

## Research

# Trauma type affects the perceived severity of symptoms and intensity of the recommended intervention in laypeople's perspective on PTSD

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© The Author(s) 2025 **OPEN****Abstract**

Post-Traumatic Stress Disorder (PTSD) is a prevalent mental health condition that can significantly impair individual's daily life. PTSD literacy can help not only those affected cope with the condition but also facilitate laypeople's interactions with those who have experienced or currently suffer from PTSD. However, it is not well-established whether and how the perceived severity of the traumatic event and the supposed need for intervention depend on the causes of PTSD. In the present experiment, we systematically varied the cause across vignettes while holding other aspects constant. Analyses revealed significant differences in severity ratings of the traumatic experience across conditions. The sexual assault and military combat conditions stood out with the highest ratings. Furthermore, severity ratings predicted the intensity of the intervention participants recommended, and both ratings were higher for female participants compared to male participants. While the study confirms the impact of the cause of PTSD on the severity assumed by laypeople, our results diverge from earlier findings in that sexual assault led to particularly high ratings in the current study.

**Keywords** Vignette study · PTSD symptoms · PTSD causes · PTSD treatment recommendation

## 1 Introduction

Traumatic events such as natural disasters, serious accidents, war, sexual assault, physical or psychological abuse occur worldwide and can elicit feelings of sadness, intense fear, anger, shame and hopelessness [1]. Based on the World Mental Health (WMH) Surveys, Benjet et al. (2016) reported that 70% of respondents had experienced some form of a traumatic event. Subsequently, the probability that a random individual has already experienced at least one traumatic event or that someone in their immediate social circle has, is very high. Although the majority of those affected cope with the trauma, others may not recover from experiencing or witnessing a traumatic event for a long time and may develop Post-Traumatic Stress Disorder (PTSD). The development of PTSD is a function of intrapersonal, interpersonal, and trauma-related factors. For instance, emotional reactions are not the same across different traumatic events. Moreover, there is often a discrepancy between the intensity of emotions reported by affected individuals regarding a traumatic event [2] and the public's labelling of PTSD symptoms for different types of trauma [16]. The present study aims to examine

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whether the perceived severity of the experience and help-seeking recommendation ratings differ depending on the type of traumatic event.

Cross-national data on the epidemiology of PTSD show that the lifetime prevalence of PTSD among trauma-exposed individuals is 5.6% [14]. PTSD can significantly affect an individual's mental and physical well-being and impair daily life. Having reoccurring nightmares, flashbacks, a tendency to avoid places or people associated with the traumatic event, and an array of physical and mental health problems are common in people with PTSD (American Psychiatric Association, 2022). Most individuals develop PTSD symptoms within three months after the traumatic experience (American Psychiatric Association, 2022). In half of the PTSD cases, symptoms are persistent [14]. There are a variety of factors including level of resilience, comorbid depression, anxiety, gender, age, income, country of origin, and others that determine the likelihood of developing PTSD after a traumatic experience [31]. Social support is another influential factor. A supportive social system—close friends and family—can reduce the probability of developing severe PTSD symptoms (see [32], for a review). Moreover, the relationship between social support and PTSD is bidirectional. On one hand, social support can have a protective effect on PTSD. On the other hand, individuals with PTSD may overlook the help available within their social network (see [29], for a review). Thus, the influence of support from family and loved ones is immense in the course of PTSD. To make this support effective for the PTSD-affected individuals, members of society should know how to interact with and help them.

Knowledge about mental health in general, and PTSD in particular, is crucial for coping with PTSD. Jorm et al. [9] introduced the term *mental health literacy* (MHL) and defined as „knowledge and beliefs about mental disorders that aid the recognition, management or prevention of these disorders“ (p. 143). A high level of MHL can improve mental health outcomes by fostering help-seeking behavior and enabling early identification of mental health issues [8, 11]. However, the general public often struggles to attribute symptoms to the corresponding mental disorder [5]. Little is known about public literacy specifically about PTSD. An online survey revealed good general knowledge about PTSD among U.S. citizens. The majority of the survey participants (76–94%) supported the increased funding for PTSD research, practice, and training but they demonstrated poor understanding of effective treatment strategies for PTSD [28]. Military veterans in the U.S. also showed limited knowledge about intervention possibilities [30]. PTSD is frequently underdiagnosed even by healthcare professionals [4]. Compared to depression, the correct differential diagnosis of PTSD by general practitioners is significantly lower (94.4% vs 67.5% [19]). The PTSD recognition rate is even lower for indirect exposure [16]. The study using case vignettes to describe different mental disorders found that 73.7% of laypeople correctly recognised depression vignettes, whereas only 19.8% identified the PTSD vignettes [22, 24]. A study on resettled Iraqi refugees revealed a meager rate (14.2%) of correctly labelled PTSD symptoms [25]. Another vignette-based study showed higher rates of PTSD recognition (42.5%) but low general awareness of the possible causes of PTSD [16]. These findings suggest that poor knowledge about PTSD symptoms and causes, not only among professionals but also laypeople, can contribute to underdiagnosis and a lack of help-seeking behavior, ultimately worsening the course of the disorder.

Apart from the knowledge, beliefs about the causes of PTSD can also affect the outcome. Meyer et al. [18] identified three classes of causal beliefs about PTSD. In the (1) traumatic event-focused class, 41.1% of participants attributed symptoms solely to the traumatic experience. In (2) the intrapersonal causes class, 40.1% of participants believed that psychological factors are also involved. Lastly, in the (3) multiple causes class, 18.0% of lay participants considered both individual psychological factors as well as trauma-associated stress, along with a range of psychosocial aspects. Notably, over 50% of lay participants agreed that there might be more than one cause involved in the development of PTSD [18]. Thus, beliefs about the origins of PTSD vary significantly among laypeople. The growing popularity of the trauma-informed approach - which emphasizes physical and emotional safety, awareness of available options, transparency, and individualized care - 6 highlights the importance of understanding trauma, its causes, and individual needs of those affected. This approach has proven effective in reducing PTSD symptomology [6]. Trauma-informed participants report feeling more hopeful, self-reflective, able to adjust their perspective, and better able to communicate with individuals who have experienced trauma [3].

Emotional responses to traumatic events are natural regardless of the trauma type. However, the way these emotions evolve can vary depending on the nature of the traumatic experience. Direct and interpersonal traumas lead to more severe symptoms than vicarious (indirect or witnessed) and non-interpersonal traumas [23]. Also, survivors of sexual assault reported more intense post-trauma emotions than survivors of other trauma-types (physical assault, transportation accident, and illness/injury [2]). The severity of PTSD symptoms was also highest in the sexual assault condition compared to other conditions [12]. Yet, findings suggest that categorizations by laypeople may not accurately reflect the profound psychological impact of a sexual offence. Lee et al. [16] report that PTSD recognition was significantly lower for rape scenario compared to the combat and man-made disaster scenarios. Given that knowledge and causal

beliefs can significantly affect treatment-seeking behavior and treatment outcomes, it is important to take these factors into account when discussing emotional reactions and PTSD symptoms in response to different traumatic experiences.

PTSD knowledge can serve as a buffer against stigma and promotes readiness for social engagement with those affected by PTSD [15]. Besides, laypeople's knowledge about PTSD symptoms and causes can play a preventive role, helping to protect affected individuals from developing severe PTSD symptoms by encouraging help-seeking at earlier stages of the disorder. Public recognition of PTSD-related issues, knowledge about its potential causes, treatment preferences and effectiveness remains low [25]. Guiding by the cause of the PTSD rather than symptoms can delay or even prevent the seeking or recommending professional help and thus impair the overall psychological well-being of those affected. The present study aims to compare six different traumatic events using case vignettes and examine how laypeople evaluate the severity of each experience, as well as the intensity of the intervention they believe is appropriate for each trauma type.

## 2 Methods

### 2.1 Participants

We recruited 504 participants in total but had to exclude 49 due to high expertise in clinical psychology ( $n = 34$ ), unclear entries in the age variable ( $n = 3$ ), unserious participation ( $n = 16$ ) and missing informed consent ( $n = 4$ ). We excluded eight cases as they met more than one exclusion criterion. The remaining participants ( $N = 455$ ;  $M_{age} = 29.22$ ,  $SD = 12.72$ , range 18–73 years; 72.7% female) were randomly assigned to one of the six groups and received a corresponding vignette case: 1) sexual assault ( $n = 75$ ), military combat ( $n = 76$ ), car accident ( $n = 80$ ), incident with clamping machine ( $n = 75$ ), tornado ( $n = 78$ ), and robbery ( $n = 71$ ). The majority of participants had either a university (BSc, MSc., or Diploma) degree (26.4%) or had completed vocational training (33%). Almost 19% of the participants reported that someone in their private or professional circle had previously been diagnosed with PTSD, whereas about 63% answered “no” to this question. Ninety percent of the participants claimed they had never been diagnosed with PTSD. Participants were recruited through the university laboratory. Thus, the study sample mostly consists of psychology students at the beginning (when course credits are still needed) of their degree program in psychology. The University of Hagen is a distance learning university characterized by high diversity with respect to students' age, political attitudes, family status, and occupation [26]. University of Hagen students live all across Germany. About 80% are working or self-employed during their studies.

Students received partial course credit for their participation. The study was approved by the ethics committee of the Department of Psychology at University of Hagen, Germany. Participants have provided informed consent for the publication of data in this study.

### 2.2 Material and procedure

The experiment was conducted online. We briefly presented our study to the participants and explained what to expect. We also informed them about the anonymity and the possibility of discontinuing participation at any time. Participants provided informed consent before participating in the study. At the beginning of the experiment, participants answered demographic questions about their age, gender, and education. Afterwards, they were presented with one of the six vignette cases. The text described the experience and symptoms of a fictional person—Maria, who suffered from multiple PTSD-associated symptoms (e.g. sleeping problems lasting more than one month, anxiety, fear, nightmares, flashbacks, nervousness, and loss of interest in activities). The texts of all six vignettes were identical except for the named cause (sexual assault, military combat, car accident, incident with clamping machine, tornado, robbery). Participants received only one vignette text according to the group they were assigned to. We assessed the severity of the traumatic experience (the scale included five items, for instance, *how severe do you think the reported experience was? How serious do you think the impact of the reported experience was on Maria's ability to work?*: 1 – not very severe ... 5 – extremely severe) and the intensity of the recommended intervention (measured using four items for instance, *Maria doesn't need any support, she can take care of herself and will feel better on her own; Maria needs professional help, e.g. psychological or psychotherapeutic*: 1—no agreement ... 6—full agreement). The reliability of both scales (1) the severity of the traumatic experience (Cronbach's  $\alpha = 0.83$ ) and (2) the intensity of the recommended intervention (Cronbach's  $\alpha = 0.74$ ) was in an acceptable range. All

text vignettes used in the study, questionnaires, raw data and other study-related materials are available at: [https://osf.io/uhpqs/?view\\_only=c48ed5efb4f242de9c0ac4a765350d83](https://osf.io/uhpqs/?view_only=c48ed5efb4f242de9c0ac4a765350d83).

To estimate general knowledge about PTSD in lay participants, we designed a PTSD knowledge test with six multiple-choice items. It included questions about symptoms, causes, risk factors, possible coping strategies, and the prognosis of the disorder (e.g. *what is an early symptom of post-traumatic stress disorder?* (a) Hallucinations (b) Racing thoughts (c) Decreased appetite (d) Suicidal thoughts (e) Intrusive memories). There was only one correct answer for each question. At the end of the survey, participants were given the opportunity to decline the use of their collected data for research purposes.

## 2.3 Design

We used a between-subjects design with case vignettes as a factor with six categories (sexual assault, military combat, car accident, incident with clamping machine, tornado, and robbery). The dependent variables were two subjective ratings: severity of the traumatic experience and the intensity of the recommended intervention. All participants completed the knowledge test on PTSD, which served as a moderator variable in our experiment.

## 3 Results

### 3.1 Descriptive statistics of the groups

The demographic characteristics of participants were homogeneous across all six groups (see Table 1) as confirmed by lack of significant group differences in ANOVA and  $\chi^2$ -tests. In particular, participants' scores did not differ significantly on the PTSD-literacy scale ( $F < 1$ ). Regarding education, the percentage of participants with a university degree (BSc, MSc, or Diploma) ranged from 21.3% (sexual assault condition) to 34.6% (tornado condition). The percentage of participants with vocational training ranged from 26.8% (robbery condition) to 46.7% (sexual assault condition). Groups did not differ significantly in terms of the level of participants' education ( $p = 0.564$ ). The proportion of participants who knew someone with PTSD in their immediate social circle varied between 15.8% (military combat condition) and 21.8% (tornado condition) and did not differ systematically between groups ( $p = 0.963$ ). In terms of the own PTSD diagnosis, the lowest percentage of participants with personal experience of PTSD was 3.9% (military combat condition) and the highest 12.7% (robbery condition). However, this difference was present only on the descriptive level ( $p = 0.350$ ).

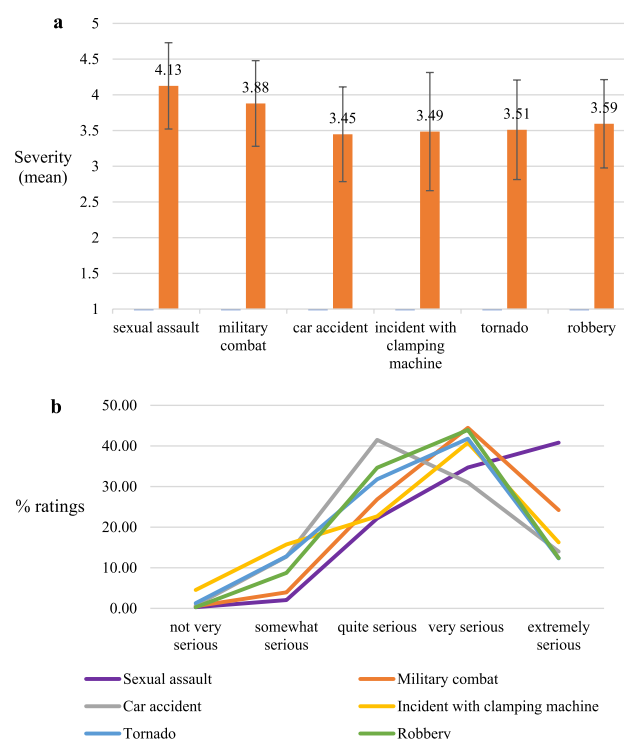
### 3.2 The severity of the traumatic experience

Testing the assumptions of variance analysis (univariate ANOVA with six independent groups) showed that the data were not normally distributed, as both Shapiro–Wilk and Kolmogorov–Smirnov tests were significant (both  $ps < 0.001$ ). Therefore, we used the Kruskal Wallis H test, which does not require the groups to be normally distributed. The test results revealed significant differences between the groups in the severity ratings,  $H(5) = 56.34$ ,  $p < 0.001$  (see Fig. 1a and Fig. 1b for mean rating comparisons). The pairwise comparisons with Bonferroni correction showed that the severity rating for the sexual assault experience was significantly higher compared to the experience of a

**Table 1** Descriptive statistics for each group: number of participants in the group (n), age, gender and the mean score on the PTSD-literacy scale.

	<i>n</i>	Age <i>M (SD)</i>	Gender % Female (Male; Others)	PTSD-Literacy <i>M (SD)</i>
Sexual assault	75	28.36 (11.93)	74.7 (25.3)	4.27 (0.95)
Military combat	76	29.50 (13.63)	72.4 (27.6)	4.49 (1.04)
Car accident	80	28.66 (12.44)	72.5 (27.5)	4.54 (1.07)
Incident with clamping machine	75	29.15 (12.35)	69.3 (30.7)	4.55 (1.15)
Tornado	78	30.51 (13.35)	65.4 (33.3; 1.3)	4.40 (1.22)
Robbery	71	29.10 (12.84)	83.1 (16.9)	4.32 (1.30)

**Fig. 1** **a** Mean ratings for the severity of the experience for each group separately. Error bars depict the standard deviations from the mean value. **b** Percentage of answer frequency for the severity scale in each condition separately

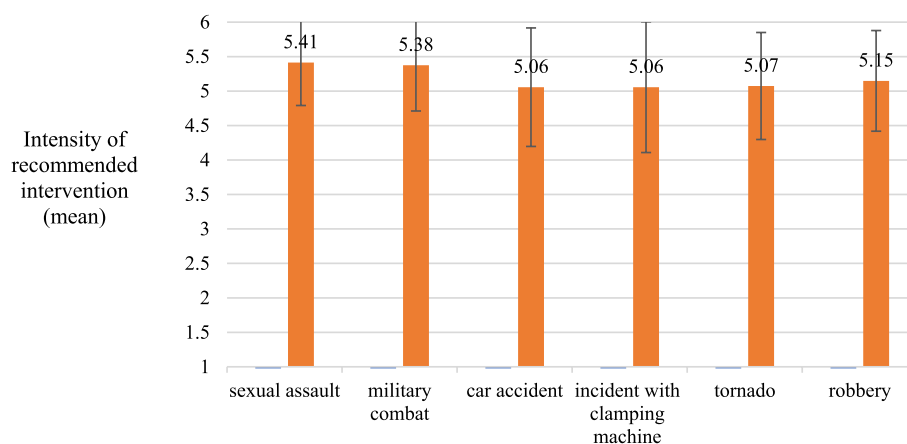


car accident ( $p < 0.001$ ), tornado ( $p < 0.001$ ), incident with clamping machine ( $p < 0.001$ ), and robbery ( $p < 0.001$ ). The severity rating for military combat was also significantly higher compared to the ratings of car accident ( $p = 0.001$ ), tornado ( $p = 0.014$ ), and incident with clamping machine ( $p = 0.032$ ). Other pairwise comparisons did not reach the significance level (all  $ps \geq 0.116$ ).

### 3.3 The intensity of the recommended intervention

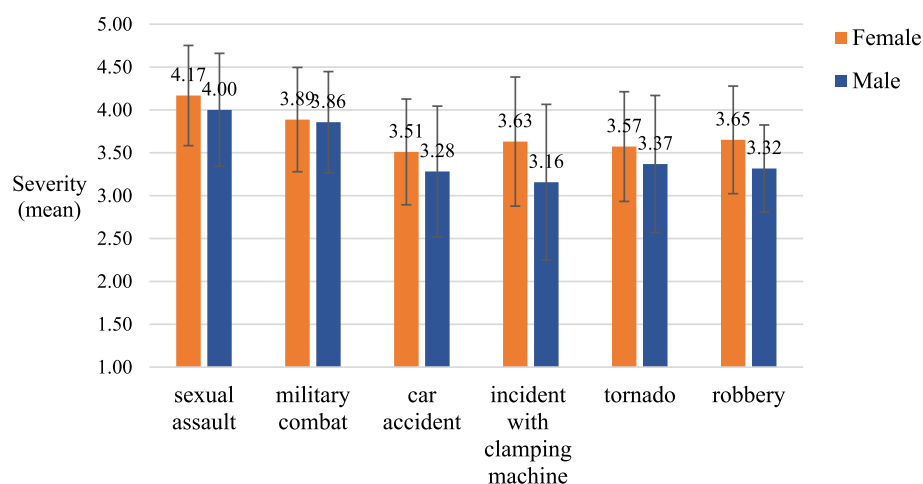
According to the Shapiro–Wilk and Kolmogorov–Smirnov tests, similar to the severity ratings, the ratings of the intensity of the recommended intervention showed a non-normal distribution (both  $ps < 0.001$ ). Thus, we used the Kruskal–Wallis H test, which revealed a significant main effect of the group on the intensity rating,  $H(5) = 15.89$ ,  $p = 0.007$  (see Fig. 2 for mean rating comparisons). However, the Bonferroni-corrected pairwise comparisons did not show significant differences among the groups (all  $ps \geq 0.112$ ). Descriptively, the mean ratings for sexual assault and military combat are the highest compared to the other groups.

**Fig. 2** Mean ratings for the intensity of the recommended intervention for each group separately. Error bars depict the standard deviations from the mean value



**Table 2** Percentage of participants that chose the specific intervention in response to the item „Which of the following interventions would you most likely recommend to Maria?“

	No intervention needed	Distraction, practice a hobby	Relaxation, running, yoga	Talk with friends and family	Find a self-help group	Begin psychotherapy
Sexual assault	2.67	0.00	0.00	8.00	8.00	81.33
Military combat	0.00	0.00	0.00	11.84	9.21	78.95
Car accident	0.00	1.25	5.00	13.75	13.75	66.25
Incident with clamping machine	1.33	0.00	4.00	20.00	8.00	66.67
Tornado	0.00	0.00	2.56	15.38	16.67	65.38
Robbery	1.41	0.00	1.41	9.86	7.04	80.28

**Fig. 3** Gender differences in the mean severity of the traumatic experience ratings for female and male participants, and for each group separately. Error bars depict the standard deviations from the mean value

The vast majority of participants recommended *Maria* to begin psychotherapy, especially in the sexual assault (81.33%), robbery (80.28%) and military combat (78.95%) conditions (Table 2). The second most recommended intervention types were talking with friends and family and finding a self-help group.

### 3.4 Relationship between the ratings

Since both variables (the severity of the traumatic event and the intensity of the recommended intervention) are non-normally distributed, we used Spearman-Rho to calculate the correlation. The results revealed a strong positive correlation between the two variables,  $r(455) = 0.52$ ,  $p < 0.001$ . This means, that the higher the severity rating for the vignette text, the higher the intensity of the recommended intervention across the groups. The same pattern was observed within the groups as well (all  $r_s \geq 0.36$ , all  $p_s \leq 0.002$ ).

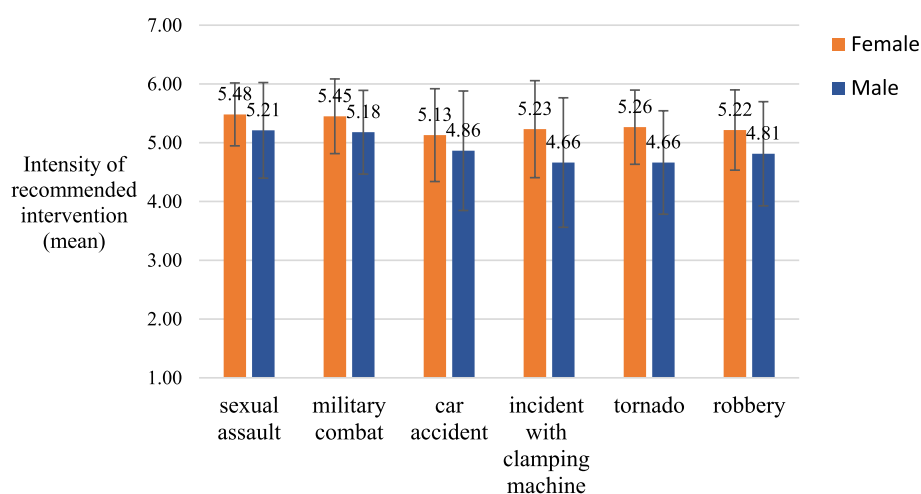
Further, we tested this relationship under the potential moderating influence of the third variable—knowledge about PTSD ( $M = 4.43$ ,  $SD = 1.12$ ). According to the results, knowledge does not significantly moderate the relationship between the severity and intensity ratings,  $b = -0.06$ ,  $p = 131$ . Whether participants had a high or low level of knowledge about PTSD, did not influence their assessment of the severity of the traumatic experience and the intensity of the recommended intervention.

### 3.5 Influence of gender on the ratings

We explored whether the rating of the severity of the traumatic experience differed between female and male participants. As shown in Fig. 3, females rated severity higher ( $M = 3.74$ ,  $SD = 0.67$ ) than male participants ( $M = 3.49$ ,  $SD = 0.79$ ) across all of the six groups,  $U = 16,740$ ,  $n_1 = 331$ ,  $n_2 = 123$ ,  $p = 0.003$ . The same was true for the recommended intervention (female:  $M = 5.30$ ,  $SD = 0.70$ ; male:  $M = 4.89$ ,  $SD = 0.93$ ),  $U = 15,247$ ,  $n_1 = 331$ ,  $n_2 = 123$ ,  $p < 0.001$  (see Fig. 4).



**Fig. 4** Gender differences in the intensity of the recommended intervention ratings for female and male participants, and for each group separately. Error bars depict the standard deviations from the mean value



The correlation coefficient (Spearman-Rho) for the severity and intensity ratings were significant for both female ( $r=0.45$ ,  $p<0.001$ ) and male ( $r=0.62$ ,  $p<0.001$ ) participants. There was also some indication of a gender difference in knowledge about PTSD. Female participants tended to show higher awareness ( $M=4.48$ ,  $SD=1.08$ ) of symptoms and interventions than male participants ( $M=4.28$ ,  $SD=1.22$ ),  $t(452)=1.75$ ,  $p=0.081$ ,  $d=0.184$  (two-tailed).

## 4 Discussion

Current evidence on whether the assessment of the severity and the need for treatment varies across different types of traumatic experiences is contradictory. This study aimed to investigate whether any specific cause of traumatic experience stands out in terms of how severe participants consider an experience to be and how intense they think the intervention should be. The results show that the assessment of severity varied significantly across different traumatic experiences with the highest ratings in the sexual assault condition and the lowest in the car accident condition. This result aligns with the finding of the study by Kessler et al. [13], where rape and molestation were closely associated with PTSD, especially in women. Our results contradict those of several other studies, where recognition of PTSD symptoms was highest in military combat scenarios and lower in sexual assault scenarios [16, 17]. A similar pattern emerged in participants' intensity of intervention ratings, with the highest intensity recommendations for the sexual assault and the lowest for the car accident condition. However, these differences were descriptive only, as the post hoc tests could not reveal significant inter-group differences. In our study, beginning psychotherapy was the most frequently recommended intervention type, especially in the sexual assault condition (81.33%). This suggests that the majority of participants were aware of the most appropriate treatment approach for the described case. In contrast, other studies have shown that while awareness of PTSD is high in general, knowledge about effective treatment strategies is low in the general public [28] as well as in people with PTSD symptoms [7].

We observed gender differences in both the severity and intensity ratings, with female participants providing higher overall scores. Interestingly, in male participants, the ratings for severity and intervention intensity were not higher in the military combat conditions. Conversely, there was even a slight descriptive difference between these two ratings, with higher values in the sexual assault condition. Female participants showed better general knowledge about PTSD compared to the male participants. In this regard, the higher ratings in the severity and intensity variables in female participants could have been made in the wake of higher awareness of PTSD [28].

An unequal distribution of female and male participants could be seen as a limitation of the present study. Another shortcoming is the very high overall knowledge of participants about PTSD, which casts doubt on the assumption that the participants can be considered laypeople. The fact that some of the participants were psychology students and therefore more aware of mental health problems than the general public, may have affected the results. Future studies could address these aspects and further elaborate the study question.

Evidence is accumulating that the development of PTSD is not a mere consequence of traumatic experiences but rather a myriad of internal and external factors that define how we respond to traumatic events. According to the theory of sequential traumatization [10], trauma is not a single event but an open-ended process [21], which entails phases

and can be significantly influenced by the experiences following the traumatic event. Social interactions and feedback from others are among these factors [20, 27]. In the present study, almost 19% of the participants stated that someone in their immediate social circle had been diagnosed with PTSD. Thus, the odds of interacting with someone with PTSD are relatively high. In this regard, we should not underestimate and overlook the PTSD symptoms, even if the traumatic event (e.g. experiencing a tornado or robbery) appears less dangerous compared to other traumatic events (e.g. rape or military combat), which are conventionally more associated with PTSD. Awareness of PTSD causes, symptoms and treatment options in laypeople is important on two levels: a) to interact correctly with people in our social environment affected by PTSD and recommend that they seek professional help, and b) to help ourselves through early intervention if we are the ones affected. It is well-established that trauma-informed people are more hopeful, self-reflective, able to shift their perspective, and can effectively communicate with others who have experienced trauma [3]. In this respect, it is important to understand how laypeople perceive PTSD symptoms as well as treatment possibilities, as these factors can have a substantial influence on the development as well as the course of the disorder.

**Author contributions** Mariam Katsarava wrote the manuscript, analyzed the data and programmed the experiment. Julia Schilcher-Freier conceived the study idea and helped at every level of the manuscript preparation. Prof. Dr. Robert Gaschler supervised every step and proofread the manuscript.

**Funding** No funding was received for conducting this study.

**Data availability** All text vignettes used in the study, questionnaires, raw data and other study-related materials are available at: [https://osf.io/uhpqs/?view\\_only=c48ed5efb4f242de9c0ac4a765350d83](https://osf.io/uhpqs/?view_only=c48ed5efb4f242de9c0ac4a765350d83)

## Declarations

**Ethics approval and consent to participate** The study was approved by the ethics committee of Department of Psychology, University of Hagen, Germany. All procedures performed in the present study that involved human participants were conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Consent for publication** Informed consent was obtained from all individual participants included in the study for the publication of data in this study.

**Competing interests** The authors declare no competing interests.

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## References

1. American Psychiatric Association (2022). Trauma- and stressor-related disorders. In *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425787.x07>
2. Amstadter BA, Vernon LL. Emotional reactions during and after trauma: a comparison of trauma types. *J Aggress Malt Trauma*. 2008;16(4):391–408. <https://doi.org/10.1080/10926770801926492>.
3. Champine, R. B., Hoffman, E. E., Matlin, S. L., Strambler, M. J., & Tebes, J. K. (2022). What does it mean to be trauma-informed?: A mixed-methods study of a trauma-informed community initiative. *Journal of Child and Family Studies*, 31:459–472. <https://doi.org/10.1007/s10826-021-02195-9>
4. Ehlers A, Gene-Cos N, Perrin S. Low recognition of post-traumatic stress disorder in primary care. *Lond J Prim Care*. 2009;2:36–42. <https://doi.org/10.1080/17571472.2009.11493240>.
5. Furnham A, Swami V. Mental health literacy: a review of what it is and why it matters. *Int Perspect Psychol*. 2018;7(4):240–57. <https://doi.org/10.1037/ipp0000094>.
6. Han HR, Miller HN, Nkimbeng M, Budhathoki C, Mikhael T, Rivers E, Wilson P. Trauma informed interventions: a systematic review. *PLoS one*. 2021;16(6):e0252747. <https://doi.org/10.1371/journal.pone.0252747>.



7. Harik J, Matteo M, Hermann RA, Hamblen BA. What people with PTSD symptoms do (and do not) know about PTSD: a national survey. *Depress Anxiety*. 2017;34(4):374–82. <https://doi.org/10.1002/da.22558>.
8. Jorm AF. Mental health literacy: public knowledge and beliefs about mental disorders. *Br J Psychiatry*. 2000;177:396–401. <https://doi.org/10.1192/bjp.177.5.396>.
9. Jorm AF, Korten AE, Jacomb PA, Christensen H, Rodgers B, Pollitt P. Public beliefs about causes and risk factors for depression and schizophrenia. *Soc Psychiatry Psychiatr Epidemiol*. 1997;32:143–8. <https://doi.org/10.1007/BF00794613>.
10. Keilson, H., Sarphatie, H. R., Bearne, Y. T., Coleman, H. T., & Winter, D. T. (1992). Sequential traumatization in children: A clinical and statistical follow-up study on the fate of the Jewish war orphans in the Netherlands. Magnes Press.
11. Kelly CM, Jorm AF, Wright A. Improving mental health literacy as a strategy to facilitate early intervention for mental disorders. *Med J Aust*. 2007;187(S7):S26–30. <https://doi.org/10.5694/j.1326-5377.2007.tb01332.x>.
12. Kelley LP, Weathers FW, McDevitt-Murphy ME, Eakin DE, Flood AM. A comparison of PTSD symptom patterns in three types of civilian trauma. *J Trauma Stress Off Publ Int Soc Traum Stress Stud*. 2009;22(3):227–35. <https://doi.org/10.1002/jts.20406>.
13. Kessler RC, Sonnega A, Bromet E, Hughes M, Nelson CB. Posttraumatic stress disorder in the national comorbidity survey. *Arch Gen Psychiatry*. 1995;52:1048–60. <https://doi.org/10.1001/archpsyc.1995.03950240066012>.
14. Koenen KC, Ratanatharathorn A, Ng L, McLaughlin KA, Bromet EJ, Stein DJ, Kessler R. Posttraumatic stress disorder in the world mental health surveys. *Psychol Med*. 2017;47(13):2260–74. <https://doi.org/10.1017/S0033291717000708>.
15. Krzemieniecki A, Gabriel KI. Stigmatization of posttraumatic stress disorder is altered by PTSD knowledge and the precipitating trauma of the sufferer. *J Ment Health*. 2021;30(4):447–53. <https://doi.org/10.1080/09638237.2019.1677870>.
16. Lee CY, Furnham A, Merritt C. Effect of directness of exposure and trauma type on mental health literacy of PTSD. *J Ment Health*. 2017;26(3):257–63. <https://doi.org/10.1080/09638237.2016.1276531>.
17. Merritt CJ, Tharp IJ, Furnham A. Trauma type affects recognition of post-traumatic stress disorder among online respondents in the UK and Ireland. *J Affect Disord*. 2014;164:123–9. <https://doi.org/10.1016/j.jad.2014.04.013>.
18. Meyer C, Heinzl L, Kampisiou C, Triliva S, Knaevelsrud C, Stammel N. Do gender and country of residence matter? A mixed methods study on lay causal beliefs about PTSD. *Int J Environ Res Public Health*. 2022;19:11594. <https://doi.org/10.3390/ijerph191811594>.
19. Munro CG, Freeman CP, Law R. General practitioners' knowledge of post-traumatic stress disorder: a controlled study. *Br J General Pract J Royal College General Pract*. 2004;54(508):843–7.
20. Muldoon OT, Haslam SA, Haslam C, Cruwys T, Kearns M, Jetten J. The social psychology of responses to trauma: social identity pathways associated with divergent traumatic responses. *Eur Rev Soc Psychol*. 2019;30(1):311–48. <https://doi.org/10.1080/10463283.2020.1711628>.
21. Nijdam, M. J., & Wittmann, L. (2022). Psychological and social theories of PTSD. In *Evidence based treatments for trauma-related psychological disorders: A practical guide for clinicians* (pp. 41–63). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-030-97802-0\\_3](https://doi.org/10.1007/978-3-030-97802-0_3)
22. Nijdam MJ, Wittmann L. Psychological and social theories of PTSD. In: Schnyder U, Cloitre M, editors. *Evidence based treatments for trauma-related psychological disorders: a practical guide for clinicians*. Cham: Springer; 2015.
23. Price M, Higa-McMillan C, Kim S, Frueh BC. Trauma experience in children and adolescents: an assessment of the effects of trauma type and role of interpersonal proximity. *J Anxiety Disord*. 2013;27(7):652–60. <https://doi.org/10.1016/j.janxdis.2013.07.009>.
24. Reavley NJ, Jorm AF. Recognition of mental disorders and beliefs about treatment and outcome: Findings from an Australian national survey of mental health literacy and stigma. *Aust N Z J Psychiatry*. 2011;45(11):947–56. <https://doi.org/10.3109/00048674.2011.621060>.
25. Slewa-Young S, Mond J, Bussion E, Mohammad Y, Uribe Guajardo MG, Smith M, et al. Mental health literacy of resettled Iraqi refugees in Australia: knowledge about posttraumatic stress disorder and beliefs about helpfulness of interventions. *BMC Psychiatry*. 2014. <https://doi.org/10.1186/s12888-014-0320-x>.
26. Stürmer S, Christ O, Jonkmann K, Josephs I, Gaschler R, Glöckner A, Mokros A, Rohmann A, Salewski C. 10Jahre universitäres Fernstudium in Psychologie an der FernUniversität in Hagen [Ten years of university-level distance learning in psychology at the University of Hagen]. *Psychol Rundsch*. 2018;69(2):104–8. <https://doi.org/10.1026/0033-3042/a000400>.
27. Takarangi MK, Segovia DA, Dawson E, Strange D. Emotional impact feedback affects how people remember an analogue trauma event. *Memory*. 2014;22(8):1041–51. <https://doi.org/10.1080/09658211.2013.865238>.
28. Tsai J, Shen J, Southwick SM, Greenberg S, Pluta A, Pietrzak RH. Public attitudes and literacy about posttraumatic stress disorder in U.S. adults. *J Anxiety Disord*. 2018;55:63–9. <https://doi.org/10.1016/j.janxdis.2018.02.002>.
29. Wang Y, Chung MC, Wang N, Yu X, Kenardy J. Social support and posttraumatic stress disorder: a meta-analysis of longitudinal studies. *Clin Psychol Rev*. 2021;85: 101998. <https://doi.org/10.1016/j.cpr.2021.101998>.
30. Williston SK, Vogt DS. Mental health literacy in veterans: what do US military veterans know about PTSD and its treatment. *Psychol Services*. 2021;19(2):327–34. <https://doi.org/10.1037/ser0000501>.
31. Xi Y, Yu H, Yao Y, Peng K, Wang Y, Chen R. Post-traumatic stress disorder and the role of resilience, social support, anxiety and depression after the Jiuzhaigou earthquake: a structural equation model. *Asian J Psychiatr*. 2020;49: 101958. <https://doi.org/10.1016/j.ajp.2020.101958>.
32. Zalta AK, Tirone V, Orlowska D, Blais RK, Lofgreen A, Klassen B, Held P, Stevens NR, Adkins E, Dent AL. Examining moderators of the relationship between social support and self-reported PTSD symptoms: a meta-analysis. *Psychol Bull*. 2021;147(1):33–54. <https://doi.org/10.1037/bul0000316>.