Author’s response to reviews

Title: Attentional Avoidance in Peer Victimized Individuals with and without Psychiatric Disorders

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Author’s response to reviews:

Dear Dr. Navarro,

thank you very much for your evaluation of our manuscript and for sending the reviewers’ comments. We have edited the manuscript according to the comments and we think that the paper has improved considerably as a result. The changes are marked as bold text in the revised manuscript.

We hope that the changes meet your expectations.

Yours sincerely, on behalf of the authors,

Benjamin Iffland

Reviewer reports:

Victoria Ashley (Reviewer 1): Review: Attentional Avoidance in Peer-Victimized Individuals with and without Psychiatric Disorders

Manuscript Number: PSYO-D-18-00153R1
Summary

In this study, the authors investigated the possibility that inconsistencies found in studies of attentional bias could have a basis in "previous experiences of relational peer victimization in clinical populations." The current study may be the first to "examine the extent to which experiences of relational peer victimization contribute to the implementation of attentional biases in subjects with and without psychiatric disorders". To do this, the study compared participants with diagnosed psychiatric disorders and healthy controls on two emotional attention tasks, and divided each group into those who were determined to be relational peer victims and those who were not. Results showed delayed response times and potential avoidance on emotional words relative to neutral words for peer-victimized subjects, but not for psychiatric disorder subjects and non-peer-victimized controls.

After reviewing the paper, I feel that it can make a positive contribution to the literature and I expect I will be able to recommend that it be accepted for publication, pending additional information, clarifications, etc., described below. I will admit that I have not had enough time to fully review the dot-probe section, so that is not included in my comments.

→ Thank you for your positive evaluation of our manuscript and your helpful comments and recommendations.

Broad Concerns / Questions

* Broadly, all of the sub-group data needs to be put in the form of a table so that each subgroup's full characteristics are spelled out without having to infer the information.

→ Participants’ full characteristics (for the total sample and each of the two subgroups) are presented in table 1.

* Mean RTs and SDs for interference and error rates for each task should be included in the Results section and/or a table. Hard to fully evaluate without those.

→ Mean RTs and SDs and index scores of the tasks are presented in table 4 and 5. As we excluded all error trials, data on error rates are not presented in the table but in the methods section.

Stroop:

„In addition, trials where participants indicated the wrong color (error trials) were excluded. Error rates did not differ between the two samples. Out of 240 trials, participants indicated between 0 and 17 wrong colors (clinical sample: M = 5.65, SD = 4.17; control sample: M = 6.29, SD = 4.26). No participants were excluded due to higher error rates than 25%.”
Dot-probe:

„In addition, trials where participants indicated the wrong location of the probe (error trials) were excluded. Error rates did not differ between the two samples. Out of 480 trials, participants indicated between 0 and 38 wrong locations (clinical sample: $M = 10.52, SD = 10.12$; control sample: $M = 8.13, SD = 5.71$). No participants were excluded due to higher error rates than 25%.”

* I have concerns about the statistical design of a series of planned ANOVAs. Typically, most studies conduct an omnibus ANOVA initially.

→ For both tasks, we added omnibus repeated measures ANOVAs with age serving as covariate to the results section (see below).

* Abstract

  o The abstract should include the numbers of participants in each group, even if they differ by task

→ sample sizes were added to the abstract accordingly.

„Methods: Participants were subjects with a diagnosed psychiatric disorder ($n = 30$) and healthy controls ($n = 31$). Additionally, the sample was divided into two subgroups according to the participants’ reports of previous relational peer victimization (high peer victimization: $n = 28$; low peer victimization: $n = 33$). Attentional biases were measured by the Emotional Stroop task and a dot-probe task.”

  o Although the psychiatric group results are reported in the abstract, the HC’s should be mentioned also.

→ the abstract already reported both the psychiatric group’s and the healthy controls’ results. However, we now tried to present the results more clearly by explicitly referring to both samples.

„Results: In both samples, peer victimized participants showed delayed response times when color-naming negative and positive compared to neutral adjectives in the Emotional Stroop task. Likewise, the dot-probe task indicated attentional avoidance of both negative and positive words in peer victimized participants with and without a psychiatric disorder. Interestingly, presence of a psychiatric disorder did not have a significant effect on attentional biases.”

* Methods

  o Materials - The studies referenced (pg. 9, lines 9-13) for the words appear to have used a different number of words. Having the word list properties described would be helpful, even just valence, arousal, word length and frequency for the different categories.
→here, we added information on valence, arousal, word length and frequency in table 3.

