

We thank the reviewers for their thoughtful comments, criticisms, and detailed suggestions. Each comment has been addressed below, with comments and responses indicated.

All changes are highlighted using red colored font.

Reviewer #1:

Comment 1. Please clarify what you meant for "systematic computerized literature search" (Methods section).

Response 1. The word “computerized” was deleted to clarify the meaning of the sentence. The paragraph that follows this sentence explains the systematic search.

Comment 2. The authors might want to add supplementary material for (a) the search arguments and (b) a list of excluded articles with the reason of exclusion. I have not found an in-depth analysis of the quality of articles (e.g., Newcastle Ottawa or other assessment). This is essential to achieve a trustworthy systematic review.

Response 2. A supplementary file (Supplement 1) was provided which includes the full list of 114 articles excluded for lack of relevance to the topic and lists of other full text articles grouped by reason for exclusion. The quality of the included studies was measured using a modified version of a tool generated for assessing the quality of prevalence studies (Giannakopoulos et al., 2012; Russel et al., 2013). Also, the Hoy Risk of Bias Tool (RoBT) (Hoy 2012) was used to assess methodological bias. Two tables describing the quality and risk of bias of the included studies were provided as supplementary materials (Supplement 1, Table 2 and Table 3).

Comment 3. You may scale down and organize the Discussion in subheadings, straight to your research question.

Response 3. Discussion was organized in subheadings.

Comment 4. The psychopathological discussion of the dissociation is welcome. Please finish this article with a conclusive learned lesson. The take-home message must address your research question (dissociation in disasters).

Response 4. A “learned lessons” paragraph was provided at the end of the discussion section.

Reviewer #2:

Comment 1. There are two concepts of dissociation - both derived from Janet's work [van der Hart & Horst, 1989 Journal of Traumatic Stress]. One (mentioned by the authors) is - disintegration or splitting of various mental functions such as memory, perception, emotion from each other -also referred to as traumatic or structural dissociation. The other is referred to as the "narrowing of the field of consciousness" - defined by Janet as the "as the reduction of the number of psychological phenomena that can be simultaneously united or integrated in one and the same personal consciousness." This concept is more useful in explaining normative dissociative experiences (e.g. daydreaming) but has also been linked to "hysteria" by Janet and others. Although the latter concept probably has little bearing on a review of trauma and dissociation but it should nevertheless be mentioned for sake of completion.

Response 1. The concept of "narrowing of the field of consciousness" was also mentioned in the introduction section (1st paragraph) along with relevant references.

Comment 2. If it is the authors' contention that this is a systematic review, then ideally PRISMA guidelines should have been followed. That would require more details such as a completed PRISMA checklist, the flow chart in PRISMA format, the instrument used to rate quality of studies and the procedure/instrument for assessing risk of bias. The last would be particularly important because of the small number of studies involved. Alternatively, it would be more appropriate to refer to the manuscript as a review.

Response 2. A completed PRISMA checklist was provided as a supplementary material in the revised version. The flow chart has been revised to fully comply with the PRISMA format. The quality of the included studies was measured using a modified version of a tool generated for assessing the quality of prevalence studies (Giannakopoulos et al., 2012; Russel et al., 2013). Also, the Hoy Risk of Bias Tool (RoBT) (Hoy 2012) was used to assess methodological bias. Two tables describing the quality and risk of bias of the included studies were provided as supplementary materials (Supplement 1, Table 2 and Table 3).

Comment 3. The terminology used to refer to dissociation has to be clarified. The authors use several overlapping terms that are quite confusing. These include dissociation as stated in the abstract (AIM The purpose of this review is to systematically evaluate the literature on the association between disaster and dissociation to determine the prevalence and incidence of dissociation after exposure to

