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Posttraumatic stress among refugees: The moderating effect of perceived social support

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ABSTRACT

Objective: Social support has been associated with the mental health of refugees. However, little is known about the characteristics and effects of social support in this group. The aim of this study was to investigate the protective role of social support, specifically through the perceived opportunity to confide in someone. We hypothesized that the opportunity to confide would have a moderating influence on the dose-effect relationship between trauma exposure and PTSD symptoms.

Methods: Clinical face-to-face interviews were conducted with 65 adult refugees who were living in the north-east of North Rhine-Westphalia. Interpreters (Arabic, Farsi, Kurmancî) were present if necessary. Interviews included a detailed assessment of traumatic event types, PTSD symptoms (assessed via the PTSD Checklist for DSM-5 (PCL-5)), and social support experienced by the participants.

Results: The multiple hierarchical regression analysis revealed a significant moderation of the perceived opportunity to confide on the association of number of traumatic event types reported and PTSD symptomatology. For refugees with limited trauma exposure, opportunity to confide was associated with lower PTSD symptoms. Most confidants were located within the countries of reception, while contacts in the home countries were less often identified as protective.

Conclusions: Social support, in particular the opportunity to confide, seems to act as a buffering factor up to a certain number of experienced traumatic event types. Specialized interventions may be necessary for people with a high trauma load and / or high symptom level.

1. Introduction

Social support is a protective factor that may help people recover from the stress resulting from life events (Bhui et al., 2012; Ryan et al., 2008). Many refugees encounter high numbers of traumatic events (Hecker et al., 2018; Morina et al., 2018) that are associated with posttraumatic stress disorder in a dose-effect relationship (Neuner et al., 2004; Schauer et al., 2003). This relationship results in comparably high levels of PTSD in refugee populations, who often face numerous stressors and exposures to traumatic events (Bozorgmehr et al., 2016; Gäbel et al., 2006).

In light of the dose-effect relationship and the high levels of trauma exposure among war-affected refugees, the potential protective effect of social support is particularly relevant. However, many refugees are confronted with a disrupted social context in addition to their trauma exposure. Many forcibly displaced people lost at least some of their close family members, and worries about family members are often omnipresent (Chen et al., 2017). It is a characteristic of forced displacement that the displaced individual's social network has changed drastically (Kovacev and Shute, 2016). This disruption directly impacts the availability of social interactions, especially during the first period following arrival in the new country. Loneliness and isolation have been identified as post-migration stressors that impair mental health of refugees (Chen et al., 2017; Miller and Rasmussen, 2010; Steel et al., 1999). Refugees have to navigate language and cultural barriers (James et al., 2019; Kovacev and Shute, 2016) which may complicate social interactions with the host population.

The relationship between social support and mental health has been studied from multiple perspectives. The most common assumption in populations that are affected by stress is the *buffering effect* of social support (Mels et al., 2008; Sierau et al., 2019). This assumption predicts that social support protects people from the toxic influence of stress, which could be observed in the moderating effect of social support in the relationship between stress and mental health. Social support can be

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defined as a multidimensional construct that includes different types of support. According to Cohen and Wills (Cohen and Wills, 1985) social support can be categorized in emotional support, informational support, social companionship, and instrumental support. The authors proposed that a buffering effect should be expected for the perceived availability of significant interpersonal relationships that may help to overcome the experience of traumatic stress. In 1985, they highlighted the special role of the experience of having a confidant on the relation of stress and mental health by summarizing studies focusing on the buffering effect of this special aspect of social support. These findings were supported by recent research as well (Baiden and Fuller-Thomson, 2016; Carswell et al., 2011).

Based on the link between disclosure to a confident and buffered mental health status, the current study investigated the protective role of social support by testing the hypothesis that the perceived opportunity to confide moderated the dose-response relationship between the number of traumatic event types and PTSD symptomatology. More precisely, the relationship between trauma and PTSD was expected to be stronger for those without opportunity to confide in others. In addition, we explored the social context in which participants felt they had the opportunity to confide in others. We hypothesized that confidants would be located within the participants' ethnic group rather than within the general population of the host country (Mels et al., 2008; Schweitzer et al., 2006).

2. Method

2.1. Sample

Between August 2018 and March 2019, a convenience sample of $N = 65$ refugees (20.0 % female, $n = 13$) participated in face-to-face interviews. Participants ranged from 19 to 75 years of age ($M = 34.50$, $SD = 12.13$). Participants had been interviewed within the framework of a larger study in which 198 refugees took part. Here, inclusion criteria included sufficient language skills (ability to conduct the interview in Arabic, Farsi, Kurmancî, English, or German), being at or above the age of majority, residing in North Rhine-Westphalia, and having arrived in Germany within the previous six years.