Methods:

„The stimulus set consisted of 180 adjectives (negative, neutral, positive) and was derived from prior studies on word processing [86–88]. In these studies, adjectives had been rated in terms of valence and arousal in an interpersonal evaluative context. Because peer victimization most commonly implies negative evaluations by others (overt as well as implicit), processing of adjectives with a social evaluation connotation is of special interest in this sample. Out of these 180, 60 adjectives (the 20 most negative, the 20 most neutral, and the 20 most positive) were selected for the Emotional Stroop task and 80 adjectives (the 20 most negative, the 40 most neutral, and the 20 most positive) were selected for the dot-probe task (see table 2). The selected adjectives were matched in their linguistic properties, such as word length and frequency within each task (see table 3). Negative and positive adjectives differed in their valence only. With respect to previous experiences with the stimulus set, neutral adjectives were allowed to be less arousing [86–88].”

→ We did not present a fixation cross, nor was there an upper limit of presentation time of the words. However, we decided not to explicitly mention what was not part of the experiment suggesting that this might allow a shorter description of the task.

We added to the manuscript that we used Inquisit for the presentation of the tasks (see below).

→ we added more detailed information on the Stroop procedure to the manuscript. Each word was presented four times. Word valences were randomized in mixed blocks.

„The Emotional Stroop task consisted of 240 trials. In total, 80 negative, 80 neutral, and 80 positive words were shown, in each case 20 words were colored in red, 20 in blue, 20 in green, and 20 were colored in yellow on a black background. Each single word was presented four times. Stimuli were shown throughout until the participants responded. After an intertrial interval of 200ms the next stimulus was presented. Participants’ task was to identify the color of the presented words as quickly and as accurately as possible. Participants indicated their response by pressing buttons on a keyboard with the index and middle fingers of both hands. In order to reassure that the participants were able to assign the colors to the right buttons, the assignment of buttons and colors was presented on the screen throughout the experiment. The assignment of buttons was counterbalanced across participants. The order of words, word valences, and colors was randomised. We used the software package Inquisit 4.0.3 (Millisecond Software, Seattle, WA, USA) to deliver stimuli and record responses and reaction times (RTs).”
* Results

- It seems that the lack of an emotional Stroop effect in the psychiatric group might be expected. It is a mixed group with different issues, perhaps different medications, and the emotional Stroop effect is typically found for anxiety disorders, which except for the 2 social phobics were not present in the psychiatric group. Nor did the psychiatric group differ in trait anxiety from controls, apparently.

→ We adopted your suggestion and added the following to the manuscript:

„The generalizability of our findings is limited. Affective disorders comprised about 60% of the psychiatric patients sample while anxiety disorders were rather under-represented. This may also be reflected by the trait anxiety scores which did not differ from the control group. With respect to the literature on attentional biases in anxiety disorders [15], it may be assumed that a higher amount of patients with anxiety disorders may have resulted in greater attentional biases in the psychiatric sample. Accordingly, considering the diagnostic status as a single, categorical may limit the validity of the current study as it may conceal differences in attention processes in various psychiatric disorders. Future studies should address this shortcoming by recruiting psychiatric samples comprising sufficiently large enough sub-samples of different psychiatric disorders to account for disorder-related differences in emotion processing.”

- The Results section would benefit including mean RT data in the analysis as well as the interference differences. I find the use of numerous separate ANOVAs, and four different groups, without an omnibus F ANOVA, to be a concern. Nonetheless, I think the ANOVAs of Neg and Pos should at least be in separate paragraphs for clarity, since they are two separate analyses.

→ Thank you for this valuable advice. For both tasks, we added omnibus repeated measures ANOVAs with age serving as covariate to the results section. Moreover, ANOVAs of neg-neu and pos-neu a presented in separate paragraphs. Mean RTs and SDs and index scores of the tasks are presented in table 4 and 5. In addition, we did not use a 4 group design but a 2 x 2 design which differs slightly with respect to the statistic. Particularly, low sample sizes in some cells led to this approach.

Methods:

„All statistical analyses were carried out using the Statistical Package for the Social Sciences 25. Because age differed significantly between the two samples, all ANOVAs were carried out with age serving as a covariate. Initially, an omnibus 2 (group: clinical vs. control sample) x 2 (Peer victimization: high vs. low) x 3 (valence: negative, neutral, positive ) analysis of covariance (ANCOVA) with repeated measures on valence and age serving as a covariate was calculated for the mean RTs of the Emotional Stroop task. Similarly, an omnibus 2 (group: clinical vs. control sample) x 2 (Peer victimization: high vs. low) x 2 (valence: negative vs. positive ) x 2 (location of the dot: congruent vs. incongruent) analysis of covariance (ANCOVA) with repeated measures on valence and age serving as a covariate was calculated for the mean RTs of the dot-
Results:

"The initial repeated measures ANCOVA showed a significant interaction effect of Valence x Peer victimization, \( F (2, 104) = 3.30; p = .041; \eta^2 = .060 \). Further main or interaction effects did not reach significance (Valence: \( F (2, 104) = .89; p = .413; \eta^2 = .017 \); group: \( F (1, 52) = .06; p = .815; \eta^2 = .001 \); peer victimization: \( F (1, 52) = .80; p = .376; \eta^2 = .015 \); Group x Peer victimization: \( F (1, 52) = 1.38; p = .246; \eta^2 = .026 \); Valence x Group: \( F (2, 104) = .32; p = .725; \eta^2 = .006 \); Valence x Group x Peer victimization: \( F (2, 104) = .90; p = .409; \eta^2 = .017 \)). Mean RTs and standard deviations are presented in table 4."

"Initially, in the omnibus repeated measures ANCOVA significant main effects of valence and group were found (Valence: \( F (1, 53) = 5.89; p = .019; \eta^2 = .100 \); group: \( F (1, 53) = 16.21; p < .001; \eta^2 = .234 \)). Additionally, the interaction effects of Location x Group, \( F (1, 53) = 4.77; p = .033; \eta^2 = .083 \), and Location x Peer victimization, \( F (1, 53) = 6.20; p = .016; \eta^2 = .105 \), reached significance. Further significant main or interaction effects were not found (all \( p \)'s > .05). Mean RTs and standard deviations are presented in table 5."

Discussion

* This sentence in the Discussion (pg 18, lines 11-13) needed more context or clarification: "As a function of earlier peer victimization, participants' responses to negative as well as positive words shifted from faster to delayed reactions."

→ For clarification, we added some more detailed description of the results.

"As a function of earlier peer victimization, participants’ responses to negative as well as positive words compared to neutral words shifted from faster to delayed reactions. While individuals reporting low levels of peer victimization were faster in the color-naming of emotionally valenced compared to neutral words, color-naming of negative and positive words was interfered (i.e. slower) in highly peer victimized participants."

* Pg 20, lines 3-10 - This statement needs better examples of findings of attentional biases in reaction to "any emotional stimuli". The Buckley (2002) study [123] appears to refer to two types of threat stimuli (Panic and PTSD), and does not include positive. And while the Paunovic study (2002) [124] does not show significant differences of word type in the PTSD group, this study is included in Larsen, Mercer & Balota's (2006) study on lexical characteristics of words being used in emotional Stroop studies - their analysis table indicated that the Paunovic study's positive words were not balanced for frequency.
Thus, it would be better to use more recent studies to support the lack of a difference seen between negative and positive emotional stimuli (I've seen some research with individuals with social anxiety that show similar responses to any valence, but generally with anxiety disorders the design of the task and the quality of the stimuli need to be examined, since those will make a difference).

→ thank you for this note. The statement was edited and attenuated accordingly. Moreover, we added a reference indicating attentional biases to negative as well as positive stimuli in PTSD and a notification of methodological shortcomings in the Paunovic study.

„This finding is in accordance with other reports of attentional biases in reaction to different emotional stimuli [131-133] as well as with generalized hyper-sensitive and hyper-vigilant reactions towards emotional stimuli in maltreated individuals [115,134–136]. Albeit, some of the referenced studies deal with methodological shortcomings (e.g., balancing of word frequency [132]) which should be addressed in future studies.”

→ The central issue of the role that the social component of adverse child experiences play in other conditions could be restated more in the discussion, along with suggestions, perhaps, for the use of the questionnaire in studies of attentional biases.

→ we tried to emphasize the role of peer victimization on psychopathology by adding the following to the conclusion section:

„With respect to the results of the present study, it may be suggested that peer victimization in and of itself is associated with a risk for developing biases in emotion processing. Hence, biased emotional processing styles may be a mechanism that link peer victimization to a wide range of latter psychopathology. In this conceptualization, it may be assumed that individuals experiencing peer victimization in their childhood and adolescence are more likely to develop an avoidant attentional and emotional processing style. If this attentional bias persists during development, it may enhance an inappropriate processing of relevant environmental emotional information. As a consequence, peer victimized subjects may be more vulnerable to the development of psychopathology [71,73-81].”

Moreover, we added the suggestion that measures of childhood emotional maltreatment should be implemented in future studies of attentional biases.

„Lastly, the current study provided evidence that experiences of childhood emotional maltreatment are associated with attentional biases to emotionally stimuli in adulthood. Therefore, the implementation of measures of childhood maltreatment in future studies on attentional biases in clinical as well as healthy samples is strongly suggested.”

* Figures

→ FIGURES need to include the measurements, i.e., milliseconds.
Figure 1: Emotional Stroop Index scores (in ms) of participants for a) negative-neutral trials, and b) positive-neutral trials.

