Rather such motivations are driven by higher order needs such as the need to belong, be accepted within their peer groups, have

higher esteem and status, which are significant for self-actualisation among young adolescent rural young women.

Thus, sexual exchange linked to subsistence and sexual exchange linked to consumption is not necessarily mutually exclusive. This finding is consistent with recent research conducted in rural Tanzania (57) and peri-urban setting in South Africa (16). Furthermore, even though it was not measured explicitly, it appeared that irrespective of young women's household socio-economic position, desire for items appear to be influenced by access to media and advertisements, globalisation or macroeconomic changes in South Africa and a strong desire to be socially accepted. Thus, there is a need for future research to explore this relationship between globalisation and young women's consumption patterns.

9.2d From both qualitative and quantitative analysis, it appears that age-disparate or “sugar daddy” relationships might not be as pervasive as generally assumed

From the quantitative data (in chapter 7) and qualitative data (in chapter 6) it appears that relationships with older men (>10years) or “sugar daddies” are not as widespread, as some literature suggests (72,261). This seems to be because as young women seem very aware of associated risks. As shown in my literature review, some studies from rural settings in Southern Africa (70,71,262) suggest that the lack of access to education, health services, employment and a weak economy, associated with poverty, often pushed young women into age-disparate sexual partnerships with potential economic benefits.

However, in this study respondents described sugar daddies as being ‘abusive’, substantially older married men, who are disrespectful towards young women. Based on this qualitative data, same-age relationships appear to be more the norm, with a transactional component within

romantic relationships being more likely. Similarly, the quantitative analysis (chapter 7) also demonstrated that having a large age-difference (>10years) with the partner was not a mediator in the quantitative association between transactional sex and HIV suggesting that most young women do not engage in relationships with older partners. This aligns with research presented at Conference on Retroviruses and Opportunistic Infections (CROI) 2014 of a study in rural KwaZulu-Natal of 2400 women aged 15-49 that age-disparate relationships exist, but are not in themselves a risk for HIV acquisition or transmission, in particular for women under the age of 30 years (71).

9.2e Young women's motivations for entering into a sexual relationship included satisfying feelings of love and emotions, man's ability to give gifts or money and having social pressure from peers.

In qualitative chapter 6, I discuss a major theme that clearly emerged from the transcripts that as part of the courting rituals of these young women, intimate relationships are closely intertwined with money. It appears that the rules and norms surrounding sex in exchange for money/gifts are intricate and even ambiguous, with gifts and money being important even in relationships characterised by love. From young women's description, it does seem as if money exchange does have one persistency: that a sexual relationship cannot exist without a male-to-female transfer of money or gifts. This aligns with research conducted in Malawi where verbal expressions of love are not given weight unless accompanied by money transfers (18). A number of young women rationalise their behaviour of coveting items or gifts and genuinely believe that they are in it for love (that they engage in sex for love). If they have a boyfriend, they do expect either money or gifts, but in all these cases the implication is love and not sex for gifts/money. There is also an implicit understanding that young women also engage in relationships because of either peer pressure, or a matter of status to be in a relationship.

9.2f Young women's engagement in transactional sex is associated with HIV infection in the adjusted analysis (but not associated with HSV-2 infection) and does not appear to be mediated by any of the other dimensions of HIV risk that might help explain the underlying pathways for this association

For the second quantitative objective of my thesis (see Chapter 7), I explored whether there is an association between young women's engagement in transactional sex and HIV and HSV-2 infection and conducted a mediation analysis to assess whether this relationship is mediated through certain risky behaviours, young women's risk perception in terms of partner's concurrency and the perceived power dynamic in the sexual relationship. Young women who report engaging in transactional sex or sex in exchange for money or gifts had increased odds of testing HIV seropositive at the time of the interview, in the adjusted analysis. This is an important addition to the existing literature, as although transactional sex is commonly thought to be associated with increased HIV risk, there is sparse quantitative evidence describing the association between transactional sex and HIV risk (11,60) . Transactional sex does not appear to be associated with HSV-2 infection in the unadjusted and adjusted analysis, although the lack of association may be the result of limitations on the reliability of the HSV-2 tests. However, young women who were HSV-2 positive had almost five-times higher odds of having HIV infection.

Importantly in the analysis, I found that transactional sex and HIV association does not appear to be mediated by any of the other dimensions of HIV risk, that might help explain the underlying pathways for this risk such as -- having an older partner (up to 5 years or more than 5 years older), inconsistent use of condoms at last sexual encounter, the young woman's perception of her own partner concurrency, her perception of her partner's concurrent partners, number of sexual partners in the past year or sex under the influence of alcohol or drugs. However, even though the specific variables tested do not mediate the relationship between transactional sex and

HIV, there may be more complex and nuanced ways that some factors (e.g., alcohol or lack of condom use) mediate HIV risk.

Qualitative research from Cape Town, South Africa suggests, alcohol has been associated with decreased inhibition and less likelihood of condom use (22) and ethnographic research suggests that some young women who frequent *Shebeens* (township bars) do so with the expressed intention of finding men to pay for their drinks and entertainment (13) and that sexual encounters usually follow after drinking alcohol, where condom use is not always negotiated. Also, in cases where sex is transacted for alcohol in bars, men who engage in these relationships and acts maybe substantially more controlling, patriarchal and violent than other men (23,53). Also, even though last condom use might not have shown to be a mediator in this analysis, it is still possible, as the literature suggests, that in the context of established romantic relationships, which are generally distinguished by emotional attachment and trust, condom use is less likely (91,236–238). Material or financial need also introduces an explicit power imbalance into sexual relations and women in qualitative studies often report that they are less likely to request condom use when material gain is at stake (61,67,91).

It is also important to acknowledge the significant role that social desirability bias plays in self-reported sexual behaviours (241). The expected direction of social desirability bias is that respondents will under-report engagement in transactional sex, and over-report condom use, since they believe that condom use is expected of them. Turner and Miller hypothesised that social desirability bias creates systematic non-random bias where people reporting “always” condom use are more likely to be misrepresenting their condom use than those who report “never” condom use (44). This makes estimating the predicted effect of social desirability bias extremely difficult. In addition, the measure ‘last condom use’ cannot be used as a proxy for inconsistent condom use and this limits the interpretation of the results. Furthermore, it is also

important to mention that for this analysis, unmeasured factors such as potential partner violence, dynamic within the household or family and substance use problems were not adjusted for in the models (10). For this reason, it is important not to over-interpret the association between transactional sex and HIV infection.

Finally, given the lack of mediation by other dimensions of HIV risk, a potential explanation for the relationship between transactional sex and young women's vulnerability to HIV infection may be due to the density of sexual networks. In such a situation, young women are made vulnerable through other dimensions of risk, including impact on network level concurrency (i.e. the density of concurrency across a network of sexually connected individuals who are considered to be 'high risk'), and the underlying risk of the men that they are having sex with (with high risk not being marked solely by age). This aligns with work conducted by Prudden et al an ecological analysis of epidemiological and behavioural data in 14 different West African countries. Among other findings, the analysis suggests that young females with multiple partnerships serve as an important extended network to high-risk male partners, that both renders them (young women) vulnerable to HIV. Programmatically, they recommend that intervention programmes target young women who report having multiple partners (240).

9.2g From the qualitative focus group discussions and in-depth interviews, young women appear to see educational attainment and subsequent employment as means to potentially meet their aspirations for economic and financial independence from their family and partners.

One part of the analysis for my final qualitative chapter (chapter 8) was to further understand young women's aspirations in rural South Africa. The findings suggest that young women in this sample have a deep-seated desire to feel economically independent from their families and partners. Similar to research on youth growing up in comparable resource-constrained settings,

these young women appear to have shaped their aspirations and goals in ways that account for the limited job opportunities present (254). The value that they placed on education seemed to be influenced to some extent by their desire to achieve financial independence. In this setting, education appears to be the singular most important social institution shaping children's and young people's everyday lives and identities as well as their understandings of their future life chances (260). In this study, almost all young women acknowledged education as an avenue to open doors to a better future, where they could achieve financial independence. However, it is important to recognise this sample includes young women who are sexually active.

There also appeared to be recognition among young women that securing their own financial resources will ultimately improve their negotiation or bargaining position in their romantic or sexual relationships. Furthermore, young women appeared to recognise that their economic opportunities were circumscribed, and education in this context appears to be seen as giving the chance for social mobility. Post-apartheid in South Africa, advances in technology that allow communications and financial movements to occur instantaneously have combined with loosening of regulations around trade, ownership and production to speed up this process of economic globalisation. These new economic conditions have re-shaped the labour markets, as well as education and training (260) which has also reduced demand for low skill or unskilled labour. Simultaneously, with the removal of trade barriers and influx of Chinese goods, there has been a steady increase in consumerist appetites (263). Young women aspire for a better life in the future with the financial independence and ability to consume items and exercise choice. However, the reality is starker and they need to balance risk and uncertainty alongside opportunity, which could render them vulnerable both to HIV and other risky situations (e.g. violence).

9.2h The term ‘transactional sex’ commonly used within the field of HIV to represent sex where money or gifts are exchanged is too blunt an approach to be used to categorise different relationships, where the link between sex and receipt of money or gifts is nuanced and a normal part of courtship among adolescents. Despite this nuance, respondents who answered affirmatively to the simple quantitative question about whether <they felt like they had to have sex to get money/gifts> were more likely to be HIV infected.

In qualitative chapter 8, I also draw on social exchange theory to further understand young women’s motivations for sexual exchange. In particular, I use a developmental model of social exchange theory, relevant to adolescents, to also consider the influence of peers and parents in young women’s motivations. The qualitative findings suggest that there is a transactional component that is present, accepted and normative in many young women’s romantic relationships. Transactional sex for these young women does not appear to be solely, about sex or money and the exchange of money and gifts for sex does not have to be exploitative in nature. Furthermore, as discussed earlier in the literature review, research in sub-Saharan Africa has suggested that exchange of sex for material gain is common practice, and that few women who engage in such transactions identify as sex workers (61,84). Typical constructions of male–female relationships prominent in the field of HIV either portray male-to-female money exchange in sexual partnerships as commercial sex/prostitution (26). Or, suggest that material exchange for sex is exploitative, as women are poor and have limited economic opportunities (224). Yet, from the qualitative findings, one can see a far more nuanced relationship between sex, love and gifts. Women want to be the object of love (and desire) from their male partners, but also expect money or gifts as an expression of this desire so that they can buy whatever they please. A number of young women rationalise their behaviour of coveting items or gifts and genuinely believe that they are in it for love (that they engage in sex for love). If they have a boyfriend, they do expect either money or gifts, but in all these cases the implication is love and

not sex for gifts/money. There is also an implicit understanding that young women also engage in relationships because of either peer pressure, or a matter of status to be in a relationship.

In this study, exchange appears to be an integral part of romantic relationships and young women aspire to social mobility, economic independence or simply a life enhanced by expensive clothes and fancier items. From the social exchange perspective, money exchange appear to be an implicitly understood reciprocal obligation that both forms and sustains sexual relationships among young women; all such partnerships are characterised by male-to-female money transfers whether these partnerships be casual and short-lasting or more enduring. These money transfers seem to take on a deeper meaning for most young women in this study -- young women interpret receipt of money from their partners as loving or romantic gestures and as an indication of how much she is valued by her partner. This aligns with Poulin's research in Malawi on the symbolic connotations of money exchange in adolescent romantic relationships (70).

Similarly, my findings demonstrate that young women's interdependence on their boyfriends or partners and their rationale for engaging in an exchange-like relationship was varied in terms of the value attached to it by participants and was located on a continuum. This continuum ranged from purely transactional or personal gain focussed to interdependence in the relationship (which is organised around mutual benefits and love or romantic feelings) to complete independence from men. But, ultimately this shows that exchanges serves as fulcrums around which romantic relationships are organised. However young women rationalise their arrangement, for most young women there is (an implicit) expectation of being provided for by their partners.

Despite the normative nature of exchange within adolescent relationships, the quantitative results for young women who report engaging in transactional sex, measured by the question "*did you feel like you had to have sex with <partner> to obtain money/gifts*" shows that these young

women were more likely to test positive for HIV infection than young women who said no to the question. This raises the question of why such an association (between transactional sex and HIV) was found. Potential reasons could be that the quantitative questions picks up an important distinction of specific situations where young women felt like they had to have sex to receive money or gifts versus situations in the qualitative discussions where young women did not feel obliged or feel like they had to have sex in order to receive gifts from their partners.

9.2i Young women appear to express considerable agency in their choice of partners, but agency appears to weaken within an existing relationship with subsequent implications for young women's vulnerability to HIV.

In chapter 8 (second qualitative chapter) I also explored young women's perceived agency in their relationships and the potential link with HIV risk. Sexual exchange is one of the few aspects of youths' sexual behaviours that features female agency, as shown in Jewkes work among adolescent rural young women in the Eastern Cape region of South Africa (101). A dominant discourse in the in-depth interviews indicates that adolescent young women have considerable decision-making control over the process of relationship formation and termination, something referred to as temporal agency (159) and they use it to their advantage. They can and do choose which partners they want, and can and do choose to end partnerships; these decisions are of critical importance in determining what one does with one's sexual body, which has profound implications for risk of HIV infection, as they have control over the dynamic of the partnership. Even though young women express agency in choice of partners, their agency appears weakened once they are in a relationship and this rarely translates into decisions about STI and HIV risk reduction or pregnancy prevention. As once the choice is made, it is almost as though they have made the choice to then submit to male authority and are working within unequal gendered power structures. As relationships develop, bargaining or negotiating power tends to increase for the male partner (91,94). This is because condom-use and HIV-testing are both inconsistent once

the young woman is in a serious relationship. As 'trust' is built within relationships, condom use becomes irregular and this data shows that young women are aware of the consequences of not using condoms, but submit to their boyfriend's demands to not use condoms for fear of violence, boyfriend leaving them or of creating an impression that they (young women) are HIV infected. Furthermore, if the boyfriend is providing her with money and/or gifts this creates an obligation from her side to then reciprocate which could be sex on his terms. Thus, due to the potential for unprotected sex without condoms (as the young women are in a non-negotiable position especially related to condom use) young women are at increased risk for HIV.

9.3 Overall limitations and challenges

The limitations specific to each chapter are discussed in those chapters (Chapters 5 to 8). In this section, I discuss the most significant conceptual and methodological challenges I encountered in conducting the research for this thesis and the limitations of the findings.

9.3a Logistical constraints

As my research is embedded in a large randomised controlled trial, I was restricted to rules and regulations of the funder. This placed restrictions on the research that I could conduct in several key ways. For the qualitative data collection, I could only interview baseline control young women. For ethical reasons also, the local ethics board insisted that respondents had to be aged 18 years or above. This restricted my sampling pool for FGDs and IDIs. Also since I was using the infrastructure of the trial (i.e. fieldworkers, drivers), I could only collect data at certain times of the year (December to February) when the fieldworkers were available and were free of duties of the main trial. This restricted the number of available young women due to the Christmas holidays and the South African academic calendar. Despite these limitations, I did manage to collect rich information from five FGDs and 19 in-depth interviews. However, from a

generalisability perspective to young women younger than 18 years or not enrolled in school, the interpretation of my qualitative results has to recognise these limitations.

For the analysis of the quantitative data, I was only permitted the use of baseline data for this PhD, thus my analysis entailed the use cross-sectional data, which had its only set of limitations (see 9.3d below). In addition, certain modules I planned to analyse from the baseline survey were designed prior to my involvement, hence had some limitations for my analysis (e.g., consumption module described in chapter 5). Furthermore, as there were other PhD students analysing different sections of the baseline data, I did not have complete flexibility in terms of having access to every module needed for my analysis (e.g., adjusting for intimate partner violence or substance abuse in the relationship between transactional sex and HIV). Although the number of young women reporting intimate partner violence is small, my results do have to be interpreted accordingly.

Finally, I was not permitted to submit any PhD related papers to journals until the main baseline papers of the study are published. For this reason, I have used a thesis format to present my PhD results with the intention to submit 3-4 papers when granted permission.

9.3b Generalisability of data

Even though the study sample for my quantitative analysis was large and representative, the enrolment procedures and the eligibility criteria have the potential to limit the generalisability of the findings. For example, this study does not include young women in Agincourt who are not enrolled in school. Other eligibility criteria, such as having a parent/guardian with the documentation to open a bank account, suggest that young women who have limited access to basic services and social grants in South Africa could not enrol in the study. Young women without documentation are likely to be quite poor because identity documents are required to

apply for most social services and welfare grants in South Africa. In particular, due to Agincourt's close proximity to neighbouring Mozambique, there are a number of Mozambican refugees in the area who do not have the legal standing to obtain South African identity documents. As a result of excluding disadvantaged subpopulations of young women who were not enrolled in school or who lacked identity documents, transactional sexual behaviours might differ. It may be that sexual exchange in this subset of young women is less consumerist oriented and more subsistence-driven. Also, I have restricted my analysis and discussion to young women who are sexually active, thus results are only generalisable to sexually active young women in other settings. Similarly, it cannot be assumed that the findings from the qualitative data can generalise to other parts of South Africa, or regionally in Southern Africa as the sample size is relatively small.

9.3c Self-reported data and social desirability and recall bias

All of the data I analysed was self-reported, and so has the potential to be influenced by recall bias and social desirability bias. Recall bias may have particularly affected the retrospective reports of young women's sexual risk behaviours, especially the number of sexual partners (which could also be affected by social desirability bias). The survey used three different measures of sexual risk behaviours to capture a range of young women's recall periods – lifetime number of sexual partners, number of sexual partners in the past 12 months and past 3 months. In addition, young women's answers on the survey might have been influenced by the desire to present themselves in a positive way, especially with regards to under-reporting their sexual risk behaviours (e.g., number of partners) or over-reporting their use of condoms. In order to minimise social desirability bias, the interviews were conducted in a private location using an ACASI-administered survey.

9.3d Reverse causality

As this thesis relied on the use of cross-sectional data, the likelihood of reverse causality must be acknowledged. In particular, in the quantitative findings it is not possible to assess the direction of the observed associations between transactional sex and young women's consumption patterns, nor can I claim a causal relationship between transactional sex and young women's consumption patterns or with transactional sex and mediators of HIV risk, such as number of sexual partners or sex under the influence of alcohol or drugs. As this research is embedded in a longitudinal trial, I do plan to explore these relationships prospectively when the data is available in 2015. The nature of the causal relationship between transactional sex and young women's consumption patterns has the potential to be reciprocal, where transactional sex and young women's consumption cyclically affect each other (e.g., young women's engagement in transactional sex affect her consumption patterns or whether the desire to consumer items influence young women's engagement in transactional sex).

