Reviewer's report

**Title:** Bridging a Translational Gap: Using Machine Learning for Personalized Prediction of PTSD. Results from The Jerusalem Trauma Outreach and Prevention Study (J-TOPS)

**Version:** 3  
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**Reviewer:** David Forbes

**Reviewer's report:**

thank you for inviting me to review this interesting manuscript. The manuscript addresses an important issue of improving the prediction of PTSD on an individualized basis, in this case using machine learning methods.

Overall the paper is well written and the exploration of computer or machine based individualized prediction is a very interesting one that should be further explored. The data generated from this study are also quite encouraging. There are a few suggestions I have for the authors however that may make the contribution of the paper clearer.

**Major issues for consideration**

It is clear how this approach builds on the identification of risk factors drawn from existing group based and meta-analytic literature. It is also clear how this approach in general and the study in particular provides us with another method to identify these risk factors and in fact given the factors identified here is quite consolidating of the extant knowledge of the factors associated with risk. However I am still not quite clear how this differs, other than in methodology, from the literature that seeks to validate instruments based on known risk factors to identify a personalized score that indicates risk for future PTSD development. Such screening measures have demonstrated high levels of future prediction of disorder. An example of one of those was published by O'Donnell et al (2008, Journal of Consulting and Clinical Psychology), however there are no doubt others. How this method differs from that would be helpful for the reader in more fully understanding the significant contribution that this machine based method offers. Further to this, I was not quite clear about what the translation implications were. was there a suggestion that such technology might be inexpensive and mobile enough to be located across clinical settings where clinicians can input this data live with the patient present and a personalized risk score generated?

**Minor issues for consideration**

As a more general point, can I suggest the authors review the paper to ensure it is as accessible as possible to the reader. I confess to not being the most technologically literate researcher but I think there is room for making the paper a fraction easier to read with terms such as support vector machines are more clearly explained.
Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests