



BASIC RESEARCH ARTICLE



## ICD-11 posttraumatic stress disorder and complex PTSD: prevalence, predictors, and construct validity in Swiss older adults

Myriam V. Thoma <sup>a,b</sup>, Enya Redican <sup>c</sup>, Nathanael Adank <sup>a</sup>, Valerie B. Schneemann <sup>a</sup>, Mark Shevlin <sup>c</sup>,  
Andreas Maercker <sup>a</sup> and Shauna L. Rohner <sup>d,a</sup>

<sup>a</sup>Department of Psychology, University of Zurich, Psychopathology and Clinical Intervention, Zurich, Switzerland; <sup>b</sup>Faculty of Psychology, University of Basel, Clinical Psychology, Basel, Switzerland; <sup>c</sup>School of Psychology, Ulster University, Coleraine, UK; <sup>d</sup>Competence Centre for Mental Health, School of Health Sciences, OST – Eastern Switzerland University of Applied Sciences, St. Gallen, Switzerland

### ABSTRACT

**Background:** This study assessed the prevalence rates, construct validity, predictors, and psychosocial factors linked to ICD-11 posttraumatic stress disorder (PTSD) and complex PTSD (CPTSD), as assessed by the *International Trauma Questionnaire* (ITQ) in a German-speaking sample of Swiss older adults.

**Method:** Participants were  $N = 1526$  older adults aged 65+ ( $M_{age} = 72.34$ ;  $SD = 6.20$  years; age range = 65–95; female = 72.0%). Confirmatory factor analysis (CFA) tested alternative models of the latent structure of the ITQ. Risk factors and psychological outcomes associated with the ITQ subscales were also examined.

**Results:** From the total sample, 86.2% had experienced at least one potentially traumatic event (PTE), with a median of three PTEs per person. Probable PTSD and CPTSD prevalence was 0.4% and 2.4%, respectively. CFA results indicated that a two-factor second-order model best captured the latent structure of the ITQ. Female gender and specific traumas, such as physical and sexual assault, were uniquely associated with PTSD. Fewer, non-specific factors were linked to disturbances in self-organization (DSO; encompassing affective dysregulation, a negative self-view, and difficulties in relationships). The PTSD and CPTSD factors were significantly associated with loneliness, anxiety, depression, and well-being.

**Conclusions:** Results found that despite high trauma exposure among Swiss older adults, the prevalence of ICD-11 PTSD and CPTSD was low, with no significant gender differences. A two-factor second-order model provided the best fit for the ITQ. These findings indicate significant trauma exposure in Swiss older adults and the need for targeted interventions that address the trauma-specific and associated psychosocial challenges (i.e. loneliness, anxiety, depression, well-being) facing older adults.

### Trastorno de estrés postraumático y TEPT complejo de la CIE-11: prevalencia, predictores y validez de constructo en adultos mayores suizos

**Antecedentes:** Este estudio evaluó las tasas de prevalencia, la validez de constructo, los predictores y los factores psicosociales relacionados con el trastorno de estrés postraumático (TEPT) y el trastorno de estrés postraumático complejo (TEPTC) de la CIE-11, evaluados mediante el Cuestionario Internacional de Trauma (ITQ por sus siglas en inglés) en una muestra de habla alemana de adultos mayores suizos.

**Método:** Los participantes fueron  $N = 1.526$  adultos mayores de 65 años ( $M_{age} = 72.34$ ;  $DE = 6.20$  años; rango de edad = 65–95; mujeres = 72.0%). El análisis factorial confirmatorio («CFA», por sus siglas en inglés) probó modelos alternativos de la estructura latente del ITQ. También se examinaron los factores de riesgo y los resultados psicológicos asociados a las subescalas del ITQ.

**Resultados:** Del total de la muestra, el 86.2% había experimentado al menos un acontecimiento potencialmente traumático («PTE por sus siglas en inglés»), con una mediana de tres PTE por persona. La prevalencia probable de TEPT y TEPTC fue del 0.4% y el 2.4%, respectivamente. Los resultados del CFA indicaron que un modelo de segundo orden de dos factores era el que mejor reflejaba la estructura latente del ITQ. El género femenino y los traumas específicos, como las agresiones físicas y sexuales, se asociaron de forma exclusiva con el TEPT. Un menor número de factores no específicos se relacionaron con las alteraciones en la autoorganización (AAO; que engloban la desregulación afectiva, una visión negativa de uno mismo y dificultades en las relaciones). Los factores TEPT y