I have attempted to address this with qualitative focus group discussions and in-depth interviews to get a deeper understanding of young women's desires and aspirations for items. Likewise the relationship between transactional sex and certain risky sexual characteristics (e.g., young women who engage in transactional sex are more likely to have multiple or higher number of sexual partners or young women with a higher number of sexual partners are more likely to engage in transactional sex) could be considered to be bi-directional. Longitudinal studies testing the relationship between transactional sex and young women's consumption patterns and transactional sex and risky sexual behaviours, such as number of partners might better understand causal directions.

9.3e Conceptualising, measuring and categorising transactional sex

The term 'transactional sex' has gained currency within the HIV field, and is generally used to describe informal sexual exchanges, outside of marriage where sex is predicated on actual or anticipated material support (11). There is growing, but sparse quantitative evidence of whether engagement in transactional sex is associated with HIV infection, with some studies showing evidence of increased risk (11,60) .

In practise, the term transactional sex is potentially problematic in several ways.

First, the term 'transactional sex' is often used in the public health literature and policy discourse as if its definition was agreed, even though within the social science literature it is recognised that this issue is complex and the definition is contested (117).

One concern relates to what forms of sexual relationship are covered within this term. For some, the term includes 'prostitution or commercial sex', although increasingly the discourse speaks about the ways in which 'transactional relationships or sex' and 'sex work or prostitution' can be thought of lying on a spectrum. At one end of the spectrum, transactional sex may have a number of similarities with the practice of sex work particularly when cash is given by a sexual partner or where there is a relationship involving multiple sexual encounters that is entirely sustained by receipt of material support. Increasingly the literature discussed that one of the factors that distinguishes transactional sex and sex work is the process of negotiating the exchange i.e. in transactional sex there is no up-front negotiation whereas in sex work there is explicit negotiation as to the terms of the exchange that occurs at the outset (60).

At the other end of the spectrum, it is also hard to distinguish between transactional sex and romantic relationships where there is an expectation that the man fulfils the provider role.

Especially given that the expressions of romantic love is usually linked to gifts (117), it may be difficult to distinguish relationships that are primarily motivated by financial or material need from other forms of romantic relationships. Yet in terms of these different motivations for sexual relationships may have different in locations for HIV prevention. For example, where there is financial motivation, women may find it hard to negotiate condom use due to the material nature of the negotiation, whilst where love is the primary motivation, women may either want to get pregnant or have difficulties negotiating condom use as this may suggest a lack of trust in a partner whom they are in love with.

Second, young women engaging in transactional sex seldom identify themselves as sex workers hence it is a challenge identifying these groups of young women. Related to this is the issue of under-reporting of transactional sex, where questions on sex exchanged for material support generally tends to be under-reported.

The third area of definitional contestation is the intersection between ‘transactional acts’ and ‘transactional relationships’. A transactional act may occur within relationships that are predominantly based on other factors that may include love, emotional support or trust (57) . Whereas a transactional relationship is one where material gain is sometimes the only factor sustaining the relationship, but it is more common for multiple factors to be involved (even negative factors such as fear) hence making it challenging to separate out aspects that are risky for HIV.

This thesis has used the term 'transactional sex' to denote a sexual relationship whereby men and women exchange sex for, or in anticipation of, material possessions or favours (such as money, clothing, transportation, school fees). The quantitative measure for transactional sex was obtained from the main trial's (HPTN 068) baseline survey, which asks the young woman about her last

three partnerships. The questions were “*did you feel like you had to have sex with [initials] because they gave you money?*” and “*did you feel like you had to have sex with [initials] because they gave you [list of things]?*” My analysis showed evidence that young women who report engaging in transactional sex have higher odds of being HIV infected. In addition, in the analysis between transactional sex and young women’s reported consumption patterns, the findings suggest that young women who engage in transactional sex were more likely to consume entertainment related items. Thus, from these findings, it appears that the quantitative questions seem to be picking up certain risky relationships or situations that are associated with HIV risk.

In contrast my qualitative findings suggest that the term transactional sex is indeed too blunt an instrument to be used to categorise different relationships, where money exchange takes place not always in the context of sex, and where even though money may be given, the primary motivation for the relationship is love. The findings show that alongside being a resource, the provision of money or gifts has an important symbolic meaning, where money transfers, as gifts, indicate a young woman’s value and shows the commitment of the man.

The qualitative data also shows that young women do not perceive an expectation of sex from the partner’s side when gifts or money are provided. However, all of them do engage in sex when provided resources because it is their way of reciprocating their love and appreciation for their boyfriend, which sometimes stems out of a feeling of obligation, but not always. Nevertheless, they need to maintain a balance and not appear to be opportunistic and only driven by the promise of receiving gifts or money. Thus, categorising all of such relationships as being transactional is problematic, as the implications are that this would mean that most relationships are transactional, which as well as being stigmatising, is not useful for guiding HIV prevention programming.

As the quantitative question in this baseline survey seem to hone down on a specific risky aspect of transactional relationships that are associated with HIV risk, it can be considered to be a good measure. However, it does not capture the nuances of transactional sexual relationships particularly around the economic and other motivations for engaging in transactional sex, including issues of love and romance and trust that feature in these exchanges which can be supplemented in future surveys.

To summarise, understanding the contribution of ‘transactional sex’ to HIV prevalence and incidence and addressing it through HIV programming for young women is very important. However, it is important to recognise that that the term ‘transactional sex’ may not be useful to categorise informal sexual exchanges and can sometimes be considered to be judgmental and not always reflective of the motivations behind the exchange (i.e. love, trust, status, subsistence or consumerist). Thus, instead of using the term ‘transactional sex’, the term 'sexual exchange for material support' might be more reflective of the notion of informal sexual exchanges that could be defined as either a sexual relationship or act(s), outside of marriage or sex work and, motivated primarily by the expectation of material gain where love, emotional support and trust are sometimes present.

9.3f Defining consumption patterns

The module on consumption was included in the baseline survey and was designed prior to my starting the PhD. This module was adapted from a survey conducted in a randomised controlled trial in Malawi (194), which asked similar consumption related questions from young women. The question in the module asks, “*whether the young woman has bought for herself any [...item name...] in the past month and how much money in South African rands did she spend on [...item name...] for herself in the past month*”. Each of the questions in the young women’s consumption module are binary (yes/no) variables.

A missing question in the baseline survey, which was then added to subsequent follow-up surveys, was the question on the 'source of items'. The original version, asks the question on whether the young woman has bought a certain item in the past month, along with the value of the item, but did not include the source of these items (i.e. parents, boyfriend, friend, own work). This would have allowed me to potentially explore the value of using consumption patterns as a proxy for the question on transactional sex. However, the question at the moment makes it difficult to accurately measure the source of money to be able to consume these items. My qualitative work lets me explore young women's source for items or for money further, but given the limitation of the module in the baseline survey, I was unable to analyse this quantitatively.

9.3g Missed opportunity for exploring HIV vulnerability and resilience

Even though my qualitative research explored motivations behind young women's engagement in transactional sex, (such as economic reasons, peer status, aspirations and consumerism), it does not actually take into account or explicitly measure the concept of resilience that young women exhibit when making choices of whether or not to engage in such relationships and how they can engage in these types of relationships safely. It also did not explicitly explore how engagement in transactional sex might be a coping mechanism against poverty but in turn renders young women vulnerable to HIV. This was a missed opportunity. Furthermore, young women's own perceived risk of HIV as it relates to their engagement in transactional sex was not explicitly explored in this research. As shown in chapter 2 (literature review) on the relationship between transactional sex and HIV, there are multiple ways by which young women are made vulnerable to HIV, which include: age difference with partner, inconsistent condom use, power dynamic in relationships which impacts on their ability to negotiate condom use in relationships. Related to this, I did qualitatively explore whether if a young woman receives money or gifts whether it changed her sexual behaviour with her partner and probed around condom use negotiation and

other risky sexual behaviours. However, this could have been explored in much more detail especially if I had included questions around partner HIV testing and condom use.

9.4 Overall contribution of the thesis

Despite the limitations discussed above, the thesis has made the several contributions to evidence on transactional sex and HIV vulnerability in rural South Africa. Specifically:

- a. Using data from HPTN 068, a randomised controlled trial in rural South Africa, this thesis presents the first quantitative analysis from this north-east region in South Africa to explore whether young women's reported engagement in transactional sex is associated with increased risk for HIV and HSV-2, infection using biological outcomes. The findings suggest that young women who report engaging in transactional sex have increased odds of being HIV infected, with no evidence of an association found for HSV-2. This assessment is one of only two quantitative studies from Sub-Saharan Africa particularly among young women on this issue.
- b. This thesis includes the first quantitative analysis of household structure and socioeconomic status and its association with young women's engagement in transactional sex and consumption patterns in rural South Africa. The findings suggest that young women who engage in transactional sex appear to be more likely to consume items for entertainment (e.g., movie tickets and concert tickets) and items that are considered indicators of high-risk behaviours (e.g. alcohol) and items that are indicators of sexual activity (e.g., birth control and condoms).
- c. To the best of my knowledge, this is the first study to use the framework of Maslow's hierarchy of needs to try to categorise and understand young women's needs and wants. The

qualitative analysis offered deeper insights into young women's classification of items which are needs versus wants, and suggest that the distinctions are fairly arbitrary, and that the motivations for obtaining items and transactional sex are not driven merely by survival or consumerism. Rather such motivations are driven by higher order needs such as the need to belong, be accepted within their peer groups, have higher esteem and status, which are significant for self-actualisation among young adolescent rural young women.

- d. This thesis includes one of the first qualitative analysis to better understand young rural South African women's motivations for engaging in transactional sex. The findings suggests that there is a transactional component that is present, accepted and normative in many young women's romantic relationship and exchange is an integral part of romantic relationships and young women aspire to social mobility and economic independence. In addition the findings also indicate that young women's romantic relationships can be defined as being along a continuum – from purely materialistically motivated to sexual exchange within relationships characterised by love to no exchange or inter-dependence within relationships.
- e. From a qualitative methodological perspective, this is the first study to use participatory ranking methods to explore young women's conceptualisations of their needs versus wants in order to better understand what young women want and their motivations behind transactional sex. This method worked well, and we are currently exploring its potential use in Tanzania, as part of the DFID funded Structural Drivers for HIV (STRIVE) Research Programme Consortium.

9.5 Implications for policy and public health practice

9.5a Adolescent young women, transactional sex and HIV risk

The results from my study support the use of intervention approaches that move beyond individual-level measures of knowledge and psychosocial factors to address social, economic and structural factors underlying HIV risk. In particular, adopting a structural approach that can alter the context of young people's HIV risk is important (95). The quantitative findings from this study lends support to the hypothesis that transactional sex is associated with HIV infection and my qualitative findings indicate that the link between sex and money or items is nuanced and that exchange is also considered to be a normal part of courtship in adolescent relationships. Furthermore, the results show that young women's motivations for engaging in transactional sex or sexual exchange are complex. On the one hand they appear to be driven by love and romantic feelings, need for intimacy or desire, peer pressure, the need to belong or to boost their self-esteem. But on the other hand are determined by factors such as circumscribed job opportunities and economic and structural processes of globalisation which influence their desires and consumption patterns that appear to be both subsistence and consumerist oriented. I have attempted to depict these intersecting factors in my conceptual framework (see chapter 3, section 3.2).

This PhD research is embedded in a large randomised controlled trial (HPTN 068) in rural South Africa which tests the impact of providing cash transfers to household and young women on the condition that the young woman stays enrolled in school. The trial works on the hypothesis that provision of cash in the short-term will substitute for young women's engagement in transactional sex to fulfil immediate economic needs and desires; and in the long term, education will delay young women's marriage, improve their access to income through building human capital, increase young women's economic aspirations and success by opening up doors for

employment (264). Two studies conducted in both Malawi and South Africa have demonstrated that cash transfers target specific—rather than all—risky sexual behaviours, and that a possible mechanism of change might be interruption of risk driven by economic necessity (e.g., transactional sex). The trial in Zomba, Malawi showed that a stipend provided to young women and their households had a significant impact on HIV and HSV-2 prevalence among young girls who stayed in school. The reductions in prevalence were likely to be the result of reductions in the levels of transactional sex, with girls reporting fewer sexual partners, and less sex with much older men (194). The other study conducted in rural South Africa among adolescents (aged 10-18 years) showed that the receipt of a cash transfer (the South African child support grant)⁵⁸ was associated with reduced incidence of transactional sex and age-disparate sex (265).

The findings from my study also indicate that young women who engage in transactional sex have higher odds of consuming high cost essentials (school uniforms, transport to school and food and groceries) and entertainment related items which might also lead to risky behaviours (such as beer/alcohol, movie tickets). It also appears that young women's consumption patterns are driven by higher order needs – such as the need to belong and conform, to boost their self-esteem and status among their peers (for example, lack of school uniforms is an issue because young women do not want to be mocked and less about being a barrier to school attendance). Thus, the provision of the cash transfer, should hopefully give young women the means to consume items without having to rely on any other source. This economic independence in the short term could improve their negotiating or bargaining position within relationships thus potentially impacting on HIV risk.

⁵⁸ The South African child support grant (ZAR280 per month in 2012; roughly equivalent to US\$35) is available to all primary caregivers of children who earn less than a means-tested benchmark. The HPTN 068 study that my PhD is embedded in provides ZAR200 (~USD 20) amount to families and ~ZAR100 (~USD 9.6) to young women as it's the amount the government might support in the future. If such an intervention were found to be effective, South Africa has the means to implement such a policy nationally given the existing infrastructure with other social grants.

In addition, an unexpected finding from my quantitative analysis is that young women who report working for cash (in mostly domestic jobs such as yard cleaning or hairdressing) have higher odds of engaging in transactional sex. There are a few reasons this might be: for example, the extra money obtained through these odd jobs could help young women attain a certain look, which contribute towards their efforts at social mobility and so they engage in sexual exchange to acquire items, which in turn enable them to find employment. Alternatively, young women could potentially be earning money to spend on items that enhance their physical appearance (such as make-up, hairdressing, etc.), which then makes them more able to attract the attention of men with whom they can receive or expect higher value of items for material support in exchange for sex.

Thus, this finding indicates, to some extent the importance of financial resources in shaping the degree to which young women engage in transactional sex. As long as young women lack other avenues for obtaining money or material support, it appears that campaigns to simply educate women about the dangers of transactional relationships will be of limited success (64). Instead, formal employment and higher-earning opportunities would likely decrease young women's need to engage in transactional sex. Also, there needs to be recognition that as transactional components is embedded in regular sexual relationships, HIV prevention educational programmes need to be coupled with income generation trainings, In particular peer-led education programmes have shown to be capable of providing vulnerable youth with psychosocial support, as well as information and decision making skills (266). These programmes will also leverage youth resilience and protective skills within the confines of difficult economic and social circumstances to allow them to successfully navigate safer sexual relationships (55,65) (i.e. helping them negotiate condom use at the outset of a relationship or to be more selective of potentially 'high risk' partners).

9.5b Young women's aspirations, livelihood strategies and social norms

My qualitative findings also suggest that young women aspire for financial and economic independence through educational attainment and by securing lucrative jobs. Interventions which link gender empowerment training with financial literacy training might be beneficial in terms of providing young women with the capacity and life skills, such as numeracy to enhance vocational and educational success. A programme in KwaZulu-Natal, South Africa, links HIV and reproductive health training, with life skills training and financial education for girls and boys aged 14 to 16 years. Preliminary results suggest a number of positive changes, which include young women reporting increased autonomy in how they spend their money, and a wider sense of ability to take control of their own lives (267). A literacy and life skills programme could be combined with participatory training on gender and HIV/AIDS in order to change beliefs and social norms, such as the Stepping Stones programme, which aims to improve sexual health by using participatory learning approaches to build knowledge, risk awareness, and communication skills and to stimulate critical reflection (268). Stepping Stones' success was associated with altering beliefs about gender and HIV risk, particularly among men, and with offering practical alternative normative behaviours. In addition, the group intervention approaches generate positive social norms through engaging participants in collective critical thinking, thereby fostering self-esteem and individual empowerment (95). This is particularly useful for providing skills to young women in sexual relationships who are not always in a position to negotiate condom use – either due to feeling less powerful in the relationship (as they are being provided for by their partners), livelihood insecurity or through ‘trust’ built in the relationship that hampers negotiation of condom use (99). Another group intervention, the intervention with microfinance and gender equity (IMAGE) that combined microfinance and a participatory gender and HIV training intervention on HIV risk behaviour among women in rural South Africa apart from reduction in gender violence, showed higher levels of HIV-related communications, increased confidence and skills associated with participation in the intervention (269). Although the

IMAGE intervention enrolled participants from a higher age group (>25 years) the ten-session participatory intervention used in the IMAGE intervention could be adapted to suit younger women and included as part of a cash transfer trial to train young women in numerous life skills including financial literacy and income generation skills.

9.5c Household situation and parent/guardian and young woman communication

Particularly from the quantitative analysis, primary caregiver's education level appeared to have a U-shaped association with young women's engagement in transactional sex. This suggests that young women whose primary caregiver have at least a primary education have less odds of engaging in transactional sex compared to young women whose primary caregiver has no education. Furthermore, young women whose primary caregiver has a tertiary education have increased odds of engaging in transactional sex than primary caregivers with no education.

These findings suggest that in households where young women's primary caregiver has no education i.e. households that could be considered to be of lower socio-economic status (as low educational level of the parent can also be a marker for poverty), young women are more likely to engage in transactional sex to supplement household income. In addition, in households where the primary caregiver has a tertiary education, but young women are still more likely to engage in transactional sex, could suggest that in situations where the parent is absent – either voluntarily or due to work commitments – young women might have less restrictions on them and they might potentially engage in risky sexual behaviours which has implications on their HIV vulnerability. This might suggest the role that parents or caregivers play in young women's engagement in transactional sex.

