***Editorial comments:*** *Please see the attached word document. In-text comments have been made; these require your attention. Please address the comments by editing your manuscript/figures. Please maintain the current format and track all your edits.*A: Done. We highlighted all changes in red font.***Reviewers' comments:******Reviewer #1:*** *The authors have shown their efforts on a more elaborate description on the details. Most of the mentioned concerns have been resolved. But a minor concern regarding the second major comment is not clear enough. As explained in the previous round and as what is mentioned in the discussion, the self-report at the thermal cutoff temperature could be different, which is to say, someone may report their pain threshold or pain tolerance at/near the cutoff temperature while the pain threshold or pain tolerance may not even be reached at the cutoff temperature. My concern is, if assuming the biosignals would behave differently in these two cases, would mixing these two cases influence the classification results?*A: Thank you very much for the hint. You are right, we also assume that some of the physiological signals behave differently. This is an important aspect one has to keep in mind. Analyzes will show whether these two cases need to be treated separately. We added some text to the “Discussion” part: “*In this study, approximately 42 % (considering only thermal calibration phase 2 and 3) of the participants reached the thermal cutoffs (see “Representative Results”). As they did not reach their “real” pain tolerances, their physiological responses to the highest thermal stimuli might behave differently in contrast to physiological responses of subjects who reached them. If so, mixing these two groups could influence classification results in terms of pain recognition.”  
  
So it would be helpful to indicate whether all the subjects that reached the given cutoff have reported their pain threshold or pain tolerance on the bottom of page 15, if "whether pain threshold or tolerance is reached" is part of the data. Otherwise, please add some related suggestion in addition to the first limitation described from line 739 to line 743 on page 17.*A: Thank you for the suggestion. We were already thinking about adding information to the data sets about which subjects reached cutoffs and what subjective ratings they gave at the cutoffs. Now we will definitely do it. We added your suggestion to the “Representative results” part: *“As we plan to publish the data (see next paragraph), the data sets of participants who have reached the cutoffs will additionally be marked and their subjective pain ratings for the corresponding cutoffs will be included.”****Reviewer #3:*** *Manuscript Summary:  
This paper gives a psychophysiological experiment to induce and obtain pain reactions. The experiments design is relative reasonable. The obtained data could be used to assess the pain state objectively in the future. This manuscript meets the standard of this journal and can be accepted.  
  
Minor Concerns:  
1) Some discussions about the limitation of this study should be given in the Discussion part.*A: Thank you for the comment. We added some more limitations.  
 *2) The structure of this manuscript should be described in the last of the introduction.*A: Thanks a lot. We added a short structure of the paper at the end of the introduction.