

Title: Are those who join a trial in response to a scarcity message more likely to drop out?

Dear Editor-After publication of our recent trial of scarcity messages to boost recruitment to the txt2stop smoking cessation trial, we received correspondence asking whether those who joined the trial in response to these messages would have higher attrition rates versus those who joined without the scarcity messages. We have performed additional analysis to answer this question.

Our original trial involved randomising potential participants who had registered interest but had not yet consented to join txt2stop, a large trial of a text-message based smoking cessation program. We sent those randomised to the control group of our nested recruitment trial to receive a reminder message about the txt2stop trial, and those randomised to the intervention group the reminder message plus a message to communicate scarcity 'only 300 places left'. Those receiving the scarcity message were more likely to join the larger txt2stop trial(1).

We received correspondence querying whether those who joined the trial in response to the scarcity message would have a more 'reactive' or impulsive personality, and therefore be more likely to drop out of the larger txt2stop trial without providing follow-up data. Impulsive personality traits, including sensation and novelty-seeking, are associated with increased likelihood of treatment failure and attrition in studies of treatment for alcohol abuse (2), eating disorders(3), and cocaine use(4), amongst others.

Using data from the larger txt2stop trial, we tested whether those who joined the trial after being exposed to the scarcity+reminder message (n=113) were more likely to be lost to follow-up versus those who joined after being exposed to the reminder message alone (n=94)*, or those who joined without receiving any reminder messages (n=5554). In the scarcity+reminder group, 4 people (3.5%) were lost to follow-up. In the reminder only group, 7 people (7.5%) were lost to follow-up, and in the no message group, 370 (6.6%) were lost to follow-up. There were no statistical differences between groups (p=0.402).

We also tested whether those who joined after receiving the scarcity message, the reminder alone, or no message would be more likely to opt out of receiving text messages as part of the txt2stop trial, and would report reading fewer of the text messages. There were no differences between groups (p=0.691, p=0.884, respectively).

There is no evidence of a difference in trial completion rates, opting out of receiving text messages, or numbers of text messages read between those who joined txt2stop after receiving a scarcity+reminder message or a reminder message alone, versus no message. However, txt2stop had a low attrition rate (6.7%) overall, therefore we were underpowered to detect differences between the small groups which joined the trial after receiving various messages. It may be worth investigating differences in participant behaviour after various methods of recruitment in further in trials with larger losses to follow-up or larger overall sample sizes.

*during our recruitment trial 89 and 67 people joined the trial as after receiving a scarcity+reminder or just a reminder message; numbers here reflect additional recruitment to txt2stop from people exposed to these messages after the end of the recruitment trial follow-up.

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2. Kravitz H, Fawcett J, McGuire M, Kravitz G, Whitney M. Treatment Attrition Among Alcohol-Dependent Men: Is It Related to Novelty Seeking Personality Traits? *Journal of Clinical Psychopharmacology*. 1999;19:51-6.
3. Agras WS, Crow SJ, Halmi KA, Mitchell JE, Wilson GT, Kraemer HC. Outcome Predictors for the Cognitive Behavior Treatment of Bulimia Nervosa: Data From a Multisite Study. *American Journal of Psychiatry*. 2000;157:1302-8.
4. Moeller FG, Dougherty DM, Barratt ES, Schmitz JM, Swann AC, Grabowski J. The impact of impulsivity on cocaine use and retention in treatment. *Journal of Substance Abuse Treatment*. 2001;21(4):193-8.