Author’s response to reviews

Title: The role of inhibition capacities in the Iowa Gambling Test performance in young tattooed women

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Author’s response to reviews:

Dear Ana Donnelly

BMC Psychology
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Enclosed please find the revised version of our manuscript:

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The role of inhibition capacities in the Iowa Gambling Test performance in young tattooed women

The manuscript was revised according to all the comments and suggestions of the reviewers as follows (the changes in the text are highlighted in yellow):

Reviewer reports:

Laura Damiani Branco (Reviewer 1): The subject matter of the manuscript is interesting, and there is merit to conducting an empirical assessment of the claim that tattoos are associated with impulsivity and risky decision making. However, I have several concerns about the way the manuscript was written, and the way the authors described the methods of their studies. I would therefore recommend that major changes be made to the article, in addition to an English language review. My main concerns are listed below.
1. Was the IGT administered in this study or was it used in a previous study? This is not clear in the article. The abstract seems to suggest that the IGT was used in a previous study to classify participants as risky decision makers; if so, the reference to this study must be in the article. Otherwise, it must be made clear that participants were completing the IGT for the first time as part of this study.

Response: The IGT was used in a previous study (Kertzman et al., 2013). The reference to this study was incorporated in the article (Methods).

2. Did you use any cutoff scores to determine impaired decision making on the IGT? In the absence of such a cutoff, you can claim that one group had a significantly lower score than another, but not that this score is indicative of impairment. The difference may be statistically significant but very small in size, for instance. If cutoffs were used, this must be explicitly described and referenced in the article. Otherwise, please refer to "group differences" in decision-making rather than "impairment". Also, please provide descriptive data pertaining to IGT performance in your participant groups.

Response: We thank the reviewer for her comment. No cutoff was used in this study and therefore we refer throughout the text of the revised version to "group differences" in decision-making rather than "impairment" (Conclusion).

3. When you say you calculated a 'net score' for the IGT, what exactly do you mean by this? Is it a net score in terms of patients' monetary gains, or does it refer to deck selections (e.g. (A+B)-(C+D))? There are several possible scoring methods for the IGT, and the methods you used must be more clearly described.

Response: It stated clearly that a 'net score' was calculated for the each participant according to deck selections [(A+B)-(C+D)].

4. Your introduction should include a review of the current literature on your topic of study, and a presentation of the theoretical constructs you will be investigating (e.g. inhibition). The introduction should not focus on the instruments used to evaluate these constructs. This information should be moved to the Methods Section.

Response: The theoretical constructs of the current investigation, mainly inhibition control and relation between inhibition capacities and decision making process are presented now in the Introduction.

The information on the instruments was moved to the Methods Section.

5. In your Statistical Analysis section, you mention "Experiment 1" and "Experiment 2". You also mention "first experiment" and "second experiment" in the discussion. But the methods and
results section appear to describe only one experiment. Please be consistent throughout the manuscript. Did you in fact conduct two separate experiments? Or only a single study, with more than one data analysis approach?

Response: The reviewer is correct. We refer now consistently throughout the manuscript to one experiment.

6. Your Statistical Analysis section does not mention the regression analysis. You also fail to explain, in your article, why you conducted three separate regression analyses rather than a single one, including all measures of inhibition. Why was this done?

Response: Statistical Analysis section was changed and now the text is more specific.

We used three multiple regression analyses in order to examine a possible interaction effects between tattoo and the three different facets of impulsivity as measured by GoNoGo (Sum RT), MFFT (ERROR), and Stroop (Interference RT). Conducting exclusive regression analysis for each possible interaction effect, is a statistically customary and sound method.


Response:

7. The majority of your references are over 5 years old and potentially outdated. Please update your review of the relevant literature.

Response: The references were updated and the older and potentially outdated references were deleted

Reviewer 2 (Reviewer 2): PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate
EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

Yes - experiments and analyses were performed appropriately

STATISTICS - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?

Yes - current version is technically sound

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: Tattooed women only showed impaired response inhibition in the slow response time in the Go/NoGo task. Impairment in the Go/NoGo performance, but not in the MFFT and the Stroop tasks performance, appears to support the hypothesis that tattooed women show inhibition impairments in situations under time pressure only. The second hypothesis also was not supported. So, it appears that tattooed women do not exhibit risky decision-making as a result of disinhibition. Both negative findings could be attributed to the use of a normal sample of women volunteers and raise the issue of whether the study is better conceptualized as a study defining the behavioral and impulse-dimension attributes of young women who have tattoos.

Response: We emphasized that the present study defined the behavioral and impulse-dimension attributes of young women who have tattoos (Conclusions)

The authors, using the Iowa Gambling Test (IGT), looked at the decision- making processes in young tattooed women. They explore the associations among the three facets of impaired inhibition (response inhibition, reflection inhibition, and interference inhibition) and decision-making processes in this population. These were assessed in the Go/NoGo task, a measure of response inhibition, the Matched Familiar Figure Test (MFFT), a measure of reflection inhibition and the Stroop. In a way, the tattoo may have been thought to be a proxy for impulsivity in these
young women. That is not clear to me and it is not clear what risk-taking might be in women in Israel vs elsewhere.

Response: The current study showed that in Israeli population tattooed women the IGT performance is worse than non-tattooed women.

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In accordance with BioMed Central editorial policies and formatting guidelines, all manuscript submissions to BMC Psychology must contain a Declarations section which includes the mandatory sub-sections listed below. Please refer to the journal's Submission Guidelines web page for information regarding the criteria for each sub-section (https://bmcpsychology.biomedcentral.com/).

Response: Sub-section: Cognitive psychology

Where a mandatory Declarations section is not relevant to your study design or article type, please write "Not applicable" in these sections.

For the 'Availability of data and materials' section, please provide information about where the data supporting your findings can be found. We encourage authors to deposit their datasets in publicly available repositories (where available and appropriate), or to be presented within the manuscript and/or additional supporting files. Please note that identifying/confidential patient data should not be shared. Authors who do not wish to share their data must confirm this under this sub-heading and also provide their reasons. For further guidance on how to format this section, please refer to BioMed Central's editorial policies page (see links below).

Declarations

- Ethics approval and consent to participate
- Consent to publish
- Availability of data and materials
- Competing interests
- Funding
- Authors' Contributions
- Acknowledgements
Response: Done

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We hope that the revised version is now suitable for publication in BMC Psychology.

Best regards,

Dr Semion Kertzman on behalf of all authors