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Letter to the Editor

Smoking and mental health in young women – challenges in interpretation

In their recently published study, Leung *et al*. (2012) reported a bi-directional association between smoking status and mental health in a sample of young women. We congratulate the authors for highlighting the importance of tobacco use and mental health in young women. This paper is one of the few to investigate the bi-directionality of smoking and mental health specifically in this population. However, we have some concerns on the generalizability, interpretation and presentation of the study findings.

First, from the initial baseline sample of 14 247 participants, only 2191 (15%) remained by wave 5. This low rate of follow-up was partly due to the fact that the study excluded ever-pregnant participants as a way to adjust for the confounding effect of pregnancy (up to 73% of the study sample at wave 5). However, this exclusion may have impeded on the generalizability of findings, as focusing on never-pregnant responders may not be representative of young women. Methods other than exclusion exist to adjust for confounding, such as including pregnancy status as a time-varying variable in the model. The authors might have also conducted sensitivity analyses to check the robustness of findings despite this exclusion criterion. Women without information on smoking or mental health status were also excluded, but no information was available on these excluded cases, making it difficult to assess the potential for bias.

Second, we found some difficulties in interpreting results. The study defined smoking status as an ordinal variable, but treated smoking as an interval variable in correlation analyses and structural equation modelling. This approach makes a strong assumption that the differences between smoking statuses are equal. For example, it assumes that the difference between never-smoking and former-smoking is the same as the difference between moderate smoking and heavy smoking. This assumption may be hard to defend in this context and the interpretation of the longitudinal reciprocal effects in the structural equation model is not clear. A categorical ordinal definition of smoker types would have been warranted. The paper also attempts to estimate the impact of prior mental health problems (exposure) on the risk of being a former smoker (outcome). The temporality of this relationship is challenging to untangle, as the time of smoking cessation could have occurred before or after the mental health problem.

Third, we were surprised that some of the odds ratios reported in Table 2 reached a value above 10. Given the confidence intervals, we suspect these may be misprints, and encourage the journal to correct these misprints.

Declaration of Interest

None.

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Smoking and mental health in young women – challenges in interpretation: a reply

We welcome the opportunity to discuss the concerns raised by Gariépy *et al*. (2012) on the interpretation of our data on the relationships between smoking and mental health in young women. Gariépy *et al*. suggest that by excluding women who have ever been pregnant in our analysis, we limited the generalizability of our findings. The results were much the same when we re-ran the analyses on the full sample of women. It was still the case that young women who smoked at earlier waves had significantly higher odds of poor