### ARTICLE HISTORY

Received 8 October 2024

Revised 2 December 2024

Accepted 15 December 2024

### KEYWORDS

ICD-11; Complex posttraumatic stress disorder; *International Trauma Questionnaire*; trauma; construct validity; Switzerland

### PALABRAS CLAVE

CIE-11; trastorno de estrés postraumático complejo; *Cuestionario Internacional de Trauma*; trauma; validez de constructo; Suiza

### HIGHLIGHTS

- Most (86.2%) Swiss adults aged 65 + reported having experienced at least one potentially traumatic event in their lifetime.
- Rates of probable ICD-11 PTSD (0.4%) and Complex PTSD (2.4%) were low in older Swiss adults.
- Gender and specific trauma types predicted PTSD, with fewer factors linked to Complex PTSD symptoms.
- Confirmatory factor analysis supported the ITQ structure in assessing ICD-11 PTSD and Complex PTSD in older adults.
- PTSD and Complex PTSD symptoms strongly correlated with loneliness, anxiety, depression, and well-being.

**CONTACT** Myriam V. Thoma myriam.thoma@unibas.ch Department of Psychology, University of Zurich, Psychopathology and Clinical Intervention, Binzmuehlestrasse 14/17, 8050, Zurich, Switzerland Faculty of Psychology, University of Basel, Clinical Psychology, Missionsstrasse 62a, 4055 Basel, Switzerland

Supplemental data for this article can be accessed online at <https://doi.org/10.1080/20008066.2024.2445368>.

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TEPTC se asociaron significativamente con la soledad, la ansiedad, la depresión y el bienestar. **Conclusiones:** Los resultados encontraron que, a pesar de la alta exposición al trauma entre los adultos mayores suizos, la prevalencia de TEPT y TEPTC de la CIE-11 fue baja, sin diferencias significativas de género. Un modelo de segundo orden de dos factores proporcionó el mejor ajuste para el ITQ. Estos hallazgos indican una exposición significativa al trauma en los adultos mayores suizos y la necesidad de intervenciones dirigidas que aborden los desafíos psicosociales asociados y específicos del trauma (es decir, soledad, ansiedad, depresión, bienestar) que enfrentan los adultos mayores.

Relatively little is known about the prevalence of exposure to potentially traumatic experiences (PTEs) in older adults. From existing literature on older adults in German-speaking countries, the following evidence is available: In a representative Swiss community sample ( $M_{age} = 74$  years) Maercker, Forstmeier, Enzler et al. (2008) reported that 36.3% of individuals had experienced at least one PTE. However, a more recent representative study in Germany found a lower prevalence of PTE (27.1%) for those aged 60–99 years (Maercker et al., 2018). The most recent numbers come from a non-representative study with Swiss older adults ( $N = 257$ ;  $M_{age} = 71$  years), which included participants with varying risk levels for childhood trauma (Thoma, Bernays, Eising, Maercker, et al., 2021). This study found that within the risk group (RG; individuals at high risk of having experienced childhood abuse and neglect due to out-of-home placements), 99.3% reported some type of child maltreatment, and a mean of 6.5 lifetime PTEs. The comparison group (CG) reported a significantly lower mean of 4.7 lifetime PTEs. The most common lifetime PTEs (RG vs. CG) were: ‘physical abuse in childhood’ (81% vs. 40%), ‘severe human suffering’ (57.5% vs. 63.2%), ‘other unwanted or uncomfortable sexual experience in childhood’ (53.7% vs. 32.8%), ‘life-threatening illness or injury’ (48.4% vs. 46.4%), and ‘serious injury, harm, or death caused to someone else’ (44.6% vs. 42.4%) (Thoma, Bernays, Eising, Maercker, et al., 2021). Together, these findings underscore the widespread nature of PTEs among older adults, indicating a potential for high levels of trauma- and stress-related disorders in this population.

The 11th version of the International Classification of Diseases (ICD-11; WHO, 2019), included a new diagnosis of complex post-traumatic stress disorder (CPTSD) and an updated definition of post-traumatic stress disorder (PTSD). The PTSD diagnosis includes the three symptom clusters of re-experiencing (Re), avoidance (Av), and a heightened sense of current threat (Th). The CPTSD diagnosis includes these three PTSD symptom clusters, as well as a persistent and pervasive disturbance in self-organization (DSO). The DSO symptoms include affective dysregulation (AD), a negative self-view (NSC), and difficulties in relationships (DR). For both diagnoses, these

symptoms should cause significant disruption in critical areas of functioning, including personal, family, social, educational, and occupational domains (WHO, 2019). CPTSD is particularly associated with severe stressors, often emerging after prolonged exposure to repeated or multiple traumas – typically interpersonal in nature – that last for months or even years, from which escape is either impossible or extremely difficult (Brewin, 2020; Maercker et al., 2022b).