Apart from structural interventions that tackle economic and gender inequalities, there is a need to recognise that adolescence is a life-stage that herald a range of changes both cognitively and

developmentally (3). During adolescence, relationships with parents and other adults and with both same-sex and opposite-sex peers change; adolescents seek greater independence from their parents, with a corresponding increase in the significance of peer relationships (3). As mentioned in chapter 8, a large proportion of studies mainly from developed countries have been conducted on how parents influence adolescent sexual behaviour (250,251). There is also a growing body of literature from sub-Saharan Africa on the role of parents in young people's behaviour (252,253). A qualitative study conducted by Wamoyi et al (2010) in rural Tanzania explored parent-child communication about sexual and reproductive health in families, as well as the content, timing and reasons for their communication. The findings suggest that family and parents are important factors that should not be ignored in programmes that wish to reduce young people's risky sexual behaviours. The study showed that the lack of parent-child communication about sex was attributed to lack of closeness, shame, fear and cultural norms (217). In addition, the findings reinforce the need for developing programmes to support parents to stay involved in the lives of their young people and to change perspectives about their children's sexuality. Programmes need to educate both parents and young people to communicate explicitly and clearly even though topics around sexuality are potentially taboo or embarrassing. Thus, family and parents and parent-child communication in particular are important factors that should not be ignored in interventions which address structural factors.

9.6 Implications for future research

There are three areas that I believe would particularly benefit from more research, based on the gaps in the literature, the findings from my quantitative and qualitative analyses and evidence from other research. These areas are: i) measuring transactional sex; ii) pathways linking transactional sex to HIV risk; and iii) Understanding men's perspectives.

a. Measurement of 'transactional sex'

From the literature it appears that the main challenge with measuring transactional sex is the lack of differentiation between transactional sex in pre-marital relationships, from sex work and from economic exchange in love relationships. In addition, there needs to be a better and more nuanced way to establish and understand the motivation behind the exchange (i.e. to what extent is the exchange financially or economically motivated) or what are expectations from young women in these exchanges and to what extent do they have either “one off” or longer term sexual relationships (which maybe financially motivated). In my study, the question on transactional sex asks the young woman “*if she feels like she had to have sex to receive money and/or gifts*” found an association with HIV infection and thus provides an indicator of increased HIV risk, probably linked to a particular subset of transactional sex that appears risky. However, the wording of this question, does not give us an indication of the motivation for sexual exchange or the expectations from young women, and does not take into account issues of love and trust that appear to be a part of the continuum of transactional relationships. At the moment the focus on measuring transactional sex is only one end of the continuum (shown in chapter 8) which is materialistically motivated. There is a need to further understand other aspects of this continuum and ways to operationalise it. For example, there could be a follow up study to gather information on participants and from the outset group participants based on aspects of the continuum (purely materialistically motivated, love relationships with little exchange, love with explicit exchange and no exchange). Using these results we can then have an empirical basis for how to measure transactional sex quantitatively.

Thus, in order to ensure a better understanding of the role of transactional sex in HIV risk, acquisition and transmission there is a need to have improved measures to capture the nuance of this complex dynamic accurately. This includes better measures to capture motivations behind transactional sex. Also a better understanding In addition, modelling studies to explore whether

young women's consumption patterns can be used as a proxy to measure transactional sex (i.e. are certain types of consumption of items more likely to indicate high risk behaviours leading to HIV vulnerability) should also be considered.

b. Pathways linking transactional sex to HIV risk are indirect

As shown in my conceptual framework in Chapter 3, the pathway linking transactional sex to HIV is indirect and there are plenty of overlapping risk behaviours, which render young women vulnerable to HIV (such as having multiple partners, inconsistent condom use or having sex under the influence of alcohol/drugs). For example young women who are motivated either by needs or aspirations for social mobility find themselves in situations or engaging in behaviours where they end up partnering with boys or men who are at higher risk of HIV. These potentially 'high risk' men might be part of a network of sexually connected individuals. There is a need to further understand this and there needs to more improved reporting on young women's numbers of sexual partners and types of sexual partnerships (casual or long term). Further qualitative research would also help to delineate this pathway, and to help design meaningful interventions. In addition, research on size of transfer or gift from male partner would be helpful in terms of understanding condom use – for example, does size of transfer impact on use of condoms and to what extent does young women's income or poverty status impact on this. A study in Kisumu, Kenya by Luke (2006) examined level of transfer and probability of condom use and found a strong negative relationship between transfers and condom use in informal relationships after controlling for male fixed effects and certain partnership characteristics (74). Further research exploring this in other settings will help shed light on the potential for cash transfers substituting for transfers received in exchange relationships thus impacting on HIV risk.

In addition, there are upstream or distal factors that are at the root of the issue, such as gender and economic inequalities or processes of globalisation which are indirectly linked to young women's

engagement in transactional sex. Capturing these macro level factors such as the influence of globalisation on young women's consumption patterns and their motivations for engaging in transactional sex is needed, but can be challenging to capture quantitatively.

c. Understanding men's perspectives

In my study, the focus has been on young women and their motivations for engaging in transactional sex. Including young men's perspectives in this trial would have been very useful in trying to understand the intersection between masculinities, the provider roles that men are either expected to or want to fulfil in transactional sexual relationships and the link with HIV. In addition, including men at a theoretical level enables the concept of gender to be seen more holistically as a relational concept in which young women and men are invested and which to change requires that young women and men change (264). In addition, more research is needed on understanding relationships between men and women from both men and women's perspectives and how men's provider role and the expectations from both sides on how a man should behave when it comes to relationships with women impact on power dynamics in relationships and HIV risk (117).

9.7 Conclusion

Adolescence is a life stage characterised by biological, cognitive, physical and emotional changes. Young women specifically are poised between two compelling narratives: one of opportunity and choice, and the other of crisis and risk particularly in situations of circumscribed economic opportunities. My thesis findings suggest that young women's engagement in transactional sex seems to not only be driven by poverty and economic need, but by aspirations within the context of a globalising emerging economy like South Africa. In addition, these findings also indicate the subtle position that transactional sex or sexual exchange occupies

within adolescent sexual relationships in rural South Africa where exchange occurs within the context of loving peer relationships. This potentially weakens the negotiating or bargaining position of the young woman if she is receiving money or items, thus having implications on HIV prevention and programming. In addition, young women are free to make choices about their partners; however, they do so in a socio-economic framework where their range of options from which to choose is very limited. Hence, choosing partners that are considered to be at high risk for HIV within a network of sexually active individuals. Also, the measurement of transactional sex is not clear-cut and most studies exploring the relationship between transactional sex and consumption patterns of young women have used qualitative methods. For HIV in particular, there is a need to identify the forms of transactional sex or sexual exchange that are most risky for HIV and focus interventions on this aspect. Finally, the quantitative question measuring transactional sex and young women's consumption patterns point to different potential indicators of vulnerability (for example, in the quantitative question, young women were asked to respond whether felt that had to have sex versus the module on consumption patterns which showed the types of items that young women who engage in transactional sex were more likely to consume). It is thus important to explore this further in order to understand risky behaviours that serve as indicators for HIV vulnerability. Hence, there needs to be a focus on mixed methods studies to further explore the concept of transactional sex and identify how and why certain factors emerge as markers for HIV risk.

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APPENDICES

Appendix 1: Search Strategy 1

My search strategy involved conducting detailed searches of PubMed, EMBASE and JSTOR databases, using the following key terms and/or their combinations: Transactional sex (+HIV), sexual exchange + HIV, material exchange for sex + HIV, 'adolescent girls + sexual exchange + HIV', transactional sex+ sub-Saharan Africa. No limitation regarding publishing date was used. I also searched for references from existing papers. In addition, I also used Google Scholar and searched unpublished literature and working papers on the websites of the World Bank, Eldis, United Nations Development Programme (UNDP), the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the United Nation Children's Fund (UNICEF) . I focused my literature review on low and middle income countries, specifically Sub-Saharan Africa. I first conducted an initial literature review in 2011 with subsequent updates in 2013 and May 2014.

Appendix 2 - Household Questionnaire (Baseline from HPTN 068) 1

Household Roster

Interviewer read out: We would like to start by asking you questions about the people who are part of your household.
 Interviewer: Read out the membership criteria before proceeding.
 Coding: List all household members first before proceeding

Household Membership Criteria

You are a household member if:
 (i) You have lived under this "roof" or within the same compound/homestead/stand at least 15 days during the last month OR you arrived here in the last 15 days and this is now your usual residence and
 (ii) when you are together you share food from a common source with other household members and
 (iii) you contribute to or share in common assets.

1 Interviewer: - List names of all individuals who meet the 3 membership criteria above. - First list the full name of the parent/legal guardian - Don't forget babies	2 What is [...]s relationship to the parent/legal guardian?	3 Gender	4 Date of birth	5 Age in YEARS	6 What is the highest educational qualification attained by [...]? If ppt. has NO SCHOOLING skip to #12	7 Is [...] currently enrolled in school? Coding: ask only for participants ages 4-25 If NO skip to #10	8 What grade is [...] currently in?	9 How many days did [...] actually spend in school in the last month in total?	10 Was [...] enrolled in school last year? If NO skip to #12
Name	Relationship code	Male = 1 Female = 2	dd/mm/yyyy	Years	Education code	Yes = 1 No = 2	Education code	Days	Yes = 1 No = 2

11 How much was spent on the following items for [...] in 2010?				12 What is [...]s current marital status? If married, skip to #15	13 Is [...]s spouse or partner listed on this roster? If No, skip to #15	14 Write the spouse or partner name	15 Is [...]s biological father listed on this roster? If No, skip to #17	16 Write the father's name	17 Is [...]s biological mother listed on this roster? If No, skip to #19	18 Write the mother's name	19 Does [...] usually reside here at least 4 nights a week?
Uniform	Books and Stationary	Transport to School	Allowances and other school related expenses	Marital status code							Yes = 1 No = 2
Rand	Rand	Rand	Rand								

20 How many months did [...] spend away from the household in the last 12 months? Coding: If less than 1 month or none, write 0 and go to #22.	21 What was the main reason for his/her absence?	22 Is [...] receiving a Government Grant, such as the old age pension or child support grant? If NO skip to #26	23 Type of Government Grant receiving (pick all that apply)	24 Monthly Value of Grants for the person	25 When did this person start receiving this grant?	26 Is [...] receiving a Private Pension? If NO skip to next household member	27 Monthly Value of Private Pension for the person
Months	Absence Code	Yes = 1 No = 2	Grant Code	Rand	Month and Year	Yes = 1 No = 2	Rand

Food Spending and Consumption

Interviewer read out: Now we would like to ask questions about some specific food that may have been eaten in the LAST 30 DAYS. It should not include food that has been bought for resale or exchanged for commercial purposes.

Coding:

* Read out each item.

* For each of the items marked with a yes, ask the other questions.

Code	Food item	1.1 Was [...] consumed by this household in the last 30 days?		Grown by Household			Purchased by Household			Borrowed by Household	
		Yes	No	1.2 How much of [...] consumed in the last 30 days was grown in your homestead yard or fields outside the yard?	1.3 Volume Unit	1.4 If you wanted to buy the mentioned amount of [...] how much should you pay in the market?	1.5 How much of [...] consumed in the last 30 days was purchased by the household?	1.6 Volume Unit	1.7 How much was spent on [...] in the last 30 days?	1.8 How much of [...] consumed in the last 30 days was given or gifted from a neighbor or other household?	1.9 Volume Unit
				Quantity	Unit Codes	Rands	Quantity	Unit Codes	Rands	Quantity	
1	Red meat (beef, mutton, pork, etc.) NOT canned	1	2								
2	Chicken	1	2								
3	Potatoes	1	2								
4	Tomatoes	1	2								
5	Green Leaf Vegetables	1	2								
6	Other vegetables	1	2								
7	Fruits and nuts	1	2								
8	Eggs	1	2								
9	Mealie meal	1	2								
10	Milk, cheese, yoghurts and dried milk	1	2								
11	Samp	1	2								
12	Flour and bread	1	2								
13	Rice	1	2								
14	Pasta	1	2								
15	Biscuits, cakes, rusks	1	2								
16	Canned red meat	1	2								
17	Fresh fish and shell fish	1	2								
18	Tinned fish	1	2								
19	Dried peas, lentils, beans	1	2								
20	Oil for cooking	1	2								
21	Margarine, butter, ghee, other fats	1	2								
22	Peanut butter	1	2								
23	Sugar, jam, honey, chocolates and sweets	1	2								
24	Soft drinks and juices	1	2								
25	Tinned fruit and vegetables	1	2								
26	Breakfast cereal and porridge	1	2								
27	Baby food and baby formula	1	2								
28	Salt and spices	1	2								
29	Soya products	1	2								
30	Coffee and tea	1	2								
31	Readymade meals brought into the household	1	2								
32	Meals prepared outside the home (incl. restaurants and take-aways)	1	2								
33	Other food expenditure (specify)	1	2								

Non-food Spending and Consumption

Interviewer read out: Now we would like to ask questions about items that have been purchased BY ALL HOUSEHOLD MEMBERS in the LAST 30 DAYS. Please include items purchased by every member of the household when providing your answers.

Coding:

* Read out each item.

* For each of the items marked with a yes, ask the other questions.

		2.1 Did the household spend money on [...] in the last 30 days?		2.2 How much was spent on [...] in the last 30 days?
		Yes	No	Rands
Personal items:				
1	Cigarettes and tobacco	1	2	
2	Beer, wine and spirits	1	2	
3	Entertainment, such as cinema, music, MNET and DSTV	1	2	
4	Sport, including sporting equipment, gym and club membership	1	2	
5	Personal care items, such as cosmetics, soap, shampoo and haircuts	1	2	
6	Jewellery and watches	1	2	
7	Newspapers, stationery, envelopes, stamps and books, excluding school books	1	2	
8	Cell phone account and/or airtime	1	2	
9	Telephone account (not including cell phone account)	1	2	
10	Lotto, gambling and horse-racing	1	2	
11	Trips and holidays, excluding transport costs	1	2	
12	Ceremonies, such as weddings and funerals	1	2	
Transport costs:				
13	Car payments, excluding insurance	1	2	
14	Petrol, oil and car service	1	2	
15	Buses, taxis, trains and air tickets, excluding transport to school	1	2	
Energy, water and municipal rates:				
16	Water	1	2	
17	Electricity	1	2	
18	Other energy sources, such as wood, paraffin, charcoal/coal, candles, gas, purchasing/charging batteries and diesel oil for generators	1	2	
19	Municipal rates	1	2	
20	Levies, for example, sectional title, share block and timeshare	1	2	
Insurance:				
21	Life insurance	1	2	
22	Funeral policies or burial societies	1	2	
23	Educational policies	1	2	
24	Short-term insurance, for example, car, property & fire, and crop insurance	1	2	
Household items:				
25	Kitchen equipment, like pots and pans, cutlery and crockery	1	2	
26	Home maintenance and repairs to the dwelling	1	2	
27	Bedding, sheets, blankets and towels	1	2	
28	Material to make curtains and other household items	1	2	
29	Hire purchase (HP) payments on furniture and other household appliances	1	2	
30	Furniture and other household appliances bought with cash or by credit card	1	2	
Clothing and shoes:				
31	Adult shoes and clothing (excluding school uniforms) bought with cash or by credit card	1	2	
32	Children shoes and clothing (excluding school uniforms) bought with cash or by credit card	1	2	
33	Account payments on shoes and clothes, excluding school uniforms	1	2	
34	Material to make clothing	1	2	
Health care:				
35	Medical aid schemes/medical insurance, such as hospital plan	1	2	
36	Dentists, doctors or nurses	1	2	
37	Hospital fees	1	2	
38	Medical supplies, for example, medicines and bandages	1	2	
39	Traditional healer's fees	1	2	
Education:				
40	School fees and tuition	1	2	
41	School books, including stationery	1	2	
42	Uniforms	1	2	
43	Transport to school	1	2	
44	School Meals	1	2	
45	Other school expenses, such as school outings, boarding fees, contributions to school buildings, extra costs for teachers and extramural activities	1	2	
Miscellaneous:				
46	Washing powder, dishwashing liquid, polish and all household cleaners	1	2	
47	Creche and childcare outside of the home	1	2	
48	Religious and membership dues of organisations, donations to charity	1	2	
49	Domestics, in-home childcare, gardeners and other household help	1	2	
50	Pets	1	2	
51	Toys	1	2	
52	Gifts	1	2	
53	Income tax payments	1	2	

Durable Goods

Interviewer read out: Now we would like to ask you questions about household items which the household may or may not own.

	Type of good	1 How many [...] did your household own two years ago? (Number)	2 How many working [...] does the household own now? (Number)
1	Radio		
2	Hi-Fi stereo, CD player, MP3 player		
3	Television		
4	Satellite dish		
5	Video cassette recorder, DVD player		
6	Computer		
7	Camera		
8	Cell phone		
9	Electric stove		
10	Gas stove		
11	Paraffin stove		
12	Microwave		
13	Fridge/freezer		
14	Washing machine		
15	Sewing/knitting machine		
16	Lounge suite		
17	Mattress		
18	Private motor vehicle in running condition		
19	Commercial motor vehicle in running condition		
20	Motorcycle/scooter		
21	Bicycle		
22	Boat		
23	Donkey cart or ox cart		
24	Plough		
25	Tractor		
26	Wheelbarrow		
27	Grinding mill		

Negative Events

Interviewer read out: Households sometimes experience good and bad events. First we would like to ask you about any bad events your household may have experienced **IN THE LAST 12 MONTHS**.

Coding:

* Read out each item.

* For each of the items marked with a yes, ask the other questions.

	Event	1.1 Did a [...] occur in this household in the last 12 months?		1.2 What did you do to cope with the effects? (pick all that apply)	1.3 Has any household member dropped out of school or tertiary education as a result?	
		Yes	No		Coping Codes	Yes
1	Death of a resident household member	1	2		1	2
2	Death of a friend / non-resident family member you depended on for financial assistance	1	2		1	2
3	Serious illness or injury of a household member	1	2		1	2
4	Widespread death / disease / theft of livestock	1	2		1	2
5	Major crop failure / loss	1	2		1	2
6	Job loss of a breadwinner	1	2		1	2
7	Cut off or decrease in remittances to the household	1	2		1	2
8	Cut off or decrease in government grants	1	2		1	2
9	Theft, fire or destruction of household property	1	2		1	2
10	Inherited outstanding debt from deceased family member	1	2		1	2
11	Other (specify)	1	2		1	2

Positive Events

Interviewer read out: Now we would like to ask you about any good events your household may have experienced **IN THE LAST 12 MONTHS**.

