Reviewer's report

Title: Interaction between a Serotonin Transporter Gene Promoter Region Polymorphism and Stress Predicts Depressive Symptoms in Chinese Adolescents: A Multi-wave Longitudinal Study

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Reviewer: Niki Antypa

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BMC Psychiatry:

Interaction between a Serotonin Transporter Gene Promoter Region Polymorphism and Stress Predicts Depressive Symptoms in Chinese Adolescents: A Multi-wave Longitudinal Study

This is an interesting study examining a gene-environment interaction on depressive symptoms of adolescent Chinese students. The longitudinal design of the study, which allowed for the examination of within subject variation, is a strong facet of the study.

The article is well written and the analyses are appropriate. However, I have a few suggestions for improving and clarifying the manuscript:

Major compulsory revisions:

Results

1. The authors say that “There was an overall decrease in CES-D and ALEQ scores” – page 12. It would be important to examine whether the decrease in depressive symptoms is mediated by the decrease in ALEQ. The authors could examine this and briefly state the result.

2. Figure: Error bars should be presented in the figures.
   Are depression scores in the y-axis collapsed (mean? Median?) across time? Please specify.

3. Since the LL females are only 11, how was the classification done with low / high levels of stressful life events? How many females were in these groups? I suggest N for groups should be noted in the figure (or in the figure legend).

Minor revisions:

1. Abstract
   “Females with at least one 5-HTTLPR S allele exhibited higher depressive symptoms related to stress”
   The authors may want to rephrase this sentence: do they mean that females
exhibited more depressive symptoms under stressful situations?

Introduction

2. The authors refer to the meta-analysis published by Risch et al. [16] in 2009. Since then, other more recent meta-analyses have been published on the subject. I suggest the authors refer to Karg et al., The serotonin transporter promoter variant (5-HTTLPR), stress, and depression meta-analysis revisited: evidence of genetic moderation. Arch Gen Psychiatry.

Method

3. “all participants went through thorough neurological and psychiatric screening. Participants who had neurological and current or lifetime Axis I psychiatric disorders according to the DSM-IV”

Did the authors use a structured interview to make the diagnoses? A bit more information on how the clinical assessment was done would be useful to the reader.

Discussion

4. The authors say that “future research must test whether 5-HTTLPR is directly associated with depression.” Well, there have been a number of studies showing negative associations so perhaps it would be more interesting for future studies to continue to investigate genetic variation in relation life stress, as it is highly unlikely that a single polymorphism has a detectable effect on depression.

5. The major limitation of the study is the small sample size. Since the positive association was found only in females, groups were even smaller (n<10 probably). This needs to be emphasized in the discussion and conclusion.

6. The discussion is well written but rather wordy, I would suggest shortening it a bit, and writing in a more concise, to the point, manner.

7. Acknowledgements: “Founding” – The authors mean “funding”?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

NO conflict of interest.