Figure 2: Attentional Bias Scores (in ms) of participants for a) negative-neutral trials, and b) positive-neutral trials in the dot-probe task

* References

  - A good summary study on attentional bias inconsistencies in the dot-probe (and other measures) has come out recently (McNally, 2018). It is worth being aware of, if not mentioning.

→ thank you for this recommendation. We reviewed the paper by McNally with respect to the aims of the current study and mentioned it where appropriate.

References:

McNally, R. J. (2018). Attentional bias for threat: Crisis or opportunity?. Clinical psychology review.


Alexandra Irwin (Reviewer 2): Thank you for the opportunity to review the manuscript "Attentional Avoidance in Peer-Victimized Individuals with and without Psychiatric Disorders". The goal of this study was to address inconsistencies in previous research on attentional biases in individuals with psychiatric disorders. The authors sought to examine the role of adverse childhood experiences, namely peer victimization, in attentional biases for individuals with and without psychiatric disorders. There were several important areas of strength in the paper. The introduction presented inconsistencies in the literature that supported the need to better understand the relationship between peer attentional biases, victimization, and psychiatric disorders. A strength of the design is the use of Emotional Stroop as well as the dot probe task to assess various components of attentional biases (e.g., Attentional Bias, Orienting and Disengaging Indices), which were clearly explained in the methods section. In general, the results are clearly stated and situated within existing literature, with plausible explanations offered for inconsistent findings. Finally, the conclusion that attentional biases are linked to psychopathology but that the quality may vary by exposure to adverse life experiences was reasonable and interesting. Some questions and suggestions follow.

→ Thank you for your valuable comments that helped us improving our manuscript.
Background

* Page 4, lines 10-12: The authors may wish to provide additional theoretical support for the claim that attentional biases are most likely relevant to the development and maintenance of psychiatric disorders (i.e., Why/how do these biases affect their development and maintenance?) before they present research findings.

  e.g., Rosen, Milich, and Harris's (2007) model "Towards a social cognitive understanding of the development, process, and maintenance of chronic peer victimization" as cited in Rosen, Milich, and Harris (2007) "Victims of their own cognitions: Implicit social cognitions, emotional distress, and peer victimization".

→ some more theoretical support for the relevance of attentional biases in the development and maintenance of psychiatric disorders was provided by referring to Beck & Clark’s (1997) schema-based model of information-processing. The mentioned model by Rosen et al. (2007) was implemented to introduce the association of attentional biases and peer victimization.

„For instance, the schema-based model of information-processing by Beck and Clark proposed that anxiety disorders are caused by different cognitive processes (e.g., [12,13]. According to this model, cognitive biases in information processing are reflected by selective attention to threat, interpretation of ambiguous stimuli as threatening, selective recall of threatening experiences, and an expectancy of aversive events [14,15].“

„Accordingly, Rosen, Milich, and Harris (2007) proposed a modified social-information-processing model in which the activation of a so-called victim schema initiates hypervigilance for threatening cues and an attentional bias to threatening compared to non-threatening cues in social interactions [82]. In line with this assumption, children who reported more frequent experiences of victimization responded more quickly to victim-related words in an Emotional Stroop task [82].“

* As part of the rationale, it would be helpful to include a few sentences about the broader implications of these attentional biases, i.e., what is the impact of the biases on individuals’ everyday interactions, etc.?

→ some examples for the impact of attentional biases on the everyday interactions were added to the introduction of the schema-based model by Beck & Clark.

„That is, it is suggested that attentional biases influence individuals’ everyday lifes and interactions by influencing, for instance, if threatening cues (e.g., angry faces) are detected in a room, if a peer’s comment is interpreted as a negative evaluation, in which way a student evaluates and recalls his performance in a presentation, and if a danger or reward is expected in the next encounter with a peer.“

* Pages 4-5: Some of the literature, particularly in the introduction in which research on attentional biases in various psychiatric disorders is presented, is about 20-30 years old
and could be updated (e.g., Mattia, Heimberg, & Hope, 1993; Mansell, Clark, Ehlers, & Chen, 1999; Martin, Horder, & Jones, 1992; Oppen, & Van Den Hout, 1994.)

→ in the introduction, we aimed at reporting classic findings of attentional biases in psychiatric samples as well as maltreated samples that used either the Emotional Stroop or the dot-probe task. Therefore, some of the literature is older. However, with respect to recent reviews (e.g., McNally, 2018) the classic and mostly cited effects of biased attentional processes in clinical samples were reported in the 1990’s and early 2000’s. As presented in the introduction, the field of attentional bias research became more diverse since then (i.e., paradigms and determining factors) as became the results. Because we wanted to reflect the diversity of findings, we decided to keep the referenced studies in the manuscript.