Coding:

* Read out each item.

* For each of the items marked with a yes, ask the other questions.

	Event	2.1 Did a [...] occur in this household in the last 12 months?		2.2 What month and year did the [...] happen?		2.3 What was the increase in income each month?	2.4 What was the amount received?
		Yes	No	Month	Year	Rands	Rands
1	New regular job for a household member	1	2				
2	New or increased remittances	1	2				
3	New government grant (e.g. pension)	1	2				
4	Inheritance, large gift, lottery winnings	1	2				
5	Big payment from a firm (e.g. pension payment)	1	2				
6	Scholarship / bursary for children or adults in the household	1	2				
7	Other (specify)	1	2				

Household Decision-making

Interviewer read out: In this section, we want to ask you how decisions are made within your household.

	Interviewer: Write the Name of the main decision-maker	1 Main decision-maker Name
1	Who makes decisions about day-to-day household expenditures (e.g., groceries)?	
2	Who makes decisions about large, unusual purchases, such as appliances, vehicles or furniture?	
3	Who makes decisions about whether your children go to school?	
4	Who makes decisions about where your children should go to school?	
5	Who makes decisions about whether a child received medical care?	
6	Who makes decisions about who is allowed to live in the household as part of the household (for example, if a relative or family member does not have a place to stay)?	
7	Who makes decisions about where the household should live?	

Transfers and Credit Received

1	<p>In the last 12 months, has anyone in your household received money or goods from persons who are not members of your household? For example from children, parents, relatives or friends living elsewhere?</p> <p>*If no, probe for gifts, money received for funerals, child support, weddings, goods or money to help sick persons – in the last 30 days (include transfers for schooling expenses, medical expenses, and gifts of land). Refer back to the household roster on children with absence from household and ask about gifts, loans and transfers from these children.</p>	<p>1 Yes 2 No --> Skip to #7</p>
2	<p>From how many different people did members of your household receive money, goods, and/or gifts in the last 12 months?</p>	

Now I would like to ask you about all individuals from whom all members of your household have received something in the last 12 months.

3 Initials of person	<p>4 How much have members of your household received from this person in the last 12 months, including money and the value of gifts in kind?</p>	<p>5 Do members of your household have to repay any part of this amount?</p>	<p>6 How much has been already repaid?</p>
	<p style="text-align: center;">Rand</p>	<p>1 Yes 2 No --> Skip to Next Person</p>	<p style="text-align: center;">Rand</p>
	<p>7 Has anyone in your household received money or gifts from any other organization other than the government in the last 12 months?</p> <p>* Probe for food transfers from organizations, loans from banks, loans from churches, etc.</p>		<p>1 Yes 2 No --> END MODULE</p>
8 What is the type of the organization?	<p>9 How frequently did the household member receive this money or gift?</p>	<p>10 Do you have to repay any part of this amount?</p>	<p>11 How much has been already repaid?</p>
Organization Codes	<p>1 Once a week 2 Every two weeks 3 Once a month 4 Every three months 5 Every six months 6 Once a year 7 Less than once a year 8 Just once</p>	<p>1 Yes 2 No --> Skip to Next Person</p>	<p style="text-align: center;">Rand</p>

Transfers and Credit Sent

	1 In the last 12 months, have any members of your household provided any money or goods to persons who are not members of your household? For example to children, parents, relatives or friends living elsewhere? *If no, probe for gifts, money given for funerals, child support, weddings, goods or money to help sick persons – in the last 12 months (include transfers for schooling expenses, medical expenses, and gifts of land). Refer back to the household roster on children with absence from household and ask about gifts, loans and transfers from these children.	1 Yes 2 No --> END MODULE
	2 How many different people did all members of your household send money, goods, and/or gifts to in the last 12 months?	

Now I would like to ask you about all individuals to whom all members of your household have sent something in the last 12 months.

3 Initials of Person	4 How much have all members of your household sent to this person in the last 12 months, including money and the value of gifts in kind?	5 Do members of your household expect any part of this amount to be repaid to you?	6 How much has been already repaid?
		1 Yes 2 No --> Skip to next person	
	Rand		Rand

Agriculture

Interviewer read out: Now we would like to ask you some questions about everything this household grew in the last 12 months even if you did not sell any of it. This includes things grown in your homestead yard or fields outside the yard .
What crops have these resident household members been growing or cultivating in the last 12 months?

Coding:

* Read out each item.

* For each of the items marked with a yes, ask the other questions.

Type of crop	1. Did anyone in the household grow this crop in the last 12 months? No --> SKIP TO NEXT CROP		2. Total amount harvested in the last season Quantity	3. Volume Unit Unit code	4. Did you sell any? No --> SKIP TO NEXT CROP		5. Total amount sold Quantity	6. Volume Unit Unit code
	Yes	No			Yes	No		
01 Maize	1	2			1	2		
02 Pumpkins	1	2			1	2		
03 Cow peas	1	2			1	2		
04 Bambara ground nuts	1	2			1	2		
05 Peanuts	1	2			1	2		
06 Sweet potatoes	1	2			1	2		
07 Other, specify:	1	2			1	2		

Interviewer read out: Now we would like to ask you some questions about all livestock owned by the household in the last 12 months.

Type of animal	1 Has a household member owned [...] during the last 12 months? No --> SKIP TO NEXT ANIMAL		2 How many [...] are in the household's possession at the moment? Number	3 Did you earn any income by selling any [...] in the last 12 months? No --> SKIP TO NEXT ANIMAL		4 How much money did you earn in rand from selling your [...] in the last 12 months? Rands
	Yes	No		Yes	No	
01 Cattle	1	2		1	2	
02 Sheep	1	2		1	2	
03 Goats	1	2		1	2	
04 Pigs	1	2		1	2	
06 Donkeys and mules	1	2		1	2	
07 Chickens	1	2		1	2	

Health History

Ask for all household members listed on household roster

Coding:

* Read out each item.

* For each of the items marked with a yes, ask the other questions.

1 Name	2. Has [...] had an illness in the past 30 days?	3. What did [...] experience along with this illness? <i>(pick all that apply)</i>	4. Who did [...] consult about this illness or accident? <i>Pick all that apply</i>	5. How many days of usual activity was lost due to the illness?
	1 Yes, bed-ridden	1 Flu Symptoms	1 Nobody	Days
	2 Yes, but not bed-ridden	2 Fever	2 Doctor at public clinic	
	3 No --> END MODULE	3 Persistent Cough	3 Private doctor	
		4 Cough with Blood	4 Nurse or chemist	
		5 Chest Pain	5 Traditional healer	
		6 Body Ache	6 Other (specify)	
		7 Headache		
		8 Back Ache		
		9 Joint Pain/Arthritis		
		10 Vomiting		
		11 Diarrhorea		
		12 Felt Weak		
		13 Pain in upper abdomen		
		14 Pain in lower abdomen		
		15 Painful Urination		
		16 Swelling Ankles		
		17 Rash		
		18 Skin Disorders		
		19 Conjunctivitis or eye infection		
		20 Severe weight loss		
		21 Yellow Eyes		
		22 Memory Loss		
		23 Other (specify)		

Labor market participation
Ask for all household members older than 8 years of age

Wage/salaried work

Name	1. During the <u>past month</u> , has [...] worked for someone who is not a member of your household, for example, an employer, a firm, the government or some other person outside of your household?	2. What did [...] do in this work? What kind of trade, industry or business is it connected with?	3. How many hours did [...] do this work in the past 7 days?	4. For how many weeks during the past 12 months did [...] do this work?	5. How long has [...] been doing this work?	6 Time Code	7. What type of employer did [...] work for in the past days? That is did he/she work for...	8. Is [...] position temporary or permanent?	9. In the <u>past month</u> , what is [...] net salary/payment for this work? *include all benefits, per diems and payments in kind
	1 Yes 2 No --> Skip to next HH member	* Use Occupation codes [if more than 1, begin with the one in which the most time is spent] Coding: allow up to 2	Number of hours [exact not expected]	Number of weeks		1 Years 2 Months	1 Govt./parastatal 2 Private employer 3 Cooperative union 4 NGO 5 Other (specify)	1 Temporary 2 Permanent	Rand

Farm work

Name	1. During the <u>past month</u> , has [NAME] worked on a field or garden belonging to someone in your household, or has [NAME] raised livestock?	2. In the <u>past 7 days</u> , how much time did [NAME] spend working on your household's gardens (e.g., ploughing, planting, weeding, harvesting) or raising livestock (i.e. feeding, caring for, tending and transporting any animals)?
	1 Yes 2 No --> Skip to next HH member	Number of hours [exact not expected]

Self-employed business work

Name	1. During the <u>past month</u> , has [...] done non-farming work for someone in your household? For example in an independent business/tuckshop /market stall, or in some other self-employed activity?	2. What type of business or self-employment did [...] work at in the <u>past 7 days</u> ? What kind of trade, industry or business is it connected with?	3. In the <u>past 7 days</u> , how many hours did [...] work at this business?	4. For how many weeks during the <u>past 12 months</u> did [...] do this work?	5. In the <u>past month</u> , what is [...] net salary/payment for this work? *include all benefits, per diems and payments in kind
	1 Yes 2 No --> skip to next HH member	* Use Occupation codes [if more than 1, begin with the one in which the most time is spent] Coding: allow up to 2	Number of hours [exact not expected]	Number of weeks	Rand

Appendix 3: Young Women's Questionnaire (Baseline from HPTN 068) 1

4	What is your date of birth?	yyyy/mm/dd
	Is your mother alive?	Yes No --> Skip to #7 Don't Know --> Skip to #8
5		
6	Where does your mother live now? --> Skip to #8	Your household Household elsewhere in Bushbuckridge Other urban area in South Africa Other rural area in South Africa Don't Know
7	How old were you when your mother died?	[] years Don't Know
8	Is your father alive?	Yes No --> Skip to #10 Don't Know --> Skip to #11
9	Where does your father live now? --> Skip to #11	Your household Household elsewhere in Bushbuckridge Other urban area in South Africa Other rural area in South Africa Don't Know
10	How old were you when your father died?	[] years Don't Know
11	What is the highest level of education that your mother successfully completed?	No school Some primary Completed primary Some high school Completed high school University or technikon Don't Know
12	What is the highest level of education that your father successfully completed?	No school Some primary Completed primary Some high school Completed high school University or technikon Don't Know
13	Who is your primary caregiver? That is, who is the adult that is most responsible for taking care of you and signed the consent for you to be in this study? <i>Pick one response.</i>	Mother Father Older brother or sister Aunts and/or uncles Grandparents Cousins Other adults who are not blood relatives
14	Where were you born?	South Africa Zimbabwe Mozambique Other (specify)
15	Have you moved households within the past 12 months?	Yes No --> skip to question 17
16	Which of the following describes your move?	You moved on your own You moved with your parents You moved with family members not your parents You moved with primary caregiver that is not your relative
17	On average, how many nights do you sleep at home every week?	[] nights

Interviewer script: Now we would like to ask you some questions about your schooling and your feelings about education.

1	In what year did you first attend Grade 1?	Year [] [] [] []
2	Were there any grades at school that you repeated?	Yes No --> Skip to #4
3	What grade(s) did you repeat?	Grade [] Grade [] Grade []
4	What is the name of the school in which you are currently enrolled?	See list of schools
5	In what grade are you currently enrolled?	Grade []
6	What is the main reason that you go to school? <i>Pick only one response.</i>	Young people are required to go to school Family expectations The subjects are interesting You get a feeling of satisfaction from doing well in class Education is important for getting a job later You have nothing better to do You play on a team or belong to a club School is a place to meet your friends Your teachers care about you and expect you to succeed in school To get food
7	On a typical weekday during the school term, how much time do you spend on homework?	Hours [] Did not receive homework
8	Did you attend primary or high school at any time during 2010?	Yes --> Skip to #10 No
9	What was the main reason you were never enrolled in school during 2010? <i>Pick only one response.</i> <i>Skip to #17</i>	You fell pregnant or had a baby You became sick or disabled You acquired all the education you wanted No money for fees or uniform You were attending initiation You don't like or are not interested in school You were not doing well in school/failed too many times You were expelled You thought you were too old to continue Your parents told you to stop going to school Your boyfriend told you to stop going to school You had to help at home Caring for your own or other child You had a problem with a teacher or school official You had a problem with other students Poor quality teaching Teachers often absent School too dangerous for girls School conflicted with you beliefs School too far from home Education is more important for boys than girls Other (specify)
10	What was your overall mark for the 2010 school year?	≥80% 70-79 60-69 50-59 40-49 30-39 20-29 <20 Don't Know

11	In a typical month during the 2010 school year, how many school days did you miss for any reason?	None --> Skip to #14 1-2 days 3-4 days 5-6 days 7 or more days
12	What was the main reason for your absences? <i>Pick only one response.</i>	You fell pregnant or had a baby You became sick or disabled You acquired all the education you wanted No money for uniform You were attending initiation You don't like or are not interested in school You were not doing well in school/failed too many times You thought you were too old to continue Your parents told you to stop going to school Your boyfriend told you to stop going to school You had to help at home Caring for your own or other child You had a problem with a teacher or school official You had a problem with other students Poor quality teaching Teachers often absent School too dangerous for girls School conflicted with your beliefs School too far from home Education is more important for boys than girls Other (specify)
13	Which of the following happened after your absences? <i>Pick all that apply.</i>	The school did not do anything Someone from the school phoned or visited my house I was given a letter to bring home The school made me talk to the principal or other staff member
14	In the 2010 school year, who paid for your educational expenses (i.e. school uniforms, transport to and from school, school meals)? <i>Pick all that apply.</i>	Mother Father Grandparent(s) Other family member Someone outside your family/household Boyfriend/partner Myself No one paid Other (specify)
15	In the 2010 school year, how did you get to school?	You walked You got a free ride to school You or your family paid for a ride to school Other (specify)
16	In the 2010 school year, about how long did it take you to get to school in each direction?	Less than 15 minutes 16-30 minutes 31-60 minutes More than an hour
17	We know that there are sometimes problems in schools. Think now about your current school. Which of these do you think apply?	Not enough textbooks Dirty classrooms Crowded classrooms Teacher often absent from class Teachers drunk Teachers being threatened by students Noisy classrooms Drug dealing School environment unsafe Sexual harassment by students Sexual harassment by teachers/staff Bullying by students Violent teachers Quality of teachers is poor None of the above

18	During your last full year in school, how often did you have trouble getting along with your teachers?	Never Just a few times Regularly, about once a week Everyday
19	During your last full year in school, how often did you have trouble paying attention in class?	Never Just a few times Regularly, about once a week Everyday
20	During your last full year in school, how often did you have trouble finishing your school work?	Never Just a few times Regularly, about once a week Everyday
21	During your last full year in school, how often did you have trouble getting along with other students?	Never Just a few times Regularly, about once a week Everyday
22	During your last full year in school, how often did you experience bullying from other students?	Never Just a few times Regularly, about once a week Everyday
23	During your last full year in school, how often did you have trouble with violence from other students at school?	Never Just a few times Regularly, about once a week Everyday
24	During your last full year in school, how often did you have trouble with violence from teachers/school administrators at school?	Never Just a few times Regularly, about once a week Everyday
25	During your last full year in school, how often did you get in trouble for being late for school?	Never Just a few times Regularly, about once a week Everyday
26	During your last full year at school, did you feel close to the people at your school?	Yes No
27	During your last full year at school, did you feel like you were a part of your school?	Yes No
28	During your last full year at school, were you happy to be at your school?	Yes No
29	During your last full year at school, did you feel that the teachers at your school treat students fairly?	Yes No
30	Would you like to continue at school until matric?	Yes No
31	Would you like to continue studying after passing matric, that is, after leaving school?	Yes No
32	In your opinion, what is the chance that you will be in school next year?	No chance Some chance A high chance
33	In your opinion, what is the chance that you will pass matric?	No chance Some chance A high chance
34	Do you think it's important to be educated?	Extremely important Sort of important Not very important Not at all important -> Skip to #36
35	Tell us why you think it is important to be educated. Pick all that apply.	You will have more choice of jobs You will make more money You will be able to run your family business more profitably You will be more respected You will be more confident You will have less chance of getting HIV You will be able to find a better husband You will be a better mother Other (specify)
36	Do you agree with this statement? "An education is more important for a boy than for a girl."	You agree You disagree You don't know
37	Do you agree with this statement? "There are jealousies between girls at my school."	You agree You disagree You don't know

*Interviewer script: Now I would like to ask you questions about items you may have purchased for yourself or someone else during the past month.
Coding Instructions: Ask all possible items in #1 first and then proceed to #2 for affirmative responses; same coding for #3 and #4*

		1. Over the past month, did you buy for yourself any [...]? Yes No	2. Over the past month, how much money in rands did you spend on [...] for yourself?	3. Over the past month, did you buy for anyone else any [...]? Yes No	4. Over the past month, how much money in rands did you spend on [...] for anyone else?
1	Scented soap, skin creams or lotions				
2	Cell phone, airtime, or ringtones				
3	Shoes, clothing or underwear				
4	Make-up or cosmetics				
5	Hairdressing				
6	Cool drinks, chips or sweets				
7	Food/groceries (not cool drink/chips/sweets)				
8	Movies or music				
9	Beer or other alcoholic drinks				
10	Birth control and/or condoms				
11	School uniform or supplies				
12	Transport to work, school, or anywhere else				

Sexual Relationship Power Scale – South African Adaptation

Coding instructions: If ppt responded NO to #2 AND #3 on Partner Grid, skip SRPS

Interviewer script: We would now like to ask you some questions about your relationship with your current or most recent boyfriend and for each we would like you to tell us how much you agree with each statement. Please tell us if you agree a lot, somewhat agree, or do not agree at all with the statement.