The prevalence rates of ICD-11 PTSD and CPTSD among older adults vary significantly across different countries. McGinty et al. (2021) conducted a secondary analysis of data from four population samples (Republic of Ireland, United States [U.S.], Israel, and the United Kingdom [UK]) and found the following prevalences for individuals aged 65 and older: Republic of Ireland (PTSD: 4.5%; CPTSD: 8.2%), the U.S. (PTSD: 1.6%; CPTSD: 2.2%), Israel (PTSD: 4.8%; CPTSD: 3.2%), and the UK (PTSD: 1.3%; CPTSD: 5.3%). Regarding German-speaking populations, Maercker et al. (2018) examined a representative German sample and found that the age group 60–93 years had a 1-month prevalence of 1.1% for PTSD and 0.2% for CPTSD. In a recent Swiss study, Rusmir and colleagues (2024) reported PTSD and CPTSD rates of 5.1% and 7.3%, respectively. These studies highlight the variability in prevalence rates across different populations and underscore the need for further research to understand the factors contributing to these differences.

The International Trauma Questionnaire (ITQ) was developed as a valid and reliable tool that aligns with the diagnostic criteria for ICD-11 PTSD and CPTSD (e.g. Brewin et al., 2017; Redican et al., 2021). Studies examining the factorial validity of the ITQ suggest that its underlying structure is best captured by two models: (i) a correlated six-factor model, representing the six symptom clusters of PTSD and DSO; and (ii) a two-factor second-order model, in which the correlations among the first-order factors are explained by two second-order factors corresponding to PTSD and DSO (Brewin et al., 2017; Redican et al., 2021). As most studies have been conducted with younger- to middle-aged adult populations, research applying the ITQ in older adults has previously been neglected. This is important given

that developmental issues relevant to older adults (e.g. medical conditions, changing social network, improved coping ability) may influence the experience and manifestation of traumatic stress in this group (Pless Kaiser et al., 2019).

The discrepancy between the rates of PTEs and the prevalence of these disorders highlights the significant variability in post-traumatic stress responses (Galatzer-Levy, 2014) and suggests a need to consider additional mitigating factors. Although socio-demographic factors, such as age and gender, have been studied in relation to ICD-11 PTSD and CPTSD, the data remains inconclusive. There is a lower ICD-11 PTSD prevalence in older (compared to younger) age groups, and females appear to be at a higher risk of developing PTSD (e.g. Ben-Ezra et al., 2018; Hyland et al., 2021). However, the age and gender data on CPTSD is unclear. Furthermore, individuals with CPTSD symptoms are more likely to be unemployed (Hyland et al., 2021; Rusmir et al., 2024), and single, divorced, or widowed (Folke et al., 2019), with no significant differences in education level (Ben-Ezra et al., 2018; Cloitre et al., 2019). Due to the inconclusive findings, further research is needed to explore the relationship between socio-demographic factors and PTSD and CPTSD.

Beyond socio-demographic factors, the nature of the traumatic event(s) plays a crucial role in predicting PTSD and CPTSD. For PTSD, adverse childhood experiences (ACEs) and early-life traumas, such as childhood physical abuse, sexual assault (by non-caregivers), and abduction/kidnapping, have been linked to more severe symptoms later in life (see Cloitre et al., 2019). Additionally, cumulative childhood and adulthood trauma exposure is a significant predictor of PTSD symptom severity (Cloitre et al., 2019; Ogle et al., 2014; Truskauskaitė et al., 2023). This is consistent with the assumption of a dose-response relationship between trauma and pathological outcomes (e.g. Cloitre et al., 2019; Steine et al., 2017), underscoring the importance of considering lifelong trauma accumulation when assessing PTSD in older adults. For CPTSD, a study in a German national sample showed that CPTSD was most strongly linked to childhood sexual abuse or rape (Maercker et al., 2018). Similarly, a US study found that childhood physical and sexual abuse by caregivers/guardians, as well as cumulative childhood and adulthood trauma was associated with CPTSD (Cloitre et al., 2019). Furthermore, a higher number of interpersonal traumas in childhood and adulthood was associated with CPTSD in a trauma-exposed UK adult population (Karatzias et al., 2019). In Ireland, CPTSD was linked to a higher number of different traumatic experiences in childhood, adolescence, and adulthood; reporting interpersonal trauma as the most distressing event (i.e. index trauma); and having fewer exposures to