2.2. Procedure

Data collection for the current study was embedded in a larger study conducted within the framework of the research consortium "FlüGe–Opportunities and challenges that global refugee migration presents for health care in Germany," which was funded by the Ministry of Culture and Science of the State of North Rhine-Westphalia, Germany. Interviews took place in shared accommodations and private apartments in the north-east of North Rhine-Westphalia, Germany, and at Bielefeld University. Thirteen native speakers were trained as interpreters (12 male, 1 female; 9 Arabic, 3 Farsi, 4 Kurmancî).

The sample described in this study is a detailed and more comprehensive re-assessment of a subset of a larger sample ($N = 198$). Out of the sample from the first round of interviews, 65 refugees (20.0 % female, $n = 20$) participated in the data collection described in this study. The remaining either did not provide informed consent to be recontacted or could not be reached via phone, email, or home visits (detailed information on data collection regarding the first round of interviews can be found here: (Boettcher et al., 2021)). The informed consent form and information letter were translated and blind back translated to ensure that the forms accurately presented the necessary information for informed consent to participate. Face-to-face interviews ($M = 116$ min, $SD = 48.2$) were conducted by two German speaking researchers with the help of interpreters when necessary. The survey mainly contained questions with predefined answer options, but also some open questions (see detailed description below). The Ethical Review Board of Bielefeld University granted approval for the study. No compensation was provided for participation.

2.3. Measures

Participant age, gender, citizenship, education, and marital status were assessed during the initial interview (see Table 1). During the data collection for the current study, additional information regarding potentially traumatic event types, PTSD-symptoms, and aspects of social life were collected (see detailed description below).

2.3.1. Traumatic event types

The current study utilized the War and Adversity Exposure Checklist to assess participants' traumatic event types (Ibrahim et al., 2018b). The checklist was generated utilizing pre-existing checklists as well as focus group interviews (Ibrahim et al., 2018b). The Checklist includes a total of 26 items. To calculate a sum-score, all affirmed questions were summed up. Previous research has reported a Cronbach's α of 0.77 (Ibrahim et al., 2018b). The internal consistency in our study was 0.85.

2.3.2. PTSD symptoms

The German version of the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5; (Krüger-Gottschalk et al., 2017) was used to assess PTSD symptomatology. Responses to the PCL-5′s 20 questions are rated 0 (not at all)–4 (extremely), leading to the highest possible score of 80, with higher scores indicating more severe PTSD symptoms. In a study with participants from displaced Arab and Kurdish populations, Ibrahim and colleagues (Ibrahim et al., 2018a) concluded that a cut-off score of 23 demonstrated the optimal balance between specificity and sensitivity in these populations. Previous research has demonstrated good psychometric properties (Krüger-Gottschalk et al., 2017; Wortmann et al., 2016), and the Cronbach's α was 0.86 in the current sample.

2.3.3. Social support

Rather than using standardized social support instruments that had been developed, validated, and established in other contexts, we constructed an instrument that considered the complexities of potentially supportive contexts for refugees, depending on ethnic group (participant's ethnic group vs. German) and current home (country of origin vs.

Table 1
Descriptive Statistics of all Relevant Variables.

Age (in years)	
M (SD)	34.50 (12.13)
Range	19–75
Gender (female); *n* (%)	13 (20)
Formal education; *n* (%)	
Dropped out of school without certificate	6 (9.2)
Primary school graduation	11 (16.9)
Secondary school certificate	10 (15.4)
High school graduation	34 (52.3)
Higher education[a]; *n* (%)	18 (27.7)
Marital status; *n* (%)	
In a stable partnership (married or unmarried)	37 (57.0)
Citizenship (multiple answers possible); *n* (%)	
Syria	38 (58.5)
Iraq	15 (23.1)
Afghanistan	6 (9.2)
Other	6 (9.2)
Time since arrival in Germany in months	
M (SD)	34.66 (10.68)
Range	8–57
Potentially traumatic event types	
M (SD)	11.05 (5.01)
Range	1–21
PCL-5 sum-score; *M (SD)*	19.68 (14.58)

Note. $N = 65$.
% figures rounded to one decimal place.
[a] Diploma, bachelor's degree, master's degree, PhD, postdoctoral qualification.