disaster and further examine their relationship.) In the Methods section of the abstract they write that they searched for "studies examining dissociative disorders or symptoms related to a disaster in adult or child disaster survivors and disaster responders." In the introduction apart from dissociation & dissociative disorders, a new term dissociative psychopathology is used. In their results they state that: "The majority of the studies (n=40) had a primary focus on posttraumatic stress,..." They however do not define posttraumatic stress. In different studies posttraumatic stress has been used to refer to anxiety and dissociative symptoms, transient dissociative symptoms or even a normal (and short lasting) reactions to trauma. In fact, in another review by van Der Hart and colleagues [Journal of Trauma & Dissociation, Vol. 9(4) 2008] the term posttraumatic stress (PTS) has been used to refer to three different phenomena - general PTS reactions, PTSD symptoms, and formal PTSD diagnoses. General PTS reactions referred to intrusions and avoidance reactions that were quite common after experiencing emotionally intense experiences. The term PTSD symptoms referred to the specific symptoms of PTSD according to the DSM. It appears from what they state later in the results that the authors are equating posttraumatic stress with dissociative symptoms, but they do not comment on whether posttraumatic stress was normal or pathological, short lasting or prolonged. Finally, in their results they write that: "The Peritraumatic Dissociative Experiences Scale (PDEQ) was used in 49% of the studies" Thus, they introduce another term peritraumatic dissociation, which is different from all the rest of the terms.

Response 3. Throughout the manuscript, we have been careful to use very precise language to refer to the concepts we are using, especially dissociative and posttraumatic concepts. We specifically use terminology of "disorders" to refer to entities meeting established diagnostic criteria and terminology of "symptoms" to refer to specific symptoms listed with the diagnostic criteria for the disorders. We have consistently used the term "posttraumatic stress" to represent a miscellaneous category of posttraumatic reactions not specifically referring to the established criteria for PTSD, and van der Hart and colleagues used their own idiosyncratic definition for PTS, an acronym that we studiously avoided because their use of this terminology is not consistent with ours. In our use of terminology in this article, we did not differentiate "posttraumatic stress" as normal or pathological or with a particular duration, as it is a miscellaneous category outside of the diagnostic constructs for PTSD and the symptoms of PTSD. We do not use the term "peritraumatic dissociation" to refer to any reactions, symptoms, or psychopathology, and reference to this concept is included only indirectly because it is part of the name of one instrument (PDEQ) in the studies reviewed but otherwise provides no focus of attention for any discussion in this article.

Comment 4. The final puzzling bit was the author's assertion that: "No prior reviews have been published on dissociation associated with disasters." Even a cursory search of literature will reveal that there are several narrative and systematic reviews on mental health effects of disasters including dissociation [Neria et al Psychol Med. 2008 April ; 38(4): 467–480; North Curr Psychiatry Rep (2014) 16:481; North, & Pfefferbaum JAMA August 7, 2013 Volume 310, Number 5]. There are reviews on epidemiology of dissociative disorders following disasters [Galea et al Epidemiologic Reviews Vol. 27, 2005; Bromet et al Psychol Med. 2017 January ; 47(2): 227–241] and a bibliometric analysis of health-related literature on natural disasters from 1900 to 2017 [Sweileh Health Research Policy and Systems (2019) 17:18]. Additionally there are critical reviews of the association between peritraumatic dissociation and posttraumatic stress and PTSD [van Der Hart et al Journal of Trauma & Dissociation, Vol. 9(4) 2008] and at least 3 meta-analyses on the same subject [Ozer et al Psychological Bulletin 2003, Vol. 129, No. 1, 52–73; Breh & Seidler 2007 Journal of Trauma & Dissociation, 8:1, 53-69; Lensvelt-Mulders et al Clinical Psychology Review 28 (2008) 1138–1151]. The authors would do well to refer to these and other reviews while discussing their findings.

Response 4. Although there are a number of reviews and meta-analyses on mental health outcomes of disasters, none has focused specifically on dissociation (although a few reviews of PTSD and dissociation included very small number of disaster studies and did not comment on them). Thus, the relevant sentence was changed accordingly with appropriate references.

A mention of published reviews (van der Hart et al., 2008; van der Velden et al., 2008) and meta-analyses (Ozer et al., 2003; Breh and Seidler, 2007; Lensvelt-Mulders et al, 2008) on the relationship between dissociation and PTSD were added to the discussion section as suggested by the reviewer.