* Pages 4-5: The authors first provide evidence for attentional biases in individuals with anxiety, obsessive-compulsive, and trauma-related disorders, and then provide evidence for biases in individual with depression, personality disorders, and schizophrenia and other psychotic disorders. Given that the current clinical sample is comprised largely of individuals with mood disorders (i.e., depressive disorder and bipolar disorder comprise 60%), with anxiety disorders representing the second smallest group (6.6%, 2 individuals, just larger than obsessive-compulsive disorder at 3.3%, 1 individual), it may make more sense to present evidence with regards to attentional biases in depression before those pertaining to anxiety.

→ We've been thinking hard about your recommendation of editing the introduction section by presenting the attentional bias literature in affective disorders at first before reviewing findings in anxiety disorders. However, we decided to keep the previous order because it – in our opinion – better reflects the historical development in attentional bias research in psychiatric disorders. Of course, the current clinical sample comprised of 60% of participants with affective disorders (as referred to in the limitations section), with our study rationale, however, we aimed at examining a wide range of psychiatric disorders (rather than distinct disorders) which may be reflected in the historic rather than disorder-related approach of introducing our study.

* Page 5, lines 39-41. It may be helpful to include an example or two to illustrate the statement that "this association [between trait anxiety and psychopathology and attentional biases] is moderated by parameters within the design."

→ we tried to illustrate the statement by adding the following: „The former suggestion is built upon findings that attentional biases in high trait anxious individuals were more easily found when highly, but not mildly, threatening stimuli were presented and that facilitated attention was associated with a rather quick presentation of stimuli [1].“

* Pages 5-6. In their review of the research, the authors describe studies that examined the extent to which adverse childhood experiences in general affected attentional biases. It would be helpful to also include studies that looked specifically at peer victimization and attention biases (e.g., Rosen, Milich, & Harris; Sulak, 2018).

→ we added the Rosen et al. (2007) study to the introduction.
Accordingly, Rosen, Milich, and Harris (2007) proposed a modified social-information-processing model in which the activation of a so-called victim schema initiates hypervigilance for threatening cues and an attentional bias to threatening compared to non-threatening cues in social interactions [82]. In line with this assumption, children who reported more frequent experiences of victimization responded more quickly to victim-related words in an Emotional Stroop task [82].

Method

* Page 9. More detail about the adjectives used in the Emotional Stroop task, including a list of Stroop stimuli, and justification for using these (i.e., not related to psychopathology or victimization, interpersonal threat) would be helpful. The authors provide some detail in the discussion on page 21 (i.e., negative, neutral, and positive adjectives were used rather than disorder- or fear-related) and it would help to also include this in the Methods section.

→ a list of the stimuli was provided (see table 2). Moreover, a brief justification was added to the methods section.

Methods:

„The stimulus set consisted of 180 adjectives (negative, neutral, positive) and was derived from prior studies on word processing [86–88]. In these studies, adjectives had been rated in terms of valence and arousal in an interpersonal evaluative context. Because peer victimization most commonly implies negative evaluations by others (overt as well as implicit), it was suggested that adjectives with a social evaluation connotation would be of special interest and suitable to detect attentional biases in the context of peer victimization. Out of these 180, 60 adjectives (the 20 most negative, the 20 most neutral, and the 20 most positive) were selected for the Emotional Stroop task and 80 adjectives (the 20 most negative, the 40 most neutral, and the 20 most positive) were selected for the dot-probe task (see table 2). The selected adjectives were matched in their linguistic properties, such as word length and frequency within each task (see table 3). Negative and positive adjectives differed in their valence only. With respect to previous experiences with the stimulus set, neutral adjectives were allowed to be less arousing [86–88].”

* Page 10, lines 2-4: The authors describe that participants completed the FBS, which included 22 questions about specific victimization situations, to which participants responded whether or not they experienced each.

  o Were there just 2 response options, "Yes" and "No", and how was the total calculated to yield 44 (e.g., 2 points for "Yes", 0 points for "No")?

  o Further, the authors note on p. 14 that the median of the scale was 11. What was the interquartile range? A score of 11 out of 44 seems quite low and the overall SD of 8.21 seems quite high; is this typical?
Finally, is a median-split typically used for this measure? The authors may wish to reference previous studies that used the FBS.

→ we added some more detailed information about the FBS to the methods section. With respect to previous studies, the median/means and SDs on the FBS were not remarkable. Particularly, they reflect FBS scores reported for a clinical (oupatient) and a community sample by Sansen et al. (2014; Psychiatry Research). The interquartile range was 11 (6 to 17). Admittedly, the FBS lacks a representative norm sample and validated cutoff scores for peer victimization. Therefore, using a median-split of the FBS was a first approach to categorize samples into high vs low peer victimized participants. However, with this approach we were able to indicate peer victimization dependent differences in psychopathology and psychophysiology in previous studies (Iffland et al., 2014, Frontiers in Psychiatry; Sansen et al., 2015, Psychophysiology). Within the current dataset, we conducted additional ANCOVAs using the FBS as a continuous variable. As the patterns of results did not change, we decided to keep the 2 x 2 ANOVA design suggesting that the influence of peer victimization on attention was easier to reconstruct in the depiction of two groups.