Germany) of social contacts. We assessed the characteristics of social interactions for each of the three contexts that resulted of the likely combinations of origin and home (own group in Germany, own group in country of origin, German speaking in Germany). As there were no interactions with German speaking in country of origin in our sample, this grouping was not included in the present study. Social interaction included information about contact frequency during a typical week (e.g., "How many days a week do you typically interact with people close to you are German speaking and live in Germany?"), the frequency of six different topics (personal general well-being, well-being of the confidant, Political situation / state of conflict in country of origin, jointly shared symbols / rituals, leisure activities) on a three-point scale from 0 (not at all) to 2 (a lot). Referring to the contact, participants were asked to rate on a three-point scale whether they perceive to have the opportunity to confide in the confidants (0 = not at all; 1 = *a* little; to 2 = yes, completely). In addition, we asked about the participants' emotional reactions to the interactions by rating the perceived happiness and sadness involved with the contacts for each group.

In the present study, information was integrated as to whether the participants have contact with the different contexts and whether they perceive to have the opportunity to confide in the confidants. See Appendix A for an overview of all questions used to assess social support in the current study. To investigate the moderating role of the opportunity to confide we constructed a dichotomous variable that coded individuals who did not report any opportunity to completely confide in any context as 0 and individuals who reported the opportunity to confide in at least one context as 1. For exploratory purposes, this binary score was calculated for each context separately.

2.4. Data analysis

Statistical analyses were performed using IBM SPSS Statistics Version 27 for macOS. To investigate the possible interaction effect between opportunity to confide and the number of reported traumatic event types on PTSD symptomatology, a multiple hierarchical regression model with the interaction term was computed. In the moderation analysis we accounted for gender. Furthermore, a simple slope analysis was carried out to detect possible group differences between participants with a low level of reported event types experienced and participants with a high level of reported event types experienced. For all analyses the alpha level was set at 0.05. For exploratory purposes, we compared the different social contexts where interactions took place to determine which of the contexts offered the most opportunities for the refugees to confide in a trusted other in the present sample.

3. Results

Approximately two-thirds of participants (n = 43; 66.2 %) reported that they had at least one person to confide in, while the remaining third reported not having any confidant in any context. Participants with the opportunity to confide reported fewer event types on average (M = 10.09, SD = 4.93) than participants without the opportunity to confide in someone (M = 12.86, SD = 4.63); ($t(63) = 2.186$, $p = .033$).

Almost all participants (n = 62, 95.4 %) reported experiencing forcible separation from at least one immediate family member. Three-quarters of the participants (n = 49; 75.4 %) reported losing a close person due to war-related death or abduction. Almost half of the participants (n = 30; 46.2 %) arrived alone in the host country. All participants reported having experienced at least one potentially traumatic event. The reported number of experienced event types ranged between 1 – 21 (M = 11.03; SD = 4.97). The mean PCL-5 score was 19.68 (SD = 14.58). Of the 65 participants, 25 (38.5 %) scored above the recommended cutoff. Syrian citizenship was held by 38 participants (58.5 %) and 15 participants (23.1 %) held Iraqi citizenship. Average time since arrival in Germany was almost three years (M = 34.66 month; SD = 10.68).

3.1. Hierarchical regression analysis

A hierarchical multiple regression analysis was conducted to examine the moderating impact of the opportunity to confide on the relationship of the number of experienced traumatic event types and PTSD symptoms. In the first step, gender was included in the model. Gender alone explained 5.7 % of variance of PTSD symptoms ($F(1, 62) = 3.73$, $p = .058$). The centered number of traumatic event types and opportunity to confide were entered in the second step ($\Delta R^2 = 0.19$, $F(3, 60) = 6.36$, $p = .001$). which confirmed a main effect of event types but not of the opportunity to confide. Finally, the interaction term between the centered number of reported event types and opportunity to confide was added in the third step. The interaction term was significant in the model ($p = .047$), whereas the number of experienced event types was no longer significant ($p = .738$). Overall, the regression model reached significance ($F(4, 59) = 6.05$, $p < .001$). The final model accounted for 29.1 % of the total variance in PTSD symptoms captured by the PCL-5 (see Table 2 for exact values).

At a low level of experienced event types (1 *SD* below the mean), participants who had the opportunity to confide displayed a seemingly lower level of PTSD symptomatology compared to participants who reported experiencing no opportunity to confide in others, although the difference did not reach significance ($t(30) = 1.642$, $p = .111$). At a high level of experienced traumatic event types (1 *SD* above the mean), the difference regarding PTSD symptomatology between participants who had the opportunity to confide and those who had not decreased ($t(31) = -0.791$, $p = .435$) and participants who had the opportunity to confide had a higher sum-score on the PCL-5, although the difference was not statistically significant (see Fig. 1).

3.2. Distribution of social support over the three different contexts

All participants indicated having contact with native speakers in their home country. Contact frequency ranged from once every five months to daily. Out of the 65 participants, 61 reported having regular contact with people speaking their own native language in Germany. Contact frequency ranged from monthly to daily. With 28 out of 65 participants (43.1 %) having contact with German speaking people in Germany, this context demonstrated the lowest number of contacts. Contact frequency ranged from every two months to daily. Of the sample, 43 participants (66.2 %) reported having at least one person they could confide in regardless of the context. In percentage terms, contact with native speakers in Germany included the highest number of

Table 2
Hierarchical regression analysis on PTSD symptoms.

	B (95 % CI)	*p*-value
Step 1		
Gender	−8.64 (−17.57 – 0.30)	.058
Step 2		
Gender	−11.51 (−19.80 – −3.22)	.007
Number traumatic event types reported (centered)	1.23 (0.53 – 1.92)	<0.001
Opportunity to confide	−1.75 (−8.91 – 5.41)	.627
Step 3		
Gender	−11.27 (−19.36 – −3.18)	.007
Number traumatic event types reported (centered)	0.20 (−1.01 – 1.42)	.738
Opportunity to confide	−3.17 (−10.29 – 3.95)	.376
Number of event types reported (centered) x opportunity to confide	1.47 (0.02 – 2.92)	.047

Note: * $R^2 = 0.06$ for Step 1 ($p = .058$); $\Delta R^2 = 0.19$ for Step 2 ($p = .001$); $\Delta R^2 = 0.05$ for Step 3 ($p = .047$). $p \leq .05$ are displayed bold. Listwise deletion. $N = 64$.

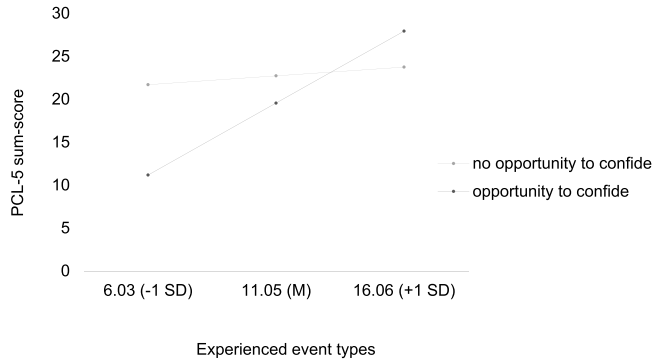

Fig. 1. Simple slopes equations of the regression of PTSD symptomatology on number of traumatic event types at two different levels of opportunities to confide in others.

trusted contacts (54.1 % compared to 21.5 % in context 1 and 25.0 % in context 3; see Fig. 2 for a detailed overview).

4. Discussion

In a convenience sample of refugees in Germany who reported a high number of traumatic event types, we found that the perceived opportunity to confide in trusted others moderated the relationship between traumatic event types and PTSD symptoms. While multivariate regression analyses indicated main effects of gender and trauma exposure that are consistent with previous reports in similar samples (Jacobi et al., 2014; Kaltenbach et al., 2018; Mahmood et al., 2019; Schauer et al., 2003), only the interaction term of opportunity to confide and trauma exposure reached significance once it was added to the equation. This finding supports other research suggesting a buffering effect of social support on PTSD symptoms (Cohen and Wills, 1985; Sierau et al., 2019).

To gain further insight into the effect of social support on different levels of PTSD symptoms we conducted a visual inspection of the interaction including a simple slope analysis (displayed in Fig. 1). Results indicate a trend that the opportunity to confide seems to mitigate the effect of experienced traumatic event types on PTSD symptomatology only at low levels of number of event types experienced. This type of interaction is not fully consistent with the stress-buffering

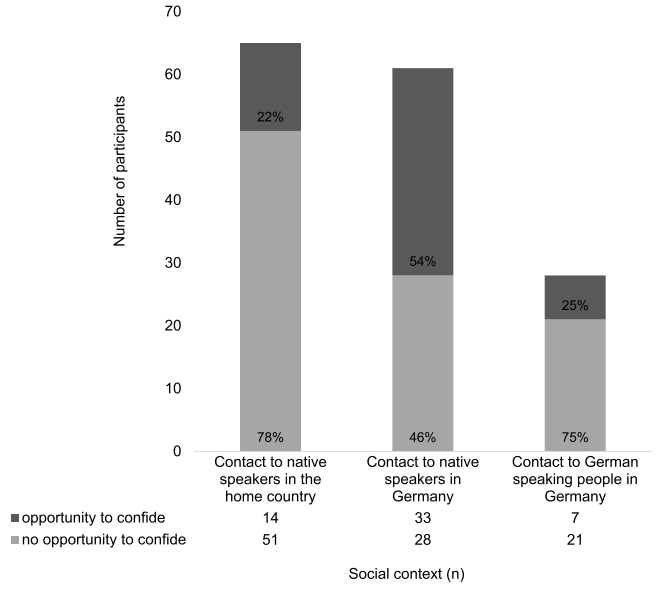

Fig. 2. Frequency distribution of social support within the scope of opportunity to confide on condition that contact was present. % figures rounded to whole numbers.

hypothesis (Cohen and Wills, 1985) that would predict a flattened association between number of experienced event types and PTSD symptomatology for participants who present with the protective factor. The current result suggests that the opportunity to confide may act as a buffering effect only up to a certain level of experienced distress. When the experienced trauma load gets too high coping resources seem to become overwhelmed and the building-block effect of trauma becomes apparent. Participants reporting no opportunities to confide indicated similarly high levels of PTSD symptoms independent of the number of event types experienced. This finding indicates that the absence of experiencing the opportunity to confide seems to be a significant risk factor for the development of PTSD symptoms, regardless of the level of traumatic event exposure.

We found evidence for the importance of having social connections within the refugees' own ethnic group as a protective factor, which is consistent with previous findings (Schweitzer et al., 2006). Most of our participants found confidants within their own ethnic group in Germany. More participants indicated a feeling of trust in social interactions that occurred in Germany compared to interactions with people in the home country. An obvious explanation may be that spatial distance is an obstacle for any social contact that interferes with regularity of interactions, which seems to play an important role in the protective effect of confiding in others (Teo et al., 2015). Further, participants frequently reported difficulties surrounding connecting with those in the participants' countries of origin. Some participants experienced the urge to protect those trusted others in their country of origin by not sharing their experiences or challenges, as the participants believed their confidants would be burdened by hearing of the participants' distress. Other participants reported feeling guilt for being in a comparatively safe country while important attachment figures were still exposed to conflict and war. The fear of placing further burdens on family members back home by sharing their difficult experiences seemed high for some of the participants. These reasons may have led to the different evaluations regarding the two contexts with the same ethnic group. The burdening emotions felt by some of the participants highlights the importance of psychotherapeutic support once again. Firstly, supportive therapeutic contacts can provide relief and reduce suffering pressure. In addition, as a result of the reduced suffering and the opportunity to talk to professionals unrelated to the home context, feelings of guilt may be reduced.

Remarkably, proportionally more participants indicated trusted interactions with people in Germany speaking German than people speaking the participants' native language living in the home country. In another study conducted in Germany, affiliation with the German culture was associated with higher well-being (Green et al., 2019). Benefits of intergroup contacts between refugees and the majority group on the refugees' well-being were described in a British study as well (Tip et al., 2019).

This study is limited by the fact that our findings are based on an unselected convenience sample. Therefore, generalization to a wider refugee population may be limited. Further, participation was restricted to participants who were able to speak either Arabic, Kurmancî, Farsi, German, or English. However, our sample resembles other refugee samples regarding descriptive statistics, such as age and gender distribution (Hecker et al., 2018; Winkler et al., 2018). Selection factors should nevertheless be kept in mind but not overstated.

Previous research has suggested a bidirectional relation between social support and mental health (Kaniasty and Norris, 2008). The cross-sectional nature of the current study impedes predictions about causality for our sample. Moreover, the sample size is comparably small. The results are of exploratory nature and should be interpreted with care unless they are supported by a confirmatory analysis based on larger samples. However, the current study provides results that support further investigation using larger sample sizes. Larger studies would also provide the opportunity to validate the questions used to assess social support in the present study. Further, it may be interesting to conduct

studies focusing on the feeling of having the opportunity to confide in someone even further. The current sample size did not provide enough power to calculate whether there is a statistical significance regarding the different contexts which again emphasizes the importance of further studies with larger sample sizes. Open questions may help provide insight into whether there are differences regarding the topics people hesitate to share with the interaction partner depending on the context of the confidants (origin and home). In addition, we recommend including post-migration stressors as an additional factor in future analyses, as we know about the impact these stressors can have on the onset and maintenance of psychological disorders in forcibly displaced people (Chu et al., 2013; Li et al., 2016).

A key feature of the present study is the manner in which social support was assessed. We explicitly asked participants whether they felt they had the opportunity to confide in at least one of the people with whom they interact. This provides another perspective on the concept of social support. It is different from feelings of closeness with someone, as feelings of closeness with someone do not automatically include feelings of unrestricted trust. In addition, grading the answer in three categories (not at all; partially; yes, totally) adds additional value to the results. In our understanding, the protective effect of social support develops when people have the feeling of having the opportunity to fully confide in a person, rather than in part. However, by offering participants just two answer options, some may indicate that they can confide in someone even if they do not experience the opportunity to confide in them completely. One example of such a situation may arise when participants indicate that they can somewhat confide in a family member, as family is of great importance for many of the participants and admitting that one cannot confide in a family member completely might be easier than stating that confiding is not possible at all. This consideration is supported by several statements participants made during the interviews (e. g: "Family is most important to me, of course I share a lot with them… However, they do not know about my unemployment here in Germany.").

In addition, the face-to-face nature of the interviews also served to limit the impact of potential barriers related to participant literacy. Lastly, all participants were familiar with the team of researchers and interpreters due to their participation in the first interview, which was conducted as part of a larger study. This may have increased the trust in the team and lowered the potential for socially desirable responding.

Even though the specific mechanism of action requires further investigation, an association between the opportunity to confide in others and mental health is clearly visible. This underlines the importance of interventions targeting the social integration of refugees. Keeping in mind that a substantial proportion of refugees found German speaking confidants, language courses seem to be important to overcome language barriers and establish relationships. Language learning could be facilitated by tandem partnerships in which people with different native languages learn the other person's native language through interacting with the counterpart. In addition, enabling refugees to live in mixed neighborhoods can ease language learning and interaction through immersion. The idea of promoting opportunities for contact was also supported by the German Bundesamt für Migration und Flüchtlinge (Siegert, 2019). In a short analysis paper, the importance of creating opportunities for participation in everyday life in the host country, e.g., at work or in educational institutions, to foster interactions with locals was highlighted.

Even though the importance of social support regarding refugees' mental health is apparent, it becomes clear that social support is not a panacea. In particular, refugees who have experienced a comparably high number of potentially traumatic event types are often in need of professional psychotherapy (Boettcher et al., 2021). Refugees with no opportunity to confide are especially vulnerable to developing symptoms consistent with a diagnosis of PTSD regardless of the number of traumatic event types experienced. Keeping in mind that this holds for 33.85 % of our participants, targeting this group with interventions seems to be essential. The comparably low numbers of trusting relationships with interaction partners living in the home country highlight the negative impact of family members left behind in the home country when working with refugees.

5. Conclusions

In the current study, perceived social support, more specifically the opportunity to confide in someone, moderates the association of experienced traumatic event types and PTSD symptomatology. Up to a certain level of experienced traumatic event types the opportunity to confide seems to act in the context of a buffering effect. However, even for participants with comparably low experienced distress and the experienced opportunity to confide disease burden are high and psychotherapeutic interventions are indispensable. People with no opportunity to confide in others scored high on the PCL-5 regardless of number of traumatic event types experienced and require additional resources and support to address these challenges.

6. Ethics approval and consent to participate

The Ethical Review Board of Bielefeld University granted approval for the study. Approval number: 2017–072W. Written consent was obtained from all study participants.

CRediT authorship contribution statement

Victoria Sophie Boettcher: Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualization. **Frank Neuner:** Writing – review & editing, Project administration.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Supplementary materials

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References

Baiden, P., Fuller-Thomson, E., 2016. Factors associated with achieving complete mental health among individuals with lifetime suicidal ideation. Suicide Life Threat. Behav. 46 (4), 427–446. https://doi.org/10.1111/sltb.12230.

Bhui, K., Mohamud, S., Warfa, N., Curtis, S., Stansfeld, S., Craig, T., 2012. Forced residential mobility and social support: impacts on psychiatric disorders among

Somali migrants. BMC. Int. Health Hum. Rights. 12 (1). https://doi.org/10.1186/1472-698x-12-4.
Boettcher, V.S., Nowak, A.C., Neuner, F., 2021. Mental health service utilization and perceived barriers to treatment among adult refugees in Germany. Eur. J. Psychotraumatol. 12 (1), 1910407. https://doi.org/10.1080/20008198.2021.1910407.
Bozorgmehr, K., Mohsenpour, A., Saure, D., Stock, C., Loerbroks, A., Joos, S., Schneider, C., 2016. Systematische übersicht und "mapping" empirischer Studien des Gesundheitszustands und der medizinischen Versorgung von Flüchtlingen und Asylsuchenden in Deutschland (1990–2014). Bundesgesundheitsblatt. Gesundheitsforschung. Gesundheitsschutz. 59 (5), 599–620. https://doi.org/10.1007/s00103-016-2336-5.
Carswell, K., Blackburn, P., Barker, C., 2011. The relationship between trauma, post-migration problems and the psychological well-being of refugees and asylum seekers. Int. J. Soc. Psychiatry 57 (2), 107–119. https://doi.org/10.1177/0020764009105699.
Chen, W., Hall, B.J., Ling, L., Renzaho, A.M., 2017. Pre-migration and post-migration factors associated with mental health in humanitarian migrants in Australia and the moderation effect of post-migration stressors: findings from the first wave data of the BNLA cohort study. Lancet Psychiatry 4 (3), 218–229. https://doi.org/10.1016/S2215-0366(17)30032-9.
Chu, T., Keller, A.S., Rasmussen, A., 2013. Effects of post-migration factors on PTSD outcomes among immigrant survivors of political violence. J. Immigr. Minor. Health 15 (5), 890–897. https://doi.org/10.1007/s10903-012-9696-1.
Cohen, S., Wills, A.W., 1985. Stress, social support, and the buffering hypothesis. Psychol. Bull. 98 (2), 310–357.
Gäbel, U., Ruf, M., Schauer, M., Odenwald, M., Neuner, F., 2006. Prävalenz der posttraumatischen belastungsstörung (PTSD) und möglichkeiten der ermittlung in der asylverfahrenspraxis. Z. Klin. Psychol. PsychOther 35 (1), 12–20. https://doi.org/10.1026/1616-3443.35.1.12.
Green, M., King, E., Fischer, F., 2019. Acculturation, social support and mental health outcomes among Syrian refugees in Germany. J. Refug. Stud. 34 (2). https://doi.org/10.1093/jrs/fez095.
Hecker, T., Huber, S., Maier, T., Maercker, A., 2018. Differential associations among PTSD and complex PTSD symptoms and traumatic experiences and postmigration difficulties in a culturally diverse refugee sample. J. Trauma Stress. 31 (6), 795–804. https://doi.org/10.1002/jts.22342.
Ibrahim, H., Ertl, V., Catani, C., Ismail, A.A., Neuner, F., 2018a. The validity of Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) as screening instrument with Kurdish and Arab displaced populations living in the Kurdistan region of Iraq. BMC. Psychiatry 18 (1), 507. https://doi.org/10.1186/s12888-018-1839-z.
Ibrahim, H., Ertl, V., Catani, C., Ismail, A.A., Neuner, F., 2018b. Trauma and perceived social rejection among Yazidi women and girls who survived enslavement and genocide. BMC. Med. 16 (1), e1002297. https://doi.org/10.1186/s12916-018-1140-5.
Jacobi, F., Höfler, M., Strehle, J., Mack, S., Gerschler, A., Scholl, L., Wittchen, H.U., 2014. Psychische Störungen in der Allgemeinbevölkerung: studie zur Gesundheit Erwachsener in Deutschland und ihr Zusatzmodul Psychische Gesundheit (DEGS1-MH). Nervenarzt. 85 (1), 77–87. https://doi.org/10.1007/s00115-013-3961-y.
James, P., Iyer, A., Webb, T.L., 2019. The impact of post-migration stressors on refugees' emotional distress and health: a longitudinal analysis. Eur. J. Soc. Psychol. 49 (7), 1359–1367. https://doi.org/10.1002/ejsp.2589.
Kaltenbach, E., Schauer, M., Hermenau, K., Elbert, T., Schalinski, I., 2018. Course of mental health in refugees - A one year panel survey. Front. Psychiatry 9, 352. https://doi.org/10.3389/fpsyt.2018.00352.
Kaniasty, K., Norris, F.H., 2008. Longitudinal linkages between perceived social support and posttraumatic stress symptoms: sequential roles of social causation and social selection. J. Trauma Stress. 21 (3), 274–281. https://doi.org/10.1002/jts.20334.
Kovacev, L., Shute, R., 2016. Acculturation and social support in relation to psychosocial adjustment of adolescent refugees resettled in Australia. Int. J. Behav. Dev. 28 (3), 259–267. https://doi.org/10.1080/01650250344000497.
Krüger-Gottschalk, A., Knaevelsrud, C., Rau, H., Dyer, A., Schäfer, I., Schellong, J., Ehring, T., 2017. The German version of the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5): psychometric properties and diagnostic utility. BMC. Psychiatry 17 (1), 548. https://doi.org/10.1186/s12888-017-1541-6.
Li, S.S.Y., Liddell, B.J., Nickerson, A., 2016. The relationship between post-migration stress and psychological disorders in refugees and asylum seekers. Curr. Psychiatry Rep. 18 (9), 82. https://doi.org/10.1007/s11920-016-0723-0.
Mahmood, H.N., Ibrahim, H., Goessmann, K., Ismail, A.A., Neuner, F., 2019. Post-traumatic stress disorder and depression among Syrian refugees residing in the Kurdistan region of Iraq. Confl. Health 13 (1). https://doi.org/10.1186/s13031-019-0238-5.
Mels, C., Derluyn, I., Broekaert, E., 2008. Social support in unaccompanied asylum-seeking boys: a case study. Child Care Health Dev. 34 (6), 757–762. https://doi.org/10.1111/j.1365-2214.2008.00883.x.
Miller, K.E., Rasmussen, A., 2010. War exposure, daily stressors, and mental health in conflict and post-conflict settings: bridging the divide between trauma-focused and psychosocial frameworks. Soc. Sci. Med. 70 (1), 7–16. https://doi.org/10.1016/j.socscimed.2009.09.029.
Morina, N., Akhtar, A., Barth, J., Schnyder, U., 2018. Psychiatric disorders in refugees and internally displaced persons after forced displacement: a systematic review. Front. Psychiatry 9, 433. https://doi.org/10.3389/fpsyt.2018.00433.
Neuner, F., Schauer, M., Karunakara, U., Klaschik, C., Robert, C., Elbert, T., 2004. Psychological trauma and evidence for enhanced vulnerability for posttraumatic stress disorder through previous trauma among West Nile refugees. BMC. Psychiatry 4 (1), 34. https://doi.org/10.1186/1471-244X-4-34.
Ryan, D.A., Benson, C.A., Dooley, B.A., 2008. Psychological distress and the asylum process: a longitudinal study of forced migrants in Ireland. J. Nerv. Ment. Dis. 196 (1), 37–45. https://doi.org/10.1097/NMD.0b013e31815fa51c.
Schauer, M., Neuner, F., Karunakara, U., Klaschik, C., Robert, C., Elbert, T., 2003. PTSD and the "building block" Effect of Psychological Trauma Among West Nile Africans, 10. European Society for Traumatic Stress Studies Bulletin, pp. 5–6.
Schweitzer, R., Melville, F., Steel, Z., Lacherez, P., 2006. Trauma, post-migration living difficulties, and social support as predictors of psychological adjustment in resettled Sudanese refugees. Aust. N. Z. J. Psychiatry 40 (2), 179–187. Retrieved from. https://eprints.qut.edu.au/secure/00003879/01/refugee_paper_in_press_ANZP-July05.doc.
Siegert, M., 2019. Die sozialen kontakte geflüchteter. Ausgabe 04/2019 Der Kurzanalysen des Forschungszentrums Migration, Integration und Asyl des Bundesamtes für Migration Und Flüchtlinge. Nürnberg. Retrieved from. https://www.bamf.de/SharedDocs/Anlagen/DE/Forschung/Kurzanalysen/kurzanalyse4-2019_iab-bamf-soep-befragung-soziale-kontakte-gefluechtete.pdf?__blob=publicationFile&v=6.
Sierau, S., Schneider, E., Nesterko, Y., Glaesmer, H., 2019. Alone, but protected? Effects of social support on mental health of unaccompanied refugee minors. Eur. Child Adolesc. Psychiatry 28 (6), 769–780. https://doi.org/10.1007/s00787-018-1246-5.
Steel, Z., Silove, D., Bird, K., McGorry, P., Mohan, P., 1999. Pathways from war trauma to posttraumatic stress symptoms among Tamil asylum seekers, refugees, and immigrants. J. Trauma Stress. 12 (3), 421–435. https://doi.org/10.1023/A:1024710902534.
Teo, A.R., Choi, H., Andrea, S.B., Valenstein, M., Newsom, J.T., Dobscha, S.K., Zivin, K., 2015. Does mode of contact with different types of social relationships predict depression in older adults? Evidence from a nationally representative survey. J. Am. Geriatr. Soc. 63 (10), 2014–2022. https://doi.org/10.1111/jgs.13667.
Tip, L.K., Brown, R., Morrice, L., Collyer, M., Easterbrook, M.J., 2019. Improving refugee well-being with better language skills and more intergroup contact. Soc. Psychol. Personal. Sci. 10 (2), 144–151. https://doi.org/10.1177/1948550617752062.
Winkler, J.G., Brandl, E.J., Bretz, H.J., Heinz, A., Schouler-Ocak, M., 2018. Psychische symptombelastung bei Asylsuchenden in Abhängigkeit vom aufenthaltsstatus. Psychiatr. Prax. 46 (4), 191–199. https://doi.org/10.1055/a-0806-3568.
Wortmann, J.H., Jordan, A.H., Weathers, F.W., Resick, P.A., Dondanville, K.A., Hall-Clark, B., Litz, B.T., 2016. Psychometric analysis of the PTSD Checklist-5 (PCL-5) among treatment-seeking military service members. Psycholl. Assesst. 28 (11), 1392–1403. https://doi.org/10.1037/pas0000260.