Review for *Michalina Dudziak, Tom Smeets, Bram Vervliet, Tom Beckers entitled Impact of Acute Stress Exposure on Reactivity to Loss of Control Over Threat* / Feb 1, 2025

The current paper is an interesting look into how acute stress impacts later loss of control with clear implications for anxiety disorders and real-world settings. Despite the extensive research on stress, the current study explores a novel and niche area within the broader literature. The paper is clear, well written, well-structured and follows a logical line of reasoning. The introduction is particularly strong, with a good blend of theoretical and empirical evidence. I also commend the authors for listing out their exclusion criteria so well and for increasing transparency by pre-registering their study.

A few points of improvement and recommendations from me listed per section of the paper.

**Introduction:**

* Although this is well-written and well-researched, I found the connection between sex differences more and loss of control less clear. The research presented is more about responses to fear and threats rather than how (and if) loss of control is handled differently depending on sex. Are there any papers on this? It might be good to substantiate, as it will then better inform your hypothesis on this.
* I also thought that lines 65-100 could be made a bit more succinct by focusing on the broader trends more than the individual studies but I do see the relevance of the mentioned studies
* I noted the connection to anxiety disorders, learned helplessness and stress sensitization. Can these be made more explicit to better explain the underlying mechanisms at play here?
* The hypothesis are generally clear and grounded in research, but I found the connection to the main aim of the study (loss of control) less clear especially hypotheses 6-8. Can the authors make the connection to the loss of control here more direct rather than a by-product of stress?
	+ Also, I don’t really see the relevance of Hypothesis 8 or how it’s connected to loss of control or what the authors are expecting to find. Does childhood adversity increase sensitivity specifically to losing control, or to stressors in general? I don’t really see why it would be investigated here – there are endless factors that contribute so I’m not sure any meaningful connections can be drawn even if you do see a relationship. I would instead suggest a less is more approach in studies - focus on the main hypotheses and interests rather than tying in other topics.
* I think the intro would also benefit from more of a connection to the wider real-world relevance of the current paper (what are the implications of the work you’re doing?)

**Methods:**

* Sample size. You state a between subjects design but power is calculated for a repeated measures ANOVA. It would be advisable to conduct power analysis based on the type of design you have. This will help give you more reliable findings. You can use the Superpower package in R, for example: <https://cran.r-project.org/web/packages/Superpower/vignettes/intro_to_superpower.html#specifying-the-design-using-design>
	+ I would recommend this over using G\*Power, which has been shown to not be very robust in all cases. For more info and for more accurate sample size estimates for designs, see [Brysbaert, 2019](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6640316/).
* Page 13 - the authors note “a prior study” - can you provide a reference for said study?
* The authors mention women will need to note down the last day of their cycle and whether or not they are on the pill if they answer. Are the authors planning to do anything with this information? Knowing how stress impacts differently depending on the phase of the cycle (e.g., [Montero-Lopez et al., 2018](https://rua.ua.es/dspace/bitstream/10045/79834/2/2018_Montero-Lopez_etal_IntJPsychophysiology_accepted.pdf) but many other papers on this exist), it might be worthwhile for the authors to rethink how to better approach this.
* The loss of control task is stated to be developed by the authors. Has this been pilot tested or validated? I’m not familiar with this literature, but do other loss of control tasks not exist? More information justification or validation for this is needed.
* Loss of control is assessed after the loss of control task (makes sense) but also after the stress task (why?). Are you expecting a correlation between control levels in the stress/no stress group and the loss of control task? If so, this should be a hypothesis with reasoning.
* For the loss of control task in general. How is this different from learned helplessness?

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Thank you for the opportunity to review this paper. I hope the suggestions will be well received by the authors. In case of questions, feel free to email me: mariela.mihaylova@etu.unige.ch