1	If I asked my partner to use a condom, he would beat or hit me.	Agree a lot Somewhat agree Do not agree at all
2	If I asked my partner to use a condom, he would get angry.	Agree a lot Somewhat agree Do not agree at all
3	My partner won't let me wear certain things.	Agree a lot Somewhat agree Do not agree at all
4	My partner has more to say than I do about important decisions that affect us.	Agree a lot Somewhat agree Do not agree at all
5	My partner tells me who I can spend time with.	Agree a lot Somewhat agree Do not agree at all
6	If I asked my partner to use a condom, he would think I am having sex with other people.	Agree a lot Somewhat agree Do not agree at all
7	I feel trapped or stuck in our relationship.	Agree a lot Somewhat agree Do not agree at all
8	My partner does what he wants, even if I don't want him to.	Agree a lot Somewhat agree Do not agree at all
9	When my partner and I disagree, he gets his way most of the time.	Agree a lot Somewhat agree Do not agree at all
10	My partner always wants to know where I am.	Agree a lot Somewhat agree Do not agree at all
11	My partner is having sex with someone else.	Agree a lot Somewhat agree Do not agree at all
12	Because my partner buys me things I want to please him.	Agree a lot Somewhat agree Do not agree at all

Partner Grid -- From HPTN 062, MIT Kenya and RHRU National Survey

Interviewer script: We would now like to ask you some questions about relationships and your sexual history, and we will have to ask you very detailed descriptions of what we mean by some questions. These questions are not meant to make you feel uncomfortable. We need to ask about these things so that we can get as much information as possible about the experiences of young women today. All of your answers will be kept confidential. If there is a question that you really do not feel comfortable answering, please let us know and we can skip that question. We really appreciate you sharing as much information with us as possible.

[Sex only: eligible to answer only if ppt replied YES to #2 or #3]

1	Do you currently have a boyfriend or main partner?	Yes No	
2	Have you ever had vaginal sex? By sex I mean when a man inserts his penis into a woman's vagina. This includes sex that was voluntary or involuntary.	Yes No	
3	Have you ever had anal sex? By anal sex I mean when a man inserts his penis into a woman's anus. This includes sex that was voluntary or involuntary.	Yes --> if Yes to #3 and No to #2, skip to #5 No --> if No to #3 and Yes to #2, answer #4 and skip #5	Sex only
Coding instructions: If ppt answered NO to Questions 2 AND 3, END OF FORM			
4	How old were you when you first had vaginal sex?	[] years	Sex only
5	How old were you when you first had anal sex?	[] years	Sex only
6	In total, how many people have you had sex with in your lifetime? Even if you only had sex with a person one time, or had sex when you did not want to, we would like you to count these partners.	_ _ _ _ partners	Sex only
7	In total, how many people have you had sex with in the past three months?	_ _ _ _ partners If 0 partners, skip to #12	Sex only
8	In the past three months, how many times have you had vaginal sex? By times, we mean each individual sex act or round. If you do not remember the exact number, please make your best guess. If "0" skip to #10	If 0 partners, skip to #10	Sex only
9	Of these times you had vaginal sex, how many of these times did you use a condom?		Sex only
Coding instructions: If ppt answered NO to Question 3, skip to #12			
10	In the past three months, how many times have you had anal sex with someone? By times, we mean each individual sex act or round. If you do not remember exactly, please make your best guess. If "0" skip to #12	If 0 partners, skip to #12	Sex only
11	Of these times you had anal sex, how many of these times did you use a condom?		Sex only
12	Interviewer script: Now I would like to ask you about your sexual activity in the past year, that is, in the past 12 months. Some people may have had sex with no partners, and some may have had sex with many partners. Remember that your answers are confidential and there are no right or wrong answers to these questions. In total, how many people have you had sex with in the past 12 months?	_ _ _ _	Sex only
Interviewer script--repeat for up to 3 partners, according to number listed in #6 Interviewer script: Now I will ask you about the people that you have had sex with most recently. I would like you to list your 3 most recent sex partners starting with your most recent partner. This may include a boyfriend or a short-term sex partner, or anyone with whom you have had a sexual relationship. If you have had more than one other sex partner, we will talk about up to three of your most recent sex partners. You only will identify partners by the initials that you tell me. Remember that all of your answers will be kept confidential.			
Coding instructions: If ppt answered YES to Question 1 AND NO to Question 2 AND 3, read the following interviewer script and ask "Sex or no sex" questions <u>only</u> and END FORM after #58.			
13	What are this partner's initials?	_ _ _ _	Sex or No sex
14	When did you first meet [initials]?	[] month [] year	Sex or No sex
15	How old is [initials]?	[] years	Sex or No sex
16	What is or was your relationship to [initials]?	He is or was my main partner/boyfriend He is or was a regular casual sex partner He is or was a non-regular casual sex partner He is or was a sex work client Other (specify)	Sex or No sex
17	Is this relationship with [initials] ongoing or has it ended?	Ongoing Ended	Sex only
18	When was the last time you saw [initials]?	Today Yesterday Between 2 to 10 days ago Between 11 days to 1 month ago Between 1 month to 3 months ago Over 3 months ago	Sex or No sex
19	Where does [initials] live?	In your village In another village in Bushbuckridge In another area within Mpumalanga In another province in South Africa Outside of South Africa I don't know	Sex or No sex

20	Do you currently live with [initials]?	Yes No --> Skip to #22	Sex or No sex
21	For how long have you been living together?	Less than 6 months Between 6 months and 1 year More than 1 year	Sex or No sex
22	In the last month, how many nights did you spend together with [initials]?	0 1-2 3-4 >5	Sex only
23	When did you FIRST have sex with [initials]?	[] month [] year	Sex only
24	When did you LAST have sex with [initials]?	[] month [] year	Sex only
25	On average, since the beginning of your relationship, how often have you had sex with [initials]?	Once a day or more 3 to 6 times a week Once or twice a week 2 or 3 times a month Once a month or less One time	Sex only
26	On average, how often would you say you have used condoms when you have sex with [initials]? Would you say ... [read all]	Never, none of the time Rarely, once in a while Sometimes, about half of the time Frequently, but not all the time Always, every time	Sex only
27	Did you use a condom with [initials] the last time you had sex?	Yes No	Sex only
28	Have you ever been pregnant by [initials]?	Yes No --> Skip to #30	Sex only
29	Do you have children with [initials]?	Yes No	Sex only
30	Does [initials] have any children by other women?	Yes No I don't know	Sex only
31	As far as you know, during the time that you and [initials] have had a sexual relationship, has [initials] had any other sexual partners, such as girlfriends, wives or sex workers?	Yes No --> Skip to #33 I don't know --> Skip to #33	Sex only
32	Besides you, how many other partners does [initials] have?	[] partners Don't know	Sex only
33	During the time that you and [initials] have had a sexual relationship, have you had any other sexual partners?	Yes No	Sex only
34	Does [initials] have HIV?	Yes No I don't know --> Skip to #36	Sex only
35	How do you know [initial]'s HIV status? <i>Pick all that apply.</i>	He told me We took an HIV test together He showed me the results of a test he took alone I saw his HIV medication He looks sick He looks healthy He has TB He has only ever had sex with me Someone else told me Other (specify)	Sex only
36	Is [initials] currently enrolled in school?	Yes No	Sex and No Sex
37	Does [initials] go to your school now, or did he in the past?	Yes No	Sex and No Sex
38	What is the highest level of education that [initials] has achieved?	No school Some primary Completed primary Some high school Completed high school University or technikon I don't know	Sex and No Sex
39	Has [initials] ever given you money?	Yes No --> Skip to #44	Sex and No Sex
40	About how often has [initials] given you money?	Just once A few times a month Once a month Once a week More than once a week	Sex and No Sex
41	When was the last time [initials] gave you money?	This month Not this month, but within the past 6 months Between 6 months to a year ago Over a year ago	Sex and No Sex
42	On average, how much money did [initials] give you each time?	[] Rands	Sex and No Sex
43	Did you feel like you had to have sex with [initials] because they gave you money?	Yes No	Sex Only

44	Has [initials] ever given you things, like groceries, clothes or airtime, that help you get by?	Yes No --> Skip to #49	Sex and No Sex
45	About how often has [initials] given you things ?	Once A few times Often	Sex and No Sex
46	When was the last time [initials] gave you things ?	This month Not this month, but within the past 6 months Between 6 months to a year ago Over a year ago	Sex and No Sex
47	What type of things has he given you? <i>Pick all that apply.</i>	Airtime Cell phone Groceries Clothes or shoes Perfume or lotions Make-up Cool drink, sweets or chips CDs, DVDs or videos Alcohol or drugs Flowers Other (specify)	Sex and No Sex
48	Did you feel like you had to have sex with [initials] because they gave you things ?	Yes No	Sex Only
49	Have you ever talked with [initials] about condom use?	Yes No	Sex and No Sex
50	Have you ever talked with [initials] about preventing HIV?	Yes No	Sex and No Sex
51	Have you ever talked with [initials] about getting tested for HIV?	Yes No	Sex and No Sex

Gender Equitable Men's Scale

Interviewer script: We would now like to ask you some questions about relationships between men and women. For each statement, please tell us if you agree a lot, somewhat agree, or do not agree at all with the statement.

	Violence Domain	
13	There are times when a woman deserves to be beaten.	Agree a lot Somewhat agree Do not agree at all
14	A woman should tolerate violence to keep her family together.	Agree a lot Somewhat agree Do not agree at all
15	It is alright for a man to beat his wife if she is unfaithful.	Agree a lot Somewhat agree Do not agree at all
16	A man can hit his wife if she won't have sex with him.	Agree a lot Somewhat agree Do not agree at all

17	If someone insults a man he should defend his reputation with force if he has to.	Agree a lot Somewhat agree Do not agree at all
18	A man using violence against his wife is a private matter that shouldn't be discussed outside the couple.	Agree a lot Somewhat agree Do not agree at all
<i>Sexual Relationships Domain</i>		
19	It is the man who decides what type of sex to have.	Agree a lot Somewhat agree Do not agree at all
20	Men are always ready to have sex.	Agree a lot Somewhat agree Do not agree at all
21	Men need sex more than women do.	Agree a lot Somewhat agree Do not agree at all
22	A man needs other women even if things with his wife/partner are fine.	Agree a lot Somewhat agree Do not agree at all
23	You don't talk about sex, you just do it.	Agree a lot Somewhat agree Do not agree at all
24	It disgusts me when I see a man acting like a woman.	Agree a lot Somewhat agree Do not agree at all
25	A woman should not initiate sex.	Agree a lot Somewhat agree Do not agree at all
26	A woman who has sex before she marries does not deserve respect.	Agree a lot Somewhat agree Do not agree at all
<i>Reproductive Health and Disease Prevention Domain</i>		
27	Women who carry condoms on them are easy.	Agree a lot Somewhat agree Do not agree at all
28	Men should be outraged if their wives/partners ask them to use a condom.	Agree a lot Somewhat agree Do not agree at all
29	It is a woman's responsibility to avoid getting pregnant.	Agree a lot Somewhat agree Do not agree at all
30	Only when a woman has a child is she a real woman.	Agree a lot Somewhat agree Do not agree at all
31	A real man produces a male child.	Agree a lot Somewhat agree Do not agree at all
<i>Domestic Chores & Daily Life</i>		
32	Changing diapers, giving a bath, and feeding kids is the mother's responsibility.	Agree a lot Somewhat agree Do not agree at all
33	A woman's role is taking care of her home and family.	Agree a lot Somewhat agree Do not agree at all
34	The husband should decide to buy the major household items.	Agree a lot Somewhat agree Do not agree at all
35	A man should have the final word about decisions in his home.	Agree a lot Somewhat agree Do not agree at all
36	A woman should obey her husband in all things.	Agree a lot Somewhat agree Do not agree at all

Intimate Partner Violence -- from WHO

Interviewer script: We would like to ask you some questions about violence within relationships. We will ask you about ways a partner may have hurt you. When we say "partner," we mean your current boyfriend or partner or any other partner in your past. We'd like to know if any of the situations we describe have ever happened to you in your life.

This section will ask you some questions related to physical and sexual violence and abuse. **Because you are under 18 years old, if you decide to answer these questions and you report having experienced physical or sexual violence or abuse we will be obliged to find help for you per South African Department of Health guidelines.** This includes having to report the physical or sexual violence to a social worker because you are still a minor (less than 18 years).

	A) Has this ever happened?	B) Has this happened in the past 12 months?
1. Has a partner ever slapped you or thrown something at you that could hurt you?	Yes No -> Skip to next question	Yes No
2. Has a partner ever pushed you or shoved you?	Yes No -> Skip to next question	Yes No
3. Has a partner ever hit you with their fist or with something else that could hurt?	Yes No -> Skip to next question	Yes No
4. Has a partner ever kicked you, dragged you, or beaten you up?	Yes No -> Skip to next question	Yes No
5. Has a partner ever choked or burnt you on purpose?	Yes No -> Skip to next question	Yes No
6. Has a partner ever threatened to use or actually used a gun, knife or other weapon against you?	Yes No -> Skip to next question	Yes No

Interviewer script: We would like to ask you some sensitive questions about past sexual experiences. These questions are not meant to make you feel uncomfortable. We need to ask about these things so that we can get as much information as possible about the experiences of young people today. Remember that all of your answers are confidential. If there is a question that you really do not feel comfortable answering, please let us know and we can skip that question. We really appreciate you sharing as much information with us as possible.

	A) Has this ever happened?	B) Has this happened in the past 12 months?	C) Was this done by a boyfriend or partner?	D) Was this done by a family member?	E) Was this done by someone else outside your family (not including a boyfriend or partner)?
7. Has anyone ever physically forced you to have sexual intercourse when you did not want to?	Yes No -> Skip to next question	Yes No	Yes No	Yes No	Yes No
8. Have you ever had sexual intercourse that you did not want because you were afraid of what the other person might do?	Yes No -> Skip to next question	Yes No	Yes No	Yes No	Yes No

Employment & Finances -- From Malawi CCT and Project CONNECT

Interviewer script: For this next section, I will ask you questions about activity, jobs and finances.

1	I want you to think of a typical school day now in your life, when schools are in session. Can you choose the top 3 activities you spend your time doing in a typical day?	See Activity Codes
2	Did you do any work for pay or family gain, including payment in kind such as food or housing? When I ask about work, I am asking about anything that you have done for money, for payment in kind (such as food) or for family gain. Please tell me even if the work was not a proper job.	Yes No--> Skip to #8
3	During the past 12 months, of the work you did for pay or family gain, what kind of work did you spend most of your time on? <i>Pick all that apply.</i>	Domestic worker Child care Farm worker Mining Tourism/game parks Working in a shop Informal selling Sex work Tavern or restaurant Transport Factory worker Clerical and office work Small business assistant Sewing, hairdressing, baking or brewing Other (specify)
4	How many hours in an average week do you spend doing this work?	
5	Think about all the work that you have done in the past 3 months to earn money or goods. How much do you estimate that you have earned in the past 3 months?	[] Rands
6	What is the main reason you work? <i>Pick one.</i>	I want money for myself To support my family Something to do A way to meet friends
7	How often in the past 12 months has your job interfered with you attending school or completing your school work?	Never A few times Always
8	During the past 12 months, where did you get most of your money? <i>Pick only one response.</i>	Job Family Friends Boyfriend or partner Grants (child support, disability, etc.) Sex Work Selling drugs Begging/Shoplifting/Etc. Didn't have any money Other (specify)
9	How often in the past 12 months have you had your own money to spend however you like? <i>if never, skip to #11</i>	Never A few times Always
10	During the past 12 months, about how much money have you usually had each month to spend however you like?	[] Rands
11	In the past 12 months, have you been worried about having enough food for you or your family?	Yes No
12	In the past 12 months, how often have you had to borrow money from a friend or someone outside of your household to get by? <i>Pick one.</i>	More than 5 times 3-5 times 1-2 times Never

13	Do you currently have any savings for the future, such as cash or assets?	Yes No --> Skip to #15
14	What is the approximate amount of money that you currently have in savings?	[] Rands
15	Do you currently have a bank or post office account?	Yes No

HIV Knowledge – NBCS Zimbabwe Baseline Questionnaire and RADARP

Interviewer script. Now we would like to ask you some questions about HIV. For each statement, please tell me if it is true or false.

1	A person who looks strong and healthy can have HIV.	True False I don't know
2	You can get HIV if you share utensils with someone who is infected.	True False I don't know
3	If a mosquito bites you it can infect you with HIV.	True False I don't know
4	You cannot get HIV from kissing a person who is HIV-positive.	True False I don't know
5	A woman who is pregnant can do nothing to prevent her baby from being born with HIV.	True False I don't know
6	Treatment is available for HIV/AIDS.	True False I don't know

Interviewer script. Now we would like to ask you some questions about HIV and your life.

7	What have you done to reduce your chances of getting HIV? Pick all that apply	Never had sex Stopped having sex or abstained from sex Used condoms every time you had sex Changed the way you select who you have sex with Reduced your number of sex partners Had sex with only one partner Had an HIV test Chosen only healthy-looking people as your sexual partners None of these
8	What do you think are the chances that you will get HIV/AIDS in your lifetime?	No chance Some chance A very high chance
9	Before this study, have you ever tested for HIV?	Yes No

24	I am careful about what I am doing now because it could affect my plans for the future.	I totally disagree I disagree I agree I totally agree
25	When I feel discouraged my religious beliefs help me the most.	I totally disagree I disagree I agree I totally agree

Family

Interviewer script: Now we would like to ask you some questions about your relationship with the people in your life that care for you. Your primary caregiver is the adult or adults most responsible for taking care of you.

1	Which adult is most involved in your schooling? Coding: List the person chosen for #1 in question #2-7	Mother Father Older brother Older Sister Aunt Uncle Grandparent Cousin Other adult who is not a blood relative
2	How often does [] check to see that you've done your school work?	Never Sometimes Always
3	How often does [] help you with your school work?	Never Sometimes Always
4	During the 2010 school year, how often did you discuss things you studied in class with []?	Never Sometimes Always N/A (not in school)
5	During the 2010 school year, how often did you discuss your marks with []?	Never Sometimes Always N/A (not in school)
6	How far in school does [] want you to go?	Finish the current year and no more Pass matric University or technikon
7	If you dropped out of school, how disappointed would [] be? If you have previously dropped out of school, tell us how disappointed they were at that time.	Very much Somewhat Not at all
8	Which adult is most involved in other areas of life (NOT including schooling)? Coding: List the person chosen for #8 in question #9-16	Mother Father Older brother Older Sister Aunt Uncle Grandparent Cousin Other adult who is not a blood relative
9	How often does [] try to find out about who your friends are?	Never Sometimes Always
10	How often does [] try to find out about how you spend your free time?	Never Sometimes Always
11	How often does [] try to find out about where you go after school?	Never Sometimes Always
12	How often does [] try to find out about how you spend your money?	Never Sometimes Always
13	How much do you feel that [] cares about you?	Very much Somewhat Not at all
14	How close do you feel to []?	Very close Somewhat close Not at all close
15	How free/open do you feel to discuss issues of sex and sexuality with []?	Very much Somewhat Not at all
16	How free/open do you feel to discuss issues of HIV prevention with []?	Very much Somewhat Not at all
<i>Interviewer script: Now we will ask about places that you may visit and clubs or associations to which you might belong.</i>		
23	How many times in the past six months have you been to:	A funeral? [] A wedding? [] A tavern? [] A place where people dance? [] A shop? [] A church? [] A choir event? [] A sport event or game? [] Another school-related extracurricular activity? [] A political meeting? [] A stokvel [] An HIV awareness or testing event []
24	If you are a member of a group or club, please select which types of groups to which you belong. Pick all that apply.	Student group Health group HIV/AIDS group Finance/loan group Church or religious group Sport group Dance group

Self-Efficacy

Interviewer script: Now we will read some statements about sex and condoms. For each statement, please tell us if you agree a lot, somewhat agree, or do not agree at all with the statement.

