Author’s response to reviews

Title: Gray-matter Structure in Long-term Abstinent Methamphetamine Users

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Responses to the comments
BPSY-D-19-00969R1
Gray-matter Structure in Long-term Abstinent Methamphetamine Users

Technical Comments:
Corresponding Author email mismatched
Response: The email in the text is correct. Jing Li: joana028@163.com. We also provided another one: lijinghxlc@scu.edu.cn.

Role of Funding body
Response: Done. See the section of Funding.

Missing Abbreviations
Response: Done. We have corrected and highlighted in yellow all of them in the text.

Editor Comments:
It will be helpful to extend discussion based on your findings for therapeutic treatments, such as Deep brain stimulation or Transcranial magnetic stimulation (such as PMID 30605708, PMID 31042621, PMID 30208372 but not limited to these studies).

Response: We have mentioned in the text that these findings could be potential targets for deep brain or transcranial stimulation over methamphetamine-induced neurocognitive disfunctions. See the 4th paragraph of the section of Discussion.
Your finding will serve as both potential targets for intervention, as well as judgements to understand how would treatment improves the brain function in methamphetamine patients. I encourage you to compare the changes of structure to functioning imaging data in future.

Response: We have mentioned it in the text. Please refer to the response above this one.

Reviewer reports:

Hui Zheng (Reviewer 1): The authors have adequately addressed my previous concerns. The manuscript is much stronger in terms of structure and presentation. Congratulations!

Response: Thanks for your comments.

Huafu Chen (Reviewer 2): Please include all comments for the authors in this box rather than uploading your report as an attachment. Please only upload as attachments annotated versions of manuscripts, graphs, supporting materials or other aspects of your report which cannot be included in a text format. Please overwrite this text when adding your comments to the authors.

Response: Thanks for your comments.

Kyoji Okita (Reviewer 3): This study investigates effect of drug abstinence on brain morphometrics in methamphetamine users with a decent sample size. The manuscript was already reviewed by someone, and basically my opinion is very similar to his/hers, and the authors has responded to it. If I am being honest, the authors' responses are not very impressing, but on the other hand, I admit they are convincing to some extent. Here, I will give a couple of comments. Otherwise the manuscript looks ok.

* Because the abstinence time effect is one of the main results of this study, readers would be curious to know how participants kept abstinence. So, I believe "supervised abstinence" should be described in detail. Ex: how frequent participants visit to hospital or therapy; how their abstinence was confirmed; what kind of therapy/intervention was provided.

Response: We have described “supervised abstinence” in detail. In the 3rd paragraph of the section Methods, we stated that “The abstinence was ensured by the agencies where the participants resided in for accepting mandatory detoxification. These agencies are run by law enforcement.” Additionally, these users were required to be taking no prescribed medications. See the 1st paragraph of the section Methods.

* The authors added references #40 and #41 mentioning possible association between dopamine receptors and morphometry, following reviewer's comment. But unfortunately, I am not sure they understand the gist of those papers. Need to give more details.

Response: We have revised the references #40 and #41(now, they are #45 and #46). And, we have reorganized the statement. Now, we stated that “However, the altered regions accepted only part of the dopaminergic projections …, which implicates that these particular alternations depend … more on, for example, the density of dopamine receptors, of this particular or relevant locations. It has been proposed that dopamine D1 receptors are major modulators of synaptic plasticity in the frontal cortex, additionally, previous studies have evidenced that midbrain D2/D3 and striatal D1 receptors modulate gray-matter adaption in chronic methamphetamine users. Please see the 5th paragraph of the section Discussion.