the index trauma (Hyland et al., 2021). In a clinical sample of older Scottish adults ( $M_{age} = 72$  years), early maladaptive schemas mediated the relationship between traumatic childhood experiences and the development of CPTSD symptoms (Vasilopoulou et al., 2020). In Switzerland, Krammer et al. (2016) found childhood traumatic events to be correlated with some CPTSD symptoms in Swiss older adults ( $M_{age} = 77$  years) who had survived child labour and/or foster care, but found stronger associations with PTSD symptoms. However, this study did not use the ICD-11 criteria (Krammer et al., 2016). A more recent Swiss study with older adults ( $M_{age} = 70$  years) found that individuals with CPTSD reported more ACEs, particularly emotional/physical abuse and neglect (Rusmir et al., 2024). Thus, while studies have begun to explore the relationship between PTSD/CPTSD and various socio-demographic and trauma-related factors, inconclusive findings, particularly regarding older-aged samples, highlight the need for further research.

In sum, the introduction of the ICD-11 brought significant changes to the PTSD diagnosis, including the differentiation between PTSD and CPTSD, and the addition of disturbances in self-organization as a core component of CPTSD (WHO, 2019). However, limited research has explored how these diagnostic updates apply to older adults, a group that faces unique developmental challenges and may exhibit varied manifestations of trauma-related symptoms (Pless Kaiser et al., 2019). Understanding these distinctions is crucial for addressing the mental health needs of this growing population.

This study addresses a knowledge gap in the literature by examining the lifetime prevalence of trauma exposure and its associations with ICD-11 PTSD and CPTSD in Swiss older adults aged 65 and older. Specifically, the aims were: (1) to assess trauma exposure rates, with an expected prevalence of 30-50%, similar to findings in other German-speaking countries (e.g. Maercker et al., 2018; Maercker, Forstmier, Wagner et al. 2008); (2) to estimate PTSD and CPTSD prevalence, predicted at 1-5% and 2-7%, respectively, aligning with international data (McGinty et al., 2021); (3) to conduct a confirmatory factor analysis of the ITQ to test the latent structure of PTSD and DSO symptoms, with an expected two-factor second-order model; and (4) to investigate predictors of PTSD and CPTSD, such as trauma type, cumulative trauma exposure, and socio-demographic factors, and their associations with psychosocial challenges facing older adults (i.e. loneliness, well-being, anxiety, and depression). Early-life trauma, particularly childhood physical and emotional abuse, was hypothesized to predict higher PTSD and CPTSD symptoms, which were in turn expected to correlate with poorer psychosocial outcomes.

## 1. Methods

### 1.1. Study design

Data were collected as part of a project titled *Swiss Silver Stress and Resilience Study*. This cross-sectional study collected data via a quantitative questionnaire survey administered in Switzerland between November 2023 and June 2024. A power analysis determined a required sample size of  $N = 1283$  participants to achieve a power of 80.0% at an alpha level of 5.0%. The survey was designed to assess ICD-11 stress-related disorders and resilience in German-speaking Swiss individuals aged 65 or older. The study was led by the University of Zurich. All participants provided informed consent. Ethical approval for the study was obtained from the Ethics Committee of the Faculty of Arts and Social Sciences at the University of Zurich, Switzerland (ID: 23.10.21).

### 1.2. Participants and recruitment

The inclusion criteria were the following: A minimum age of 65 years or older, residence in Switzerland, native (Swiss) German speakers or can speak and understand (Swiss) German fluently. A diverse set of recruitment methods were used, including the distribution of flyers in public spaces and organizations (e.g. general practitioners, pharmacies), online advertisements, and articles in newsletters.