1	I can ask a new partner to use condoms.	Agree a lot Somewhat agree Do not agree at all
2	I can ask a partner I haven't been using condoms with to start using them.	Agree a lot Somewhat agree Do not agree at all
3	I can refuse sex when I don't have a condom available.	Agree a lot Somewhat agree Do not agree at all
4	I can get a partner to use condoms, even if I'm drunk or high	Agree a lot Somewhat agree Do not agree at all
5	I can get every partner to use male condoms, even if they don't want to.	Agree a lot Somewhat agree Do not agree at all
6	I can find condoms if I want to use them	Agree a lot Somewhat agree Do not agree at all

Revised Children's Manifest Anxiety Scale

Many kids and teenagers feel nervous or anxious at times. Please say which of these is true for you.

1	I worry a lot of the time	Yes No
2	I worry about what my carers will say to me.	Yes No
3	I feel that others do not like the way I do things.	Yes No
4	It is hard for me to get to sleep at night.	Yes No
5	I worry about what other people think about me	Yes No
6	I feel alone even when there are people with me.	Yes No
7	I worry about what is going to happen.	Yes No
8	Other children/teenagers are happier than I.	Yes No
9	I have bad dreams.	Yes No
10	I wake up scared some of the time.	Yes No
11	I worry when I go to bed at night.	Yes No
12	I am nervous.	Yes No
13	A lot of people are against me.	Yes No
14	I often worry about something bad happening to me.	Yes No

Children's Depression Index

This part of the questionnaire looks at sadness and other difficulties which many people experience at some point in their lives. This questionnaire is arranged in groups of 3 statements. Please listen to each group carefully. Then pick out ONLY ONE statement from each group which best describes the way you have been feeling during the past 2 weeks.

1	I am sad once in awhile I am sad many times I am sad all the time
2	Nothing will ever work out for me I am not sure if things will work out for me Things will work out for me ok
3	I do most things ok I do many things wrong I do everything wrong
4	I hate myself I do not like myself I like myself
5	I feel like crying every day I feel like crying many days I feel like crying once in awhile
6	Things bother me all the time Things bother me many times Things bother me once in awhile
7	I look ok There are some bad things about my looks I look ugly
8	I do not feel alone I feel alone many times I feel alone all the time
9	I have plenty of friends I have some friends but I wish I had more I don't have any friends
10	Nobody really loves me I am not sure if anybody loves me I am sure that somebody loves me

Hope

Interviewer Script: Now we would like to ask you some questions about your future and your hope for success. Please tell me how much you agree with the following statements about yourself on a scale of one to four, where 1=I totally disagree, 2=I disagree, 3=I agree, and 4=I totally agree.

1	It is easy for me to set goals.	I totally disagree I disagree I agree I totally agree
2	I believe that good things happen to me.	I totally disagree I disagree I agree I totally agree
3	I do not worry too much about problems now because I believe my life will be better in the future.	I totally disagree I disagree I agree I totally agree
4	My parents/guardians support me to achieve my goals.	I totally disagree I disagree I agree I totally agree
5	I know that the future is under my control even if things go wrong.	I totally disagree I disagree I agree I totally agree
6	I feel comfortable asking others for help when I need it to reach a goal.	I totally disagree I disagree I agree I totally agree
7	Even when I fail, I keep trying because I know it will be better next time.	I totally disagree I disagree I agree I totally agree
8	I enjoy thinking about how I am going to achieve what I want in my future.	I totally disagree I disagree I agree I totally agree
9	There is nothing that can get in my way of having a good future.	I totally disagree I disagree I agree I totally agree
10	I trust that I will be able to do everything that I want to do in my future.	I totally disagree I disagree I agree I totally agree
11	I will be successful because I know other people like me whom have been successful.	I totally disagree I disagree I agree I totally agree

12	I have more confidence in my future success than others my age.	I totally disagree I disagree I agree I totally agree
13	I am the kind of person who makes plans for how to reach my dreams.	I totally disagree I disagree I agree I totally agree
14	I believe that the things I am doing now are preparing me for what I want in the future.	I totally disagree I disagree I agree I totally agree
15	My friends and I share the dream to have a successful future.	I totally disagree I disagree I agree I totally agree
16	I can achieve my dreams if I focus on it.	I totally disagree I disagree I agree I totally agree
17	I trust that I will achieve the goals that I set for myself.	I totally disagree I disagree I agree I totally agree
18	The important people in my life tell me that I will have a successful life.	I totally disagree I disagree I agree I totally agree
19	I know that my life will be better in the future.	I totally disagree I disagree I agree I totally agree
20	It is easy for me to reach my goals.	I totally disagree I disagree I agree I totally agree
21	I believe that I will be successful even when there are difficulties in my life now.	I totally disagree I disagree I agree I totally agree
22	There are people who can help me when I need guidance to achieve something important to me.	I totally disagree I disagree I agree I totally agree
23	I have faith that I will be successful.	I totally disagree I disagree I agree I totally agree

Appendix 4: Focus Group Discussion (FGD) Topic Guide 1

Focus Group Discussion Guide

Interviewer _____ Date: □□/□□□□/□□

FGD number: □□□□□□□□□□

Instruction for the interviewer: These questions are guides for the discussion. They need not be asked in totality or in the exact order in which they appear. Participants must be allowed to steer the conversation within the focus areas of this research.

Please read out to participants: As some of the questions asked are sensitive in nature, please consider the information carefully before responding. As this is a group discussion, it will be better if you talk about your perceptions generally and you should not feel like you have to describe your own personal experiences. Please keep this information confidential after you finish the discussion.

The purpose of this research is to better understand young women's spending behaviours, the types of items they need for everyday life versus what they really want and how they obtain these items.

Theme	Q	Questions	Summary
Introductions and opening question	1.	Generally, what are the goals and aspirations of young women in your community?	
Relationships with boys/men	2.	Describe the typical kinds of relationships that young women in your community have with men? <first see what participants say> (Probe: Sexual or emotional? Is there dependency? Balance of power? Experienced as good or bad?)	
	3.	How does a young woman choose or decide on picking a male partner or boyfriend? Is it looks or money or anything else? (Probe: why are girls seeking out relationships – love, romance, marriage older age, material goods, money, gifts, status etc)?	
	4.	What do girls generally ' want ' from a relationship with boys or men? (Probe on good things that they want from relationships)	
	5.	What do young women actually ' get ' from relationships with boys or men? (Probe on good or bad things that	

Theme	Q	Questions	Summary
		happen in relationships)	
Young women's Spending/Consumption Patterns	6.	<p>What are the types of items young women are spending money on nowadays?</p> <p><i>(Make a list it on the flipchart based on young women's suggestions and then baseline survey) (After this, there will be short 2 minutes break as moderator writes any missing items on flipchart from baseline survey)</i></p>	
		<p><i>(Do the next exercise on the whiteboard. Give girls stickers with 2 colours for 'need' (red colour) and 'want' (blue colour) and let them stick it)</i></p> <p><i>(Let them first start with need)</i></p>	
	7.	Out of these items, which ones do you think you absolutely think you need? Why do you need them?	
	8.	Are there items here that you need, but cannot afford? Why are these products or things attractive?	
	9.	What happens if you do not have one of the items that you need?	
		<i>(Let them now go to the flipchart and stick next to the items they want)</i>	
	10.	Out of these items, which ones do you think you absolutely think you want? Why do you want them?	
	11.	Are there items here that you want, but cannot afford? Why are these products or things attractive?	
	12.	<p>Can you rank order these items that you want by the top 5 that are most important to you? How would getting these items make you feel?</p> <p><i>[Give them the paper and let them write the top 5 important items. They should also list 3 words that describe how these items make them feel]</i></p>	
	13.	Of the items xx or xx, you can see that some think it's a want and some think it's a need. Why do you think there's a difference? <i><Read off the flipchart at items that are both a need and a want></i>	
	14.	<p>What influences young women to want these items?</p> <p><i><Point to items listed></i></p> <p>(Probe: friends have them? advertised on the TV or radio? role models from TV shows? Facebook or social networking websites?)</p>	

Theme	Q	Questions	Summary
Strategies to access items	15.	Of all these items that you mention, how would you get them? What kinds of items do parents generally pay for? Which are the items parents won't pay for? Why won't they pay for them?	
	16.	How do girls from richer households obtain the items such as [xx or xx based on names generated at the interview]? Are parents more willing to buy these nicer items for them?	
	17.	How do girls from poorer households obtain the items such as [xx or xx based on names generated at the interview]? What role do parents have in buying these nicer items for them?	
	18.	How do young women get these items, if parents are not willing to buy it for them (Probe first: boyfriends, friends, work, sex)? <i>(After discussing, distribute paper with the items listed on a piece of paper with columns for parents, boyfriends, work, friends listed on it. The girls can mark a cross next to the items)</i>	
Perceptions of young women about themselves, their future and HIV risk	19.	Some of you mentioned that some young women get these items through sex. What are the reasons young women have sex for gifts or sex for money?	
	20.	Some people say that young women are taking control of their lives by having sex for gifts? Do you think that's correct? What are your thoughts on that statement?	
	21.	On the other hand, some people say that young women demean themselves by using sex to get things or money. What do you think?	
	22.	In what way are parents or the community aware of young women that are engaging in sex for gifts or sex for money?	
	23.	How do you think young women who are engaging in sex for gifts are perceived by the family? Peer group? Community?	

End of discussion. Thank participants.

Appendix 5: In-depth Interview (IDI) Topic Guide 1

Interviewer _____ Date: //

IDI number:

Instruction for the interviewer: these questions are guides for the discussion. They need not be asked in totality or in the exact order in which they appear. Participants must be allowed to steer the conversation within the focus areas of this research.

Please read to participants: The purpose of this interview is to better understand your personal thoughts and experiences around relationships with men, the items you like to buy and spend their money on and strategies that are used to access these items, which might include sexual exchange. Please let me know if the questions are clear and if you need me to explain anything further. Your responses will be kept confidential. Thanks for your time.

Theme	Q	Questions	Summary
Catch up on previous issues		<i>Might be some catch up information based on key issues that emerged in the focus group discussions</i>	
General Questions		Tell me a bit about your family? Who lives with you in your household? How long have you lived here?	
		How well do you get along well with your parents/guardians? Brothers and sisters?	
		Does your family generally have enough money for basic things like food and clothes or are there times when you have to go without?	
Gifts/money and motivations for items		How do you normally get school uniforms and other items needed for school? [Or more specifically, the last time you needed a school uniform or item for school, how did you get it?]	
		What other items do you need for everyday life? <i><While she's talking, list it on the piece of paper in the first column></i>	
		Can you also tell me more about items that you really want ? (Probe: Can you give me some examples?) <i><While she's talking, continue to list it on the piece of paper in the first column></i>	
		Why do you want these items? How do they make you feel?	

Theme	Q	Questions	Summary
		Exercise 1: Can you list 5 items you want from this list in order of importance and how they make you feel? <Let her write this down on the piece of paper distributed >	
		What influences you to you want these items? (Probe: friends have them, advertisements for them on TV or radio, role models have them, internet such as facebook or social networking sites)	
		How did you get these items? (Probe: buy them, given by parents/guardians, given by boyfriends, work, sex, friends) <Exercise 2: Similar to focus group, let them tick on the column in the sheet of paper>	
		How does having access to your own money make you feel? (Probe: less stressed about finances, autonomous, less dependent on family)	
Relationships with boys/men		I'd like to understand more about the men and boyfriends in your life. How old were you when you first became interested romantically in boys? Are you in a relationship with someone now? Where did you meet him?	
		What are the main reasons you are with him?	
		Does he buy you things or give you gifts such as xx or xx)? <Refer to list that they have filled out> In what way are these gifts that you receive important to you? How do they make you feel? Do you feel like you have to have sex with them to get these items?	
		<Please refer to the list when asking questions 15-20 below>	
		From this list, does your <u>current boyfriend</u> get you all these items that you mention in this list? <If she says "yes" proceed to question 17>	
		What would you do if he didn't buy you the items you need or want? (Probe: Would you stay with him and how would it change things for you?)	
		Are there other boyfriends, even a boyfriend from a " <u>one night stand</u> " or " <u>one week stand</u> " that might get you some of these items? If yes, which items are these? Do you need to do anything in return? If yes, what is it?	
		What would you do if he didn't buy you the items you need or want? (Probe: Would you stay with him and how would it change things for you?)	
		Are there " <u>sugar daddies</u> " that might buy you items on this list? If yes, which items are these? Do you need to do anything in return? If yes, what is it?	
		What would you do if he didn't buy you the items you need or want? (Probe: Would you stay with him and how would it	

Theme	Q	Questions	Summary
		change things for you?)	
Sexual Exchange (transactional sex)		I'd like to talk a little bit more about your sexual relationships. When did you first have sex?	
		What are your primary reasons for engaging in a sexual relationship? (Probe: emotional support, love, status among friends, financial need?)	
		When a boy/man gives you gifts or things, does he expect anything specific in return?	
		What about you? If you agree to have sex with someone are there things that you expect in return?	
		If a boyfriend gives you money or gifts, does that change your sexual behaviour with him? (Probe: use of condoms, any other risky sexual behaviour?) Did you feel like you had to have sex to receive these items?	
Social norms and power in sexual relationships involving exchange		Some people say that young women are taking control of their lives by using sex to get what they want. Others say that it's demeaning. What do you think?	
		What about your friends? Do your friends encourage you to seek out sexual relationships for the financial benefit they can provide?	
		What do your parents or guardians think? Do they encourage you to seek out sexual relationships for the benefits they provide? If yes, in what way do they encourage it? (Probe: household relationships and dynamics)	
		<i>[If she expresses a positive attitude towards transactional sex]</i> You have expressed positive things about these relationships. Are there negative things that happen as well? [Probe: violence, abandonment]	
		Do you find yourself having sex with men or boys who you wouldn't choose otherwise if you were not getting some financial benefits? (Probe: old, but has money; ugly, but has money or gets drunk)	
		Would you have less sexual partners if you don't get financial benefits?	
		If a boy can't give you what you want, what do you do?	
Perceptions of the future		[Just before we wrap up, I'd like to ask you about your aspirations] What do you hope to achieve in your life that hasn't been possible for your parents or guardians? [Probe for education, relationships and career].	
		What do you think is a 'better' life from what you have now?	

End of discussion. Thank participants.

Appendix 6: Informed Consent 1

Consent to Participate in a Research Study
Consent Qualitative Young Woman

Consent Form Version Date:

Title of Study: Understanding sexual exchange among young adolescent women in rural South Africa

Primary Investigator: Meghna Ranganathan, MSc

Institution: London School of Hygiene and Tropical Medicine

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Introduction:

Hello. My name is _____ and I am working for the University of the Witwatersrand and the London School of Hygiene and Tropical Medicine on a project with young women and their families. We would like to invite you to participate in a study that we are doing in this area. I will tell you more about the study before you make up your mind.

We are conducting a research study in your village and in the surrounding Agincourt sub-district. Research is a way to find answers to scientific questions. This research is being paid for by the London School of Hygiene and Tropical Medicine in London, UK and HPTN 068.

This is a consent form. It gives you information about this research. You are free to ask questions at any time. You will be given a copy of this consent form to keep.

What is the purpose of this research?

The main purpose of this research study is to talk with young South African women 18 years or above about the things that young women are spending their money on nowadays, some of the ways they use to try and obtain these items, which might include transactional sex (transactional sex or sexual exchange is defined as a relationship in which gifts or money are exchanged for sex) and attitudes of these young women towards relationships with boyfriends.

Studies have shown that engaging in this kind of sexual exchange increases the risk of acquiring HIV. Thus, if you decide to participate in this project, your responses will enable us to develop programmes to address transactional sex, thus vulnerability to HIV.

If you accept our invitation and agree to participate in a focus group discussion this will be a single group discussion which will last about 2 hours.

If you agree to participate in an in-depth interview study, there will be one private interview for about 2 hours

Do you have to be in this research?

You do not have to be in this research if you do not want to. Just tell us if you do not want to join.

You can change your mind at any time and leave the study. You and your family will be treated the same no matter what you decide.

We will provide you with any additional information that becomes available during the study, which may affect your willingness to continue on the study

What will you be asked to do for this research?

There are two different ways that you might be asked to be involved in this research: one is to participate in a focus group discussion and the other is to participate in a one-to one interview.

Focus Group: If you choose to take part in the focus group, you will have a discussion with a group of other participants of the same sex and an interviewer. The discussion will be recorded so we have an exact record of what everyone says as there is too much information to write down during the discussion. If you are not willing to be recorded you should not agree to participate in a focus group.

In-depth Interview: If you choose to accept our invitation to participate in the in-depth interview, you will be asked to allow an interviewer to spend some time with you alone talking about your aspirations, sexual behaviour, attitudes and beliefs about relationships and HIV knowledge.

How long will you be in this study?

If you are asked to be in a *focus group* it will last about 2 hours and will take place only once. If you are then selected to take part in the in-depth interview, an interviewer will spend time with you asking you questions about personal issues such as your needs and wants, attitudes and beliefs about relationships, sex and HIV knowledge. This too will happen once and the visit may take 1-3 hours though not all this time will be spent answering questions.

When would withdrawal from the study occur?