Methods:

„Prior to the laboratory session, participants were asked to fill in a questionnaire assessing relational peer victimization (Fragebogen zu belastenden Sozialerfahrungen, FBS [Adverse Social Experiences Questionnaire]) [89]. The FBS consists of 22 items describing aversive social situations like rejection, exclusion, being laughed at, insulted, and teased by peers (e.g., “I was excluded from games or activities by other children or adolescents”, “I have been laughed at in the presence of other children”). For each situation, respondents were asked whether or not they have experienced this situation during childhood (age 6 to 12) or adolescence (age 13 to 18). The total score is calculated as a sum of “Yes” responses across both age periods and ranges from 0 to 44. The total-score of the FBS presented with a satisfying stability over a 20-month period (r = .89) [89]. Construct validity has been confirmed through correlations with measures of psychological symptom distress and social anxiety. Moderate correlations with the scales of the Childhood Trauma Questionnaire [90], as well as an incremental contribution to the prediction of psychopathology, support the idea that the FBS assesses an additional construct of child maltreatment [74,89]. The FBS was applied in several studies examining the role of peer victimization in terms of psychopathology and psychophysiology before suggesting a good fitness of the instrument (e.g., [74,81,91-93]).“

* I found myself wondering about the authors' justification for using the FBS as a measure of relational peer victimization. Based on how it is described, response options are "Yes" and "No" rather than a Likert-type scale or option of "Sometimes" or "Often." Endorsing an item on the FBS (e.g., "I have been laughed at in the presence of other children") pertains to ever having had that experience rather than the severity or chronicity of these experiences. That is, being laughed at in the presence of other children is not the same as being laughed at every day between the ages of 9 and 14 years. In another study that assessed retrospective recall of victimization experiences (Espelage, Hong, & Medane, 2016), authors included a similar scale, the IUVS, to assess self-reported victimization
before college that offers several response options (e.g., never, rarely, sometimes, often, and almost always; Espelage & Holt, 2001), as well as an Adult Retrospective Version of the JVQ to assess several experiences, including child maltreatment, peer and siblings victimization, sexual assault, and exposure to domestic violence, and provided six response choices (i.e., no, once, 2 times, 3 times, 4 times, 5 or more ties). The authors may wish to address that meaningful differences have been found in youth who have experienced one instance of victimization as compared to chronic, or persistent victimization (e.g., Li & Craig, 2014), for instance in their emotional experiences (e.g., shame), attributions of helplessness, and behaviours (e.g., Irwin et al., 2018; Schacter, White, & Juvonen, 2015).

Here, you raise an interesting topic that accompanies our research since we started examining peer victimization in adults. At the beginning we were facing the problem that there was a lack of retrospective measures of peer victimization in the German language. Therefore, we developed the FBS based on different conceptual considerations. On the one hand, items for the measurement of current relational victimization by peers of the same age in childhood and adolescence were derived from existing instruments (Indirect/Social/Relational Aggression Scale, Coyne, Archer & Eslea, 2006; Relational Victimization Questionnaire, Demsey & Storch, 2008; Crick & Grotpeter, 1996; Hunt et al., 2012; Mynard & Joseph, 2000; Prinstein et al., 2001). In addition, experts out of the field of trauma research and trauma therapy generated biographical narratives in the context of biographically oriented therapies with patients who suffered peer victimization in their childhood and adolescence. Based on the intersection, 22 items were generated aiming at reflecting a comprehensive spectrum of negative situations that are relevant for children and adolescence. In the tradition of life event scales and in order to reduce retrospective biases in the recollection of victimization (Hardt & Rutter, 2004, J. Child. Psychol. Psychiatry), a binary response format (experienced/not experienced) was chosen. Because we aimed at examining retrospective reports of peer victimization in adult samples, we refrained from multiple response choices (i.e., no, once, 2 times, 3 times, 4 times, 5 or more times). We suggested that multiple response choices might pretend details in recollection where there are not many (e.g., imagining depressive patients in their mid 50’s indicating how often they have been laughed at at age of 6-12yrs). Additionally, the binary format was supported by reports that under-reporting of child maltreatment was more prevalent than over-reporting in retrospective assessments (Hardt & Rutter, 2004, J. Child. Psychol. Psychiatry).

Of course, the young and adolescent samples in the studies you are referring to are able to indicate reliable assessments of the frequency of victimization. This provides the opportunity to examine the impact of chronicity on emotional experiences, attributions of helplessness, and behaviours. However, examining the frequencies, prevalence rates and outcomes of peer victimization in adolescence vs in adults may demand different scale formats and levels of detail.

