Reviewer’s report

Title: After the Fort McMurray wildfire there are significant increases in mental health symptoms in Grade 7-12 students compared to controls

Version: 0 Date: 29 Jun 2018

Reviewer: Susan Sierau

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Comments to the Author

Peer Review for Manuscript BPSY-D-18-00435

Title: After the Fort McMurray wildfire there are significant increases in mental health symptoms in Grade 7-12 students compared to controls

The study analyzes the impact of a major natural disaster on adolescent mental health by comparing population mental health survey data from two communities in Alberta, Canada. Data from 3,070 grade 7-12 students collected in 2017, 18 months after the 2016 wildfire, was compared with data from 2,796 grade 7-12 students in a non-disaster community collected in 2014-2015. Mental health symptoms were statistically significantly elevated in the disaster population when compared to the control population. This occurred for scores consistent with a diagnosis of depression (31% vs. 17%), moderately severe depression (17% vs. 9%), suicidal thinking (16% vs. 4%), and tobacco use (13% vs. 10%). Self-esteem scores and quality of life scores were also statistically significantly lower in the disaster population. While the rates of anxiety disorder were similar (15% vs. 16%), the mean scores on the anxiety scale were slightly higher, with this difference reaching statistical significance. There were no statistical differences in the rates or scores for alcohol or substance use. According to the authors, these findings highlight first, the need to identify adolescents most at risk of developing psychiatric symptoms after experiencing the trauma of disaster, and second, the importance and necessity of implementing short and long term mental health intervention programs for adolescents to help mitigate the negative effects of disasters on their mental health.

Despite the impressive sample size of adolescents from two communities which are comparable according to socio-economic characteristics, and the highly-relevant topic of mental health after accidental trauma (type I) in this developmental period, there are two major concerns to address:

First, regarding the introduction, it is not clear how this study exactly fills an important gap in trauma research. The authors clearly state that traumatic experiences influence the occurrence of diverse symptoms and disorders, including childhood and adolescence. It would be helpful to get a more detailed view into previous study results, and how the present results contribute to these studies.
Second, a further issue is linked to the methodology, more specifically, the difference of 2-3 years between data collection in the non-disaster and disaster community, and also the related differences between some instruments. Some adolescents may have experienced other traumatic or stressful life experiences during this time, which might have influenced the occurrence of different symptoms.

In summary, if the authors could address these two issues in more detail, the meaning of the manuscript could improve.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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