You may be removed from the study without your consent for the following reasons:

- The study is stopped or cancelled
- You move outside the study area
- Staying in the study would be harmful to you
- Other administrative reasons

What about privacy?

We will do everything we can to keep your research information private. The research records will be kept in a locked room. Your research records will use a code number, not your name. However, we cannot promise absolute confidentiality. The research records may be reviewed by the Human Research Ethics Committee (HREC) of the University of the Witwatersrand in South Africa, or the Ethics Committee of the London School of Hygiene and Tropical Medicine, study staff and authorized representatives of these organizations.

An exact record of what you say during the focus group or the in-depth interview will be recorded. Your name will not be on the recording. If you are asked to be part of a discussion group, we will remind everyone to keep the information they hear private.

The sound recording will be stored for 2 years after the data is published or for 6 years if the data is not published. Recordings will be stored on password protected computers with access limited to senior members of the study team.

What are the risks and discomforts of the study?

The in-depth interview or group discussion could make you feel uncomfortable or embarrassed. You may refuse to answer any question and you can stop at any time. If any of the topics discussed upset you, we can refer you to a counselor with whom you can talk further.

If you take part in a *focus group* we cannot promise that other members of the group discussions will keep the discussion private. You should remember this before deciding to discuss issues you feel are very personal and private. If it would make you feel more comfortable during the discussion, you can make up a name to be used while we are talking in the group.

If you would like to learn more information about HIV/AIDS, and/or communicating with others about these topics we can refer you to another organization that helps young people. Additionally, if you would like pamphlets about these topics our study staff can give these to you.

Will this research help you or your community?

There are no immediate benefits to being in the study. However, your community and other communities may benefit from this research in the future.

Are there any costs?

There is no cost to you for being in this study. You will be given refreshments, such as biscuits and soft drinks at the time of your study activity and you will be fully compensated for costs incurred such as transport costs.

What happens if you are injured by this research?

Because this activity only involves answering questions, it is very unlikely that you could be injured. However, if your participation in this study causes you to need ongoing care, the study will pay for this care at local public sector clinics and hospitals and cover any transport costs that you may have to reach these facilities. There is no program for compensation either through this institution or the London School of Hygiene and Tropical Medicine. You will not be giving up any of your legal rights by signing this consent form.

Ethical Approval

This study protocol has been submitted to the University of the Witwatersrand, Human Research Ethics Committee (HREC) and the London School of Hygiene and Tropical Medicine Ethics Committee and written approval has been granted by these committees.

What if you have more questions?

You can ask any question you want about this research now. If you have questions later you can call, anonymously if you wish, the University of the Witwatersrand Human Research Ethics Committee. Please phone 011 717 2301 to be directed to Prof Cleaton-Jones of the committee.

If you have any questions or concerns, the 24-hour telephone number through which you can reach the site Principal Investigator (Dr. Kathleen Kahn) is +27-(0)82-417-7373.

If you would like to learn more information about HIV/AIDS, and/or communicating with your parent/guardian about these topics we can refer you to a clinic where you can learn more information.

Please indicate below, whether you want me to notify your personal doctor or your specialist of your participation in this study:

- YES, I want you to inform my personal doctor/specialist of my participation in this study
- NO, I do not want you to inform my personal doctor/specialist of my participation in this study
- I do not have a personal doctor/specialist

This study has been structured in accordance with the Declaration of Helsinki (last updated, October 2008), which deals with the recommendations guiding doctors in biomedical research involving human participants. A copy may be obtained from me should you wish to review it

Verification of Consent

Do you agree to take part in the research study?

PARTICIPANT'S AGREEMENT TO TAKE PART

Participant's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to be in:

_____ (*participant initials*) I agree to participate in the in-depth interview, if selected

_____ (*participant initials*) I agree to participate in a single focus group discussion

_____ (*participant initials*) A single focus group discussio

_____ (*participant initials*) The case study part of the research (2 visits each year for the duration of study participation)

Appendix 7: Participant Information Leaflet 1

Every participant must receive, read and understand this document before any procedure of the study. Please note that this leaflet is in addition to the written consent or assent obtained

VERSION: 2.0

STUDY TITLE: Understanding sexual exchange among young adolescent women in rural South Africa

AN ABBREVIATED NAME FOR THIS STUDY: Young Women and Sexual Exchange (YWSE)

FUNDED BY: The London School of Hygiene and Tropical Medicine and HPTN 068

PRINCIPAL INVESTIGATORS: Ms. Meghna Ranganathan, Dr Kathleen Kahn, Dr. Pettifor, Dr Catherine MacPhail

Hello. My name is _____ and I am working for the University of the Witwatersrand and the London School of Hygiene and Tropical Medicine on a project with young women and their families. We would like to invite you to participate in a study that we are doing in this area.

We are conducting research with young women to understand their relationships, the items young women like to buy and spend their money on and strategies they use to access these items, which could include sexual exchange.

We are conducting this research study in your village and in the surrounding Agincourt sub-district. Research is a way to find answers to scientific questions and his research is being paid for by the London School of Hygiene and Tropical Medicine in London, UK and HPTN 068.

We would like to invite you to participate in a small focus group discussion and then maybe for an in-depth interview later. First let me give you some information about the study and then you can decide if you are willing to participate.

Before you decide to participate in this study, it is important to understand explanations in this leaflet. This leaflet describes the purpose of the study, study procedures, benefits, risks, discomforts, and your right to withdraw at any time from the study. This leaflet will help you to make a decision whether you want to take part in this study. It will be discussed with you.

You need to understand study procedures before participating in this focus group discussion. If you have questions, please do not be afraid to ask. You should not agree to participate if you are not satisfied with the procedures involved.

PURPOSE OF THE STUDY:

The University of Witwatersrand and LSHTM are a group of scientists who are trying to understand young women's needs and wants and their strategies for how to obtain these items, which could including engaging in transactional sex. Transactional sex or sexual exchange is defined as a relationship in which gifts or money are exchanged for sexual acts. Studies have shown that engaging in this kind of sexual exchange increases the risk of

acquiring HIV. Thus, if you decide to participate in this project, your responses will enable us to develop programmes to address transactional sex, thus vulnerability to HIV.

This study is taking place in Agincourt, rural South Africa and is a small study where we will talk with young women aged 18 years or older. Your participation in this focus group discussion group will take up to 2 hours. In addition, we might invite you to participate in an in-depth interview later, which would take place in private and would last for 2 hours.

If you are willing to participate, the fieldworker will visit you in your home or school to obtain your consent.

STUDY VISIT:

If you agree to join the study, you will be asked to participate in a focus group discussion with approximately 6-8 participants. The discussion will be facilitated by a trained moderator and will last for up to two hours. The discussion will be in the language you are most comfortable speaking (Shangaan). It is sometimes difficult for the moderator to listen to what everyone is saying, and remember all the information provided, so we would like your permission to record the discussion as well as to take brief notes. After the discussion, someone will type a transcription of what is on the recording and will remove any mention of names. The sound recording will be stored for 2 years after the data is published or for 6 years if the data is not published. Recordings will be stored on password protected computers with access limited to senior members of the study team.

In the discussion we will discuss the following issues related to young women:

- Relationships with boys/men
- Spending habits, such as their likes and dislikes for different types of items
- Strategies to access items, which might include sexual exchange
- Perceptions of young women about themselves, their future and HIV risk

You don't need to have special knowledge or education for this discussion. We are more interested in your opinions.

There is a chance that you might be invited for an in-depth interview at a later stage, which you can decide if you are willing to participate.

NEW FINDINGS:

We will provide you with any additional information that becomes available during the study, which may affect your willingness to continue on the study

RESEARCH PARTICIPANT'S RIGHTS:

The decision to join this research is entirely voluntary. You may decide not to take part in this research or to leave at any time without losing the care or services you might be receiving in the community. You and your family will be treated the same no matter what you decide.

If you decide not to join, she can still join another research study later if one is available and you are eligible.

WITHDRAWAL:

You may be removed from the study without your consent for the following reasons:

- The study is stopped or cancelled
- You move outside the study area
- Staying in the study would be harmful to you
- Other administrative reasons

RISKS and/ or DISCOMFORTS:

We will be discussing questions about sexual behaviours and HIV risk. You may feel embarrassed or uncomfortable discussing some of these issues; however you may also find it helpful to talk about these issues with someone. You may refuse to answer any question and can stop at any time. If any of the topics discussed upset you, we can refer you to a counselor with whom you can talk further. We cannot promise that other members of the group will keep the discussion private. You should remember this before deciding to discuss issues you feel are very personal and private. If it would make you feel more comfortable during the discussion, you can make up a name to be used while we are talking in the group.

If you would like to learn more information about sex, HIV/AIDS, and/or communicating with others about these topics we can refer you to another organisation that helps young people. Additionally, if you would like pamphlets about these topics our study staff can provide these to you.

POTENTIAL BENEFITS:

There are no immediate benefits to being in the study. However, your community and other communities may benefit from this research in the future.

COSTS AND COMPENSATION:

There is no cost to you for being in this study. You will be given refreshments, such as biscuits and soft drinks at the time of your study activity and you will be fully compensated for costs incurred such as transport costs.

CONFIDENTIALITY:

All efforts will be made to keep research records confidential. All of the research records will use a code number, not names. Research records are stored in a locked room. Your name will never be used in any publication or presentation about the research study. However, we cannot guarantee absolute confidentiality.

The research records may be reviewed by the Human Research Ethics Committee (HREC) of the University of the Witwatersrand in South Africa, or the Ethics Committee of the London School of Hygiene and Tropical Medicine, study staff and authorized representatives of these organizations.

An exact record of what you say during the interview or focus group will be recorded. Your name will not be on the recording.

For focus group discussions: As researchers we will keep the information discussed in groups confidential, however, we cannot absolutely guarantee that the information you share in the group will be kept confidential, although we will ask all the other participants in the group to keep the information private.

For in-depth interviews: The information you share with us during the interview will not be disclosed to anyone including your parents, unless you ask us to share it.

IN CASE OF RESEARCH RELATED INJURY:

As this activity only involves interview/ discussion, it is very unlikely that you could be injured. However, if participation in this study causes you to need ongoing care, the study will pay for this care at local public sector clinics and hospitals and cover any transport costs that you might need to reach these facilities. There is no program for compensation either through this institution or the London School of Hygiene and Tropical Medicine.

ETHICS APPROVAL:

This study protocol has been submitted to the University of the Witwatersrand, Human Research Ethics Committee (HREC) and the London School of Hygiene and Tropical Medicine Ethics Committee and written approval has been granted by these committees.

ANY OTHER QUESTIONS?

You have the right to ask, and have answered any questions you may have about this research. If you have questions, or concerns, you should contact the researchers listed on the first page of this form. You will be given an opportunity to ask any questions before the interview/ focus group begins.

Please indicate below, whether you want me to notify your personal doctor or your specialist of your participation in this study:

- YES, I want you to inform my personal doctor/specialist of my participation in this study
- NO, I do not want you to inform my personal doctor/specialist of my participation in this study
- I do not have a personal doctor/specialist

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about his rights as a research subject you may contact, anonymously if you wish, the University of the Witwatersrand Human Research Ethics Committee. Please phone 011 717 2301 to be directed to Prof Cleaton-Jones of the committee. If you have any questions or concerns the 24-hour telephone number through which you can reach the site Principal Investigator (Dr. Kathleen Kahn) is +27-(0)82-417-7373.

This study has been structured in accordance with the Declaration of Helsinki (last updated, October 2008), which deals with the recommendations guiding doctors in biomedical research involving human participants. A copy may be obtained from me should you wish to review it.

PARTICIPANT'S AGREEMENT TO TAKE PART

Participant's Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to be in:

_____ (*participant initials*) I agree to participate in the in-depth interview, if selected

_____ (*participant initials*) I agree to participate in a single focus group discussion

_____ (*participant initials*) A single focus group discussion

Appendix 8: Ethics approval from University of Witwatersrand, Johannesburg and the London School of Hygiene and Tropical Medicine 1

**University
of the Witwatersrand,
Johannesburg**



Human Research Ethics Committee: (Medical)
FWA Registered No IRB 00001223

SECRETARIAT: Suite 189, Private Bag x2600, Houghton 2041, South Africa Tel: +27-11-274 9200 Fax: +27-11-274 9281

11 September 2012

FAXED & COURIED

Ms M Ranganathan,
Candidate for Doctor of Philosophy (PhD), 2nd year
London School of Hygiene and Tropical Medicine
Keppel Street
London WC1E 7HT
UK

Fax:

Dear Ms Ranganathan,

PROTOCOL: HPTN068 ANCILLARY STUDY 2 - ANCILLARY STUDY 2 - EFFECTS OF CASH TRANSFER FOR THE PREVENTION OF HIV IN YOUNG SOUTH AFRICAN WOMEN (HPTN 068): UNDERSTANDING SEXUAL EXCHANGE AMONG YOUNG ADOLESCENT WOMEN IN RURAL SOUTH AFRICA

ETHICS REFERENCE NO: 120804

RE : FINAL ETHICS APPROVAL

This is to certify that the above-mentioned trial was reviewed by the University of the Witwatersrand, Human Research Ethics Committee (HREC), and the Protocol Review Committee (PRC) on: 31 August 2012.

The University of the Witwatersrand, Human Research Ethics Committee Approval Granted for the above mentioned study is valid for five years. Where required by Sponsor to have approval on a more frequent basis it remains the responsibility of the Sponsor and Investigator to apply for continuing review and approval, or for the duration of the Trial.

1. THIS APPROVAL IS SUBJECT TO THE FOLLOWING PROVISOS:

* A copy of the MCC Approval and/or MCC Notification letter must be submitted to the Ethics Regulatory Office Secretariat before the study commences / or where an Amendment may be implemented (IF MCC APPROVAL / NOTIFICATION IS APPLICABLE). It remains the responsibility of the Principal Investigator and/or Sponsor to ensure that the relevant approvals are in place.

* The study is conducted according to the protocol submitted to the University of the Witwatersrand, Human Research Ethics Committee. Any amendments to the protocol must first be submitted to the Human Research Ethics Committee for approval.

* During the study, the University of the Witwatersrand, Human Research Ethics Committee is informed immediately of :

- Any Unexpected Serious Adverse Events or Unexpected Adverse Drug Reactions, which, in the Investigator and/or the Sponsor's opinion are suspected to be related to the study drug. (Refer to POL-IEC-001 and SOP-IEC-005, Item 3.4).

- Any data received during the trial which, may cast doubt on the validity of the continuation of the study .

* The University of the Witwatersrand, Human Research Ethics Committee is notified of any decision to discontinue the study and the reason stated.

* The Investigators authorised by this approval participate in this study. Additional Investigators shall be submitted to the University of the Witwatersrand, Human Research Ethics Committee for approval prior to their participation in the study.

* In the event of an authorised Investigator ceasing to participate in the study, the University of the Witwatersrand, Human Research Ethics Committee must be informed and the reason for such cessation given.

2. PRINCIPLES OF INFORMED CONSENT:

* The University of the Witwatersrand, Human Research Ethics Committee requires that in all studies, the Principles of Informed Consent are adhered to. This applies to volunteers as well as patients.

3. PROGRESS REPORTS:

* The University of the Witwatersrand, Human Research Ethics Committee requests that the MCC Progress Reports be submitted twice a year either in March and September or six monthly from start of study to the HREC Secretariat Office - 011 274 9281 and a report of the final results, at the conclusion of the study. (IF APPLICABLE)

4. REIMBURSEMENT TO PATIENTS FOR TRANSPORT:

* The Human Research Ethics Committee: (Medical) is in agreement that reimbursement per visit is according to the Medicines Control Council of SA and that reimbursement should be appropriate according to the situation.

5. TRANSPORT AND STORAGE OF BLOOD AND TISSUE SAMPLES IN SOUTH AFRICA:

* If blood specimens are to be stored for future analysis and is planned that such analysis will be done outside Wits, then the blood must be stored at a facility in South Africa agreed with the relevant IRB, with release of sub-samples only once projects have been approved by the local Research Ethics Committee applicable to where the analysis will be done as well as by the Wits Human Research Ethics Committee: (Medical).

6. GENETIC TESTING

* The Human Research Ethics Committee: Medical; will not approve open-ended genetic testing as this does not fit the Human Research Ethics Committee criteria.

7. GOOD CLINICAL PRACTICE

The South African Department of Health, Medicines Control Council requires Good Clinical Practice (GCP) Training for all Investigators in Clinical Trials, and that GCP training be renewed every three (3) years.

As yet, there are no National Guidelines for the content of GCP courses. Until these are available the Wits Human Research Ethics Committee (Medical) will note courses completed by Investigators without approval of the content of the individual courses.

8. THE SUPPORTING APPROVAL DOCUMENTS ARE ATTACHED:

8.1 Ethics Approval Form signed by the Chairperson of the HREC - Kindly return the copy of the Approval Form signed by the Principal Investigator / (s) per fax: 011 274 9281 for our records (this is applicable with the initial Approval).

8.2 Protocol Review Committee Approval Signature page signed by the Acting Chairperson of the PRC.

8.3 List of members present at the HREC meeting held as per INDEPENDENT ETHICS COMMITTEE APPROVAL FORM

9. WE AWAIT YOUR RESPONSES AS REQUESTED: Ensure to have these documents forwarded at the earliest for the HREC records.

* MCC Approval letter and/or letter of Notification before the above study may commence / or where an Amendment may be implemented (IF MCC APPROVAL / NOTIFICATION IS APPLICABLE). It remains the responsibility of the Principal Investigator and/or Sponsor to ensure that the relevant approvals are in place.

* Copy of Independent Ethics Declaration Approval Form signed by the Principal Investigator. (this is applicable with the initial Approval).

* Kindly forward the above to the undersigned at fax: 011 274 9281 at your earliest convenience.

The above has been noted for the Ethics Committee information and records.

**KINDLY FORWARD TO THE RELEVANT INVESTIGATORS / CRA /
SPONSOR / STUDY CO-ORDINATORS - WHERE APPLICABLE**

Regards,



PROF PETER CLEATON-JONES

For and on behalf of the Human Research Ethics Committee: (Medical)

Observational / Interventions Research Ethics Committee

Meghna Ranganathan
Research Student
GHD/PHP
LSHTM

4 December 2012

Dear Ms Ranganathan,

Study Title: Understanding sexual exchange among young adolescent women in rural South Africa
LSHTM ethics ref: 6306

Thank you for your email of 25 November 2012, responding to the Observational Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Conditions of the favourable opinion

Approval is dependent on local ethical approval having been received, where relevant.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
LSHTM ethics application	n/a	
Protocol	v2	7.10.2012
Information Sheet	V4	24.11.2012
Consent form	V4	24.11.2012

After ethical review

Any subsequent changes to the application must be submitted to the Committee via an E2 amendment form. All studies are also required to notify the ethics committee of any serious adverse events which occur during the project via form E4. At the end of the study, please notify the committee via form E5.