Page 10: It would be helpful to include further psychometric properties of all measures included in the study.

we included cronbach’s alpha for all measures.
Methods:

“In the current sample, we obtained good to excellent internal consistency on all scales (see table 1).”

* Page 11, lines 10-24: Authors may wish to rephrase the sentence "Additionally, participants were asked to complete...and trait anxiety were assessed" to "Additionally, participants were asked to complete an assessment battery including a socio-demographic questionnaire as well as well-established questionnaires for child maltreatment, symptoms of depression, general psychopathology and psychological distress, and trait anxiety."

→ we rephrased the sentence accordingly.

*For clarity, although hypotheses are stated on page 7, it would be helpful to restate hypotheses prior to the results section as predictions relate to the specific tasks (i.e., Emotional Stroop and Dot-probe) and indices yielded by the Dot-probe task (i.e., Orienting and Disengaging). It would also be helpful to revisit these specific hypotheses in the discussion.

Results

* Clarifying the hypotheses in the Introduction and Method will help to justify the analyses, in particular given that many analyses were conducted.

→ in accordance with your recommendation, the hypotheses were restated or referenced to at several points in the methods, results, and discussion section.

Methods:

“Afterwards, several 2 (group: clinical vs. control sample) x 2 (Peer victimization: high vs. low) analyses of covariance (ANCOVAs) were conducted to examine the different hypothesized attentional biases dependent on the extent of diagnostical status and peer victimization.”

“Next, for explorative reasons the existence of absolute attentional biases was examined by applying planned t-tests for each attentional bias index score. Specifically, the bias and index scores for all four combinations of group (clinical vs. control) and peer victimization (high vs. low) were compared to zero.”

Results:

“In a next step, the hypotheses that individuals diagnosed with a psychiatric disorder as well as peer victimized individuals show an attentional bias towards negative compared to neutral
adjectives were tested. Additionally, the influence of diagnostic status and peer victimization on the processing of positive compared to neutral adjectives was analyzed.”

“In the explorative analyses, all other Emotional Stroop index scores did not differ significantly from zero (all p’s > .05).”

“Next, the hypotheses that individuals diagnosed with a psychiatric disorder as well as individuals reporting high levels of peer victimization show attentional biases towards negative compared to neutral adjectives were examined for the three attentional bias indeces of the dot-probe task. Similarly, attentional biases in positive versus neutral trials were explored.”

“Similarly, no absolute attentional bias scores differed significantly from zero in the explorative analyses (all p’s > .05) indicating that only relative attentional biases were present.”

“In the explorative analyses, the analyses of absolute bias scores showed no significant effects (all p's > .05).”

“Again, there were no significant absolute bias scores in the explorative analyses (all p’s > .05).”

Discussion:

“In accordance with studies indicating attentional biases in subjects with ACEs [56–61] and our hypotheses, peer victimized subjects showed delayed response to color-naming negative compared to neutral adjectives in the Emotional Stroop task.”

“Contrasting with a wealth of research [2,16,27,29,42] and our hypotheses, the present study did not find a significant influence of psychopathology or the clinical diagnostic status on attentional biases.”

With respect to the existing literature, we hypothesized that subjects with a diagnosed psychiatric disorder would show an attentional bias towards negative compared to neutral adjectives. Furthermore, we assumed that the attentional bias would be more pronounced in subjects with a history of peer victimization irrespective of their current diagnostic status. When comparing positive to neutral adjectives, we did not expect to find any attentional biases.

* Why did the authors choose to dichotomize reaction time? Multiple regression with a continuous measure of reaction time may be more appropriate.

→ we are sorry that we can not address this point, since we did not dichotomize reaction time but used it as a continuous measure as suggested.

* Were there gender differences?
→ no, there were no gender differences. Gender was balanced across samples and peer victimization subgroups. Additionally, gender did not have an effect on any of the attentional bias scores.

Discussion

* Some discussion of the size of effects as they pertain to results would be helpful.

→ some brief discussion of effect sizes was added to the discussion section.

Discussion:

„Reported effect sizes of the significant effects were medium."

„Effect sizes in our sample that was not explicitly recruited with respect to high amounts of peer victimization experiences were already found to be medium. It is likely that attentional biases may even be larger in samples consisting of individuals that were screened for chronical victimization."

* Page 21, line 4: As an additional limitation, the authors may wish to note that diagnostic status is considered as a single, categorical variable. It is noteworthy also that depression comprises 60% of the clinical sample in light of differences found in previous studies between the performance of depressed versus anxious individuals, for example.