### 1.3. Procedure

The anonymous survey was available in two formats (i.e. online and pen-and-paper), allowing participants to choose their preferred method. The online survey was configured using Unipark software (Unipark & QuestBack, 2017). Participants could join the study by scanning a QR code, clicking on the provided link, or by contacting the research team via the contact details provided in the recruitment materials. A pen-and-paper version could be requested and was sent by mail with a stamped return envelope. Both survey formats began with an information sheet about the study, followed by an informed consent form and the screening questions. In the online version, participants only gained access to the full survey after providing informed consent and meeting the eligibility criteria; otherwise, they were redirected to an end page. In the pen-and-paper version, participants' data were only included in the dataset if they returned a completed informed consent form and the screening information. Participants could withdraw from the survey at any time without any obligation. At the end of the questionnaire, participants could indicate whether they were interested in receiving the study results. Those who completed the survey were entered

into a raffle for a chance to win one of ten shopping vouchers. Any contact information provided was stored securely and separately from the survey data. Additionally, a list of available support resources was provided at the end of the questionnaire, with support information also included on every page of both the online and pen-and-paper versions.

### 1.4. Measures

#### 1.4.1. Demographic information

A self-developed demographic questionnaire assessed gender, age, living situation, place of residence, relationship status, and highest educational qualification according to the Swiss educational system.

#### 1.4.2. Exposure to traumatic events

A person's exposure to potentially traumatic events was assessed with the German version of the self-report *Life Events Checklist for DSM-5* (LEC-5; Weathers et al., 2013). The LEC-5 includes 16 events that cover a broad range of potentially traumatic events, such as natural disasters, accidents, combat exposure, and interpersonal violence. Item 17 is an additional item for any other very stressful event or experience the participant would like to report. Participants are asked to consider their entire life (including childhood/adolescence and adulthood) as they go through the list of events and indicate whether (a) the event happened to them personally; (b) they witnessed it happening to someone else; (c) they learned it had happened to a family member or close friend; (d) they were confronted with it as part of their job (e.g. paramedic, police officer); or (e) they were unsure whether it applied. For this study, the event was coded as experienced if it happened to or was witnessed by the participant. Only items 1–16 were examined due to uncertainty of whether traumas in item 17 fulfilled the definition of a traumatic experience. Rates of trauma exposure and gender differences were calculated for the survey sample ( $N = 1,526$ ), while only those who reported at least one traumatic event were included in the analytic sample ( $n = 1,315$ ).

#### 1.4.3. (Complex) Posttraumatic Stress Disorder

The German version of the *International Trauma Questionnaire* (ITQ; Cloitre et al., 2018) was used to assess probable ICD-11 PTSD and CPTSD. The ITQ consists of 18 items in total. Each of the six symptom clusters (three for PTSD and three for DSO) is assessed with two items, while functional impairment for PTSD and DSO is assessed with six items (three for PTSD and three for DSO). The degree to which each symptom bothers the participant is rated on a 5-point Likert Scale ranging from 0 (not at all) to 4 (extremely), with a score of  $\geq 2$  (moderately) indicating presence of a symptom. Diagnosis of PTSD



requires endorsement of one symptom from each of the three symptom clusters, and endorsement of functional impairment associated with these symptoms. Diagnosis of CPTSD requires that one symptom is present from each of the PTSD and DSO symptom clusters, and endorsement of functional impairment associated with these symptoms. The German version of the ITQ has been previously validated (Lueger-Schuster et al., 2015, 2018) and applied to older populations (Maercker et al., 2022).

#### 1.4.4. Loneliness

Self-reported loneliness was assessed using the German version of the *Loneliness-3 item Questionnaire* (Hughes et al., 2004; Spitzer, 2016). It contains three items rated on a 3-point Likert scale ranging from 0 (rarely) to 2 (often). The total score ranges from 0 to 6, with higher scores indicating greater loneliness. It has shown acceptable Cronbach's alphas of  $\alpha = .72$  (Hughes et al., 2004) and was acceptable in the current study with a Cronbach's alpha of  $\alpha = .77$ .

#### 1.4.5. Well-Being

Well-being during the last two weeks was assessed using the German version of the *World Health Organization-5* index (WHO-5; Brähler et al., 2007). The WHO-5 contains five items rated on a 6-point Likert scale ranging from 0 (at no time) to 5 (all the time). The total score ranges from 0 to 25, with higher scores indicating a higher general well-being. It has shown excellent Cronbach's alpha of  $\alpha = 0.92$  (Brähler et al., 2007) and was excellent in the current study with a Cronbach's alpha of  $\alpha = .90$ .