Yours sincerely,



Professor Andrew J Hall
Chair
ethics@lshtm.ac.uk
<http://intra.lshtm.ac.uk/management/committees/ethics/>

Appendix 9: Coding Framework 1

DEMOGRAPHICS	
D0.1: Age	Age of participant at the time of the interview. Only use this code once in each transcript to allow for counting.
D0.2: Location	Place where the interview took place. Only use this code once in each transcript to allow for counting.
GENERAL QUESTIONS	
G1.1: Family structure	Apply to any information that the participant provides about her current living situation, information on who she lives with, the number of family members, how long she's lived there
G1.2: Family relationships	Apply to kind of family relationship (positive or negative)
G1.3 Socioeconomic status of family	Apply to response on whether family has enough food to eat or can afford basic things or if there are times they have to go without.
CONSUMPTION ITEMS/WANTS/NEEDS	
Items that yw are spending their money on	Apply to types of items that young women are spending money on nowadays (Also exercise 1)
Items that are considered a need	Apply to information on for items that a participant considers a "need" (an item that she cannot live without)
Reasons for needing the items	Apply to information about why she needs the items and reasons for absolutely needing the items. Her need for the item even if it's unaffordable.
Reasons items are considered attractive	Apply to information on why these items are considered attractive and what she would do if she didn't have them
Items that are considered a want	Apply to information on for items that a participant considers a "want" (an item that she can live without, but really desires)
Reasons for wanting the items	Apply to information about why she wants the items and reasons for absolutely wanting the items. Her desire for the item even if it's unaffordable.
Reasons items are considered attractive	Apply to information on why these items are considered attractive and what she would do if she didn't have them
'Wants' versus 'needs'	Apply to information that participants supply when there is a discrepancy between what they consider a want and a need
Influencing factors for wanting items	Apply to all information that participants supply as being factors that influence them wanting these items – such as peer influences, TV advertisements, role models from TV shows, social networking sites
5 most important items young women want	Apply to exercise 2 on ranking top 5 most important items
STRATEGIES TO ACCESS ITEMS	
Parents pay for items	Apply to information on whether parents buy items or not

Kinds of items parents pay for	Apply to information on the types of items that parents would pay for or not
Varies by SES (parents buy items)	Apply to information on whether strategies to obtain items vary by socioeconomic status
Items received by boyfriends, friend, work, sex	Apply this code for discussion around who provides the young women with the items, but need separate coding for exercise 3
Feelings around having access to money	Apply when feelings are discussed – such as less stressed, autonomous, more independent
RELATIONSHIPS WITH MEN	
Men relationships	Apply to any discussion about the kinds of relationships that adolescent men and women (personally or generally) are having - sexual or emotional, dependency, balance of power, positive or negative
Relationship choice	Apply to any discussion about choices made or the motivation for picking a partner – looks, love, romance, older/established, material goods, money, status (personally or generally)
Definitions of relationships	Apply to how yw conceptualise relationships – boyfriend, friend who’s a boy, sugar daddies
Positive ‘wants’ from relationships	Apply to discussion on what yw want as positive things from relationships
Reality of relationships	Apply to discussion on what yw actually get from relationships
Feelings when gifts or money received	Apply to discussion on how yw feels when she receives money or gifts,
Gifts or money received from current boyfriend	Apply to information if yw refers to gifts or money received from a current boyfriend
YW reaction if gifts/money not received	Apply to information if yw doesn’t receive gifts or money from her current boyfriend
Gifts or money received from short term boyfriend	Apply to information if yw refers to gifts or money received from a short term boyfriend
YW reaction if gifts/money not received	Apply to information if yw doesn’t receive gifts or money from a short term boyfriend
Gifts or money received from sugar daddy	Apply to information if yw refers to gifts or money received from a sugar daddy
YW reaction if gifts/money not received	Apply to information if yw doesn’t receive gifts or money from a sugar daddy
SEXUAL EXCHANGE/TRANSACTIONAL SEX	
Reasons for sexual relationships	Apply to any discussion of reasons for engaging in a sexual relationship – emotional support, love, status among friends, financial need
Sexual exchange in return for money or gifts received	Apply to question in IDI about sex in return for money or gifts

Reasons for engaging in sex for gifts or money	Apply to discussion around why young women are engaging in sex for gifts or money
Expectation from boy/man if sex exchanged for money/gifts received	Apply to information on whether there are expectations from the yw if she agrees to have sex with boy/man for money/gifts
Expectation from yw if sex exchanged for money/gifts received	Apply to information on whether there are expectations from the yw if she agrees to have sex with boy/man for money/gifts
Risky sexual behaviours	Apply to discussion around whether sexual behaviours changes if YW had sex for gifts
SOCIAL NORMS/POWER/AGENCY	
Taking control with sex for money/gifts	Apply to any discussion when the yw mentions power or control that yw have by using sex for money or gifts (personally or generally)
Considered demeaning with sex for money/gifts	Apply to any discussion when the yw mentions it's demeaning that yw use sex for money or gifts (personally or generally)
Friends' perceptions on sex for money/gifts	Apply to any information about what friend's think of the YW's engagement in transactional sex (personally or generally)
Parents'/guardian's role in sexual exchange	Apply to any information about parent's role in YW's engagement in transactional sex (personally or generally) – mention if they encourage it. Also use this code to discuss general household dynamics/relationships
Negative perceptions on sexual exchange	Apply to any information about how the participant feels is negative about relationships that are transactional in nature – such as violence, abandonment, manipulation
Wrong choice in men	Apply to information on what drives young women to choose men who they might not be with otherwise – if he's old or is ugly, but has money, etc.
Impact on number of sexual partners	Apply to information on the number of sexual partners the young woman would have depending on whether she's receiving any benefits.
Being opportunistic	Apply to information on what yw would do if she didn't get what she wanted from her boyfriend
PERCEPTIONS OF THE FUTURE	
Future goals	Apply to any information that talks about YW's future goals, dreams and aspirations regarding education, relationships & career.
"Better" life	Apply to information on what young women perceive to be a better future from what they currently have.

Appendix 10: Unadjusted results of the association between transactional sex and young women who consume items versus those who do not consume any items. 1

Table 5.5a shows the unadjusted results of the association between transactional sex and young women who consume items versus those who do not consume any items. There is no significant difference between those who consume low cost luxuries and those who do not consume anything. However, young women who engage in transactional sex have 4.23 times higher odds of consuming high cost essentials than women who do not engage in transactional sex, although the difference is statistically weak (CI95% 0.94-18.9, p=0.06). In addition, young women who purchase entertainment related items are 5.34 times more likely to consume entertainment related items than young women who do not consume any items (CI95% 1.24-22.9, p=0.02). As can be observed with the wide confidence intervals, the sample size is too small to detect any major difference.

Unadjusted relationship between transactional sex and young women’s consumption of items
(versus those who don’t consume anything) (among sexually active young women who reported some consumption) ^

	N (%)	Outcome n (row%)	Unadjusted OR	95% CI	P-value**
Outcome: Low Cost Luxury (n=359)*					0.12
No TS	320(89.1)	273 (85.3)	Reference		
TS	39 (10.8)	37 (94.9)	3.18	0.74-13.7	
Outcome: High Cost Essentials (n=167)*					0.06
No TS	147 (88.0)	100 (68.0)	Reference		
TS	20 (12.0)	18 (90.0)	4.23	0.94-18.9	
Outcome: Entertainment related and risk indicator (ERI) (n=265)*					0.02
No TS	223 (84.1)	176 (81.5)	Reference		
TS	42 (15.9)	40 (18.5)	5.34	1.24-22.9	

^As separate analysis for each variable, sample size for each analysis included in each category

*Please note these numbers are the sum of the number of young women (who are sexually active) who are buying each of the items + the number of young women that are not buying anything.

** P-value calculation through LRT test

Appendix 11: Worksheet for needs and wants exercise 1

Items	FGD1 (4)		FGD2		FGD3		FGD4		FGD5		Overall	Groupings			
	Needs	Wants	Needs	Wants	Needs	Wants	Needs	Wants	Needs	Wants					
Make-up (eyebrow, mascara, false eye lashes, eye shadow, eye liner)		x (2)		x		x		x		x	Want	Personal enhancement			
Cosmetics (ponds, nail polish (cutex), bio-claire, lip balm, bag, hair control)		x (3)		1 x (4)		4 x (8)		x (2)		1	x (4)	Want	Personal enhancement		
Expensive perfume				1		1		1				Need	Personal enhancement		
Clothes		1		2		5		1		3		Need	Practical items		
Expensive Clothes (colour blocking, skinny jeans, hlokoloza, tekkies, branded clothes, bum shorts)		4		1				4		3	3	Need	Pricey Items		
Ordinary cell phone and Airtime		3		2		1		4		2	4	Want	Practical items		
hair extensions	X			equal		x		x		N/A		Need	Personal enhancement		
Salon treatment (Hairdressing/hair highlighting, relaxing, dyeing, manicure, waxing)				3		1		5		7		5	Want	Personal enhancement	
Expensive phones (blackberry/camera phone/nokia/X2)		2		2		1		3		3	2	3	Want	Pricey Items	
Expensive foods (chocolate, yoghurt, grapes, restaurant - eating out)				2				5		1	3	1	1	Want	Pricey Items
Shoes				2									Need	Practical items	
Fancy shoes (high heels, carvela)						3		1			1	2	Need	Pricey Items	
Accessories (Watches/handbag)				2		2		1		4		1	4	Want	Personal enhancement
Beer/alcohol		1		2		2		2		3		3	Want	Entertainment/leisure	
Jewellery (bracelets, earrings, necklace, gold tooth)		1 x (5)		2 x (4)		2 x (11)		X (5)		1 x (8)		1	1	Want	Personal enhancement
Female items (Bras and underwear, sanitary pads)		3		2		6		3		2	2	2	Need	Practical items	
Lingerie (g-string, fancy underwear (jockey))								2		1	3		3	Need	Personal enhancement
Toileteries (Scented soap, skin cream, body lotion, powder, roll-on)	x (3)			2 x (3)		1 x (14)		x (7)		x (4)		1	1	Need	Personal enhancement
Cold drinks and chips,, Ultramel, pies, lays		1		2				3		3		2	2	Want	Entertainment/leisure
Food, groceries		2		2		5		2		4			4	Need	Practical items
School uniforms/supplies	x (2)			x (2)		x (4)		x (3)		x (5)				Need	Practical items
Transport to school/work	x (3)			x (1)		x (5)				x (2)	x (1)	x (3)		Need	Practical items
Entertainment (movies/music, travelling)		x (3)		x (1)		x (3)		x (1)		x (1)	x (2)	x (1)	x (7)	Want	Entertainment/leisure
Birth control/condoms		3						2		1				Need	Practical items
Body piercings (Belly ring, nose ring, tongue ring, tattoo)				5										Want	Personal enhancement
Pocket money										2				Want	Entertainment/leisure

Appendix 12 1: Distribution of HIV/HSV2 by socio-demographic and partnership characteristics for young women engaging in transactional sex

	n (%) =95	n (%) HIV =10	Unadjusted Odds Ratio	95% CI	p value	N(%) =97	n(%) HS V =14	Unadjusted Odds Ratio	95% CI	p value
Age										
13-15	15 (15.8)	1 (6.7)	Reference			15 (15.8)	1 (6.7)	Reference		
16-21	80 (84.2)	9 (11.2)	1.77	0.21-15.14	0.60	82 (84.5)	13 (15.8)	2.64	0.32-21.83	0.37
Sex of guardian										
Male	12 (12.6)	2 (16.7)	Reference			12 (12.4)	2 (16.7)	Reference		
Female	83 (87.4)	8 (9.6)	0.53	0.10-2.87	0.46	85 (87.6)	12 (14.1)	0.82	0.16-4.22	0.81
Socioeconomic status										
Low	26 (27.4)	2 (7.7)	Reference			27 (27.8)	3 (11.1)	Reference		
Medium	38 (40.0)	3 (7.9)	1.03	0.16-6.63	0.98	39 (40.2)	3 (7.7)	0.67	0.12-3.58	0.64
High	31 (32.6)	5 (16.1)	2.31	0.41-13.03	0.34	31 (31.9)	8 (25.8)	2.78	0.66-11.80	0.16
No. of HH members										
2-3 members	15 (15.8)	3 (20.0)	Reference			15 (15.5)	4 (26.7)	Reference		
4-5 members	34 (35.7)	4 (11.8)	0.53	0.10-2.74	0.45	35 (36.1)	6 (17.1)	0.57	0.13-2.40	0.44
6-7 members	25 (26.3)	2 (12.0)	0.54	0.10-3.13	0.50	25 (25.8)	3 (12.0)	0.37	0.07-1.97	0.25
> = 8 members	21 (22.1)	0 (0.0)	1	n/a		22 (22.7)	1 (4.5)	0.13	0.01-1.31	0.08
Primary Caregiver										
Father	6 (6.3)	1 (16.7)	Reference			6 (6.2)	2 (14.3)	Reference		
Mother	69 (72.6)	5 (7.2)	0.39	0.04-4.02	0.43	70 (72.2)	8 (11.4)	0.26	0.04-1.64	0.15
Brother/sister	7 (7.4)	0 (0.0)	1	n/a		7 (7.2)	0 (0.0)	1		
Other blood relative	13 (13.7)	4 (30.8)	2.22	0.19-25.7	0.52	14 (14.4)	4 (28.6)	0.8	0.10-6.25	0.83

Primary caregiver education										
none	28 (29.5)	5 (17.9)	Reference			29 (29.9)	6 (20.7)	Reference		
primary	19 (20.0)	1 (5.3)	0.25	0.03-2.38	0.23	19 (19.6)	3 (15.8)	0.72	0.16-3.30	0.67
secondary	17 (17.9)	1 (5.9)	0.29	0.03-2.70	0.27	17 (17.5)	3 (17.7)	0.82	0.18-3.82	0.80
matric or tertiary	27 (28.4)	2 (7.4)	0.37	0.06-2.08	0.26	28 (28.9)	2 (7.1)	0.29	0.05-1.61	0.16
Adult basic education	4 (4.2)	1 (25.0)	1.53	0.13-18.0	0.73	4 (4.1)	0 (0.0)	1		
Orphans										
Parents alive	73 (76.8)	7 (9.6)	Reference			74 (76.3)	12 (16.2)	Reference		
Parents dead	22 (23.1)	3 (13.6)	1.48	0.35-6.32	0.59	23 (23.7)	2 (8.7)	0.49	0.10-2.38	0.38
Currently have a boyfriend										
No	20 (21.0)	1 (5.0)	Reference			20 (20.6)	0 (0.0)	Reference		
Yes	75 (78.9)	9 (12.0)	2.59	0.31-21.76	0.38	77 (79.4)	14 (18.2)	1	n/a	
Sex partners in the past 12 mths (n=93)										
1	70 (75.2)	6 (8.6)	Reference			72 (74.2)	4 (5.6)	Reference		
2	13 (13.7)	2 (15.4)	1.93	0.35-10.86	0.45	13 (13.4)	6 (46.1)	14.6	3.30-64.34	0.00
>3	10 (10.5)	2 (20.0)	2.67	0.46-15.5	0.27	10 (10.3)	3 (30.0)	7.30	1.34-39.36	0.02
Work done for money										
No	62 (65.3)	6 (9.7)	Reference			62 (63.9)	8 (12.9)	Reference		
Yes	33 (34.7)	4 (12.1)	1.29	0.34-4.93	0.71	35 (36.1)	6 (17.1)	1.39	0.44-4.41	0.57

Age difference with partner										
Younger than YW	13 (13.7)	4 (30.8)	Reference				13 (13.4)	1 (7.7)	Reference	
upto 4 years older than YW	65 (68.4)	2 (3.1)	0.07	0.01-0.45	0.00		67 (69.1)	11 (16.4)	2.35	0.27-20.03
>4 years older than YW	17 (17.9)	4 (23.5)	0.69	0.14-3.52	0.66		17 (17.5)	2 (11.8)	1.6	0.13-19.83
Condom use										
No	25 (26.3)	2 (8.0)	Reference				26 (26.8)	4 (15.4)	Reference	
Yes	70 (73.7)	8 (11.4)	1.48	0.29-7.51	0.63		71 (73.2)	10 (14.1)	0.90	0.26-3.17
Alcohol and drug use										
No	80 (84.2)	8 (10.0)	Reference				82 (84.5)	12 (14.6)	Reference	
Yes	15 (15.8)	2 (13.3)	1.39	0.26-7.26	0.70		15 (15.5)	2 (13.3)	0.90	0.18-4.48
Young women's partner concurrency										
No (partner concurrency)	45 (47.4)	4 (8.9)	Reference				45 (47.4)	4 (8.9)	Reference	
Yes (partner concurrency)	50 (52.6)	6 (12.0)	1.40	0.37-5.31	0.62		50 (52.6)	6 (12.0)	2.44	0.71-8.40
Sexual Relationship Power Scale										
Low	32 (33.7)	2 (6.2)	Reference				34 (35.1)	3 (8.8)	Reference	
Medium	37 (39.0)	6 (16.2)	2.90	0.56-16.07	0.20		37 (38.1)	8 (21.6)	2.85	0.69-11.79
high	26 (27.4)	2 (7.7)	1.25	0.17-9.96	0.79		26 (26.8)	3 (11.5)	1.34	0.25-7.30
YW's perception of partner concurrency										
No (concurrent partner)	29 (30.5)	1 (3.4)	Reference				30 (30.9)	3 (10.0)	Reference	
Yes (concurrent partner)	30 (31.5)	4 (13.3)	4.31	0.45-41.10	0.20		31 (31.9)	4 (12.9)	1.33	0.27-6.53
Don't know	36 (37.9)	5 (13.9)	4.52	0.50-41.04	0.18		36 (37.1)	7 (19.4)	2.17	0.51-9.26