→ We adopted your suggestion and added the following to the manuscript:

„The generalizability of our findings is limited. Affective disorders comprised about 60% of the psychiatric patients sample while anxiety disorders were rather under-represented. This may also be reflected by the trait anxiety scores which did not differ from the control group. With respect to the literature on attentional biases in anxiety disorders [15], it may be assumed that a higher amount of patients with anxiety disorders may have resulted in greater attentional biases in the psychiatric sample. Accordingly, considering the diagnostic status as a single, categorical may limit the validity of the current study as it may conceal differences in attention processes in various psychiatric disorders. Future studies should address this shortcoming by recruiting psychiatric samples comprising sufficiently largh enough sub-samples of different psychiatric disorders to account for disorder-related differences in emotion processing."

* Page 21, line 31: The authors may wish to rephrase the following sentence for clarity: "Admittedly, it may be speculated that the present stimuli provide a social evaluation connotation that may be rather related to emotional forms of child maltreatment than to psychopathology per-se".

→ the sentence was rephrased accordingly.
The present study, however, did not use stimuli that were related to a certain disorder or subject of fear, but negative, neutral, and positive adjectives that may have provided a social evaluation connotation. It may be speculated that the present stimuli may rather be related to experiences of peer victimization than to psychopathology. Hence, the null effects found for the influence of psychopathology on attentional biases may be due to the utilized stimuli set. Accordingly, adjectives that reflect depressive or anxious cognitions and experiences (e.g., sad, afraid, nervous, worried) may have rather been suitable to elicit attentional biases in the clinical sample. Consequently, future studies should use a set of stimuli that includes both peer victimization related social evaluative adjectives as well as disorder- or fear-related adjectives to disentangle different effects of victimization and psychopathology on the processing of emotional words.

Page 21, line 39. The authors offer as an explanation for their null effects the utilized stimuli set. Again, a list of Stroop stimuli would be helpful to see. Could the authors also suggest how future studies might improve upon this?

→ the stimuli list was added (table 2). Implications for future studies have also been added (see above)

Conclusion

Page 22, lines 42-45: Given that the authors present information about children experiencing peer victimization and that the current sample is comprised of adults, it would be helpful to clarify that there are long-term outcomes that follow children into their adult lives and relationships.

→ we addressed this point by editing the paragraph emphasizing on peer victimization as a highly prevalent public health concern which consequences can be as severe as the outcomes of physical or sexual abuse.

“In school children, reports of repeated victimizations range from 10–20%, with periodic adversities being indicated even more frequently [137,143,144]. This prevalence rates of victimization become even more alarming with respect to reports indicating that the outcomes of emotional maltreatment are as harmful as the consequences of sexual and/or physical maltreatment [70,72].”

Page 23, line 7: It is understated that "peer victimized subjects may be more vulnerable to the development of psychopathology". The authors may wish to reference research which strongly links peer victimization with short- and long-term consequences, including mental health as well academic and social functioning (e.g., Swearer & Hymel, 2015).

→ here, we „re-referenced“ to research presented in the introduction indicating that peer victimization is linked to various forms of psychopathology.

„As a consequence, peer victimized subjects may be more vulnerable to the development of psychopathology [71,73-81].”
The implications could be expanded upon. For instance, how can our understanding of about the presence and nature of attentional biases in various populations help minimize the negative effects caused by these biases?

→ Thank you for that advice. We added implications of a better understanding of attentional biases for potential therapeutic treatments to the manuscript.

,,Hence, a better understanding of the specific characteristics in the processing of emotional and neutral stimuli in the wake of peer victimisation could help to address short and long term consequences for victims. For instance, treatment of peer victimization related psychiatric disorders may implement cognitive modules targeting attention. Accordingly, attentional bias modification has been proposed to be the first of a two-step treatment approach for people at risk for developing psychiatric disorders [15]. Here, victims of peer victimization would run an attentional bias modification training first before traditional cognitive behavioral therapy is offered. However, future studies on the efficacy of attentional bias modification in peer victimized individuals and its consequences on psychopathology and other negative outcomes are needed.”

Formatting and minor comments

* Page 3, line 31: The authors may wish to consider rephrasing "Heightened response times" to "quicker" or "faster" response times.

→ thank you. We replaced „heightened response times“ with „slower response times“

* Page 4, line 48: Typo: "panic disoders" should read "panic disorders"

→ edited accordingly

* Page 9, line 49: The authors may wish to rephrase the sentence "Stimuli were shown throughout until the participants' response with an intertrial of 200ms."

→ Stimuli were shown throughout until the participants responded. After an intertrial interval of 200ms the next stimulus was presented.

* Page 15, line 17: The authors may wish to use the term "marginally" rather than "virtually".

→ edited accordingly

* Page 15, line 25: Typo: "significanct" should read "significant"

→ edited accordingly

* Page 19, line 12: "&" in the text should read "and"
→ edited accordingly