#### 1.4.6. Anxiety / depression

The four-item *Patient Health Questionnaire-4* (PHQ-4; Kroenke et al., 2009; Löwe et al., 2010; Wicke et al., 2022) was used to screen for depressive and anxiety-related symptomatology within the previous two weeks. Two items each assessed depression (PHQ-2; e.g. feeling down, depressed, or hopeless), and anxiety (GAD-2; e.g. not being able to stop or control worrying). Each item is measured on a 4-point Likert scale ranging from 0 (not at all) to 3 (nearly every day). The total score of the PHQ-4 ranges from 0 to 12, with the total scores of the PHQ-2 and GAD-2 both ranging from 0 to 6. Higher scores indicate more severe symptomatology. It has shown good Cronbach's alphas of .82 (Löwe et al., 2010) and was acceptable in the current study with a Cronbach's alpha of  $\alpha = .77$ .

### 1.5. Statistical analysis

In the first stage, descriptive statistics were produced (using IBM SPSS Statistics v.28) to determine the

prevalence of exposure to each PTE for the total sample, and separately by gender. Chi-square tests of independence were computed between each trauma and gender to determine significant differences in trauma exposure according to gender. Following this, descriptive statistics were calculated for the ITQ subscales.

In the second stage, three different CFA models were evaluated. Model 1 was a one-factor model, with all PTSD (Re, Av, Th) and DSO (AD, NSC, DR) symptoms (i.e. 12 ITQ items) loaded onto a first-order 'CPTSD' factor. Model 2 was a correlated six-factor model, with all pairs of PTSD and DSO symptoms loading onto their respective first-order factors (Re, Av, Th, AD, NSC, DR), which were measured by two items each. Model 3 was a two-factor second-order model, with the first-order factors Re, Av, Th (2 items per factor) loaded onto the second-order 'PTSD' factor, and the first-order factors AD, NSC, DR (2 items per factor) loaded onto the second-order 'DSO' factor. Thus, the difference between Model 2 and Model 3 is that Model 3 proposes a higher-order structure in which individual symptom clusters contribute to either the PTSD or DSO latent variables. These models were selected as both Model 2 and Model 3 are the most identified factor structures of the ITQ (for a review, see Redican et al., 2021), and the unidimensional model acts as an appropriate reference point. Various fit statistics were used to determine the best-fitting model (see Supplementary Material, S1). Following identification of the best-fitting CFA model, the third stage involved extending the model to include predictors of PTSD and DSO latent variables. The first analysis included demographic predictors (i.e. age, gender, education, relationship status) and the individual LEC-5 items; the second model included demographic predictors and total LEC-5 score; and the final model included demographic predictors and cumulative trauma (1 trauma, 2 traumas, 3 traumas,  $\geq 4$  traumas), with the number of traumas being dummy coded with 1 trauma as the reference category.

The final stage of data analysis involved testing the convergent validity of the ITQ by examining the correlations between the latent variables from the best-fitting CFA model and scores on measures of loneliness, depression, anxiety, and well-being.

Analyses were conducted using Mplus version 8.2 (Muthén & Muthén, 2017), using robust maximum likelihood estimation (Yuan & Bentler, 2000). Missing data was minimal, ranging from 0.1% to 4.5% at an item level. Missing data were handled using MLR, which is considered the optimal method for handling missing data (Schafer & Graham, 2002).

## 2. Results

### 2.1. Trauma exposure rates

Most participants (86.2%;  $n = 1,315$ ) reported exposure to at least one traumatic event during their lifetime. The number of traumas reported ranged from 0 to 15, with an average of 2.86 ( $SD = 2.21$ ). Almost a fifth of the sample (16.9%;  $n = 258$ ) reported exposure to only one trauma (2 traumas = 18.5%, 3 traumas = 17.2%,  $\geq 4$  traumas = 33.6%). As shown in Table 1, the most common traumas were severe human suffering (43.6%;  $n = 665$ ), life threatening illness or injury (43.3%;  $n = 661$ ), and transportation accident (34.0%;  $n = 519$ ). There were significant differences in the prevalence of traumatic events between genders, with males reporting greater exposure to transportation accidents; serious accidents at work, home, or during recreational activity; combat or exposure to warzone; and serious injury, harm, or death inflicted upon someone else. Females reported greater exposure to sexual assault, unwanted or uncomfortable sexual experiences, and severe human suffering. There was no statistically significant difference in average number of traumas between males ( $M = 2.69$ ,  $SD = 2.27$ ) and females ( $M = 2.93$ ,  $SD = 2.18$ ,  $t(1523) = -1.94$ ,  $p = .06$ ).

#### 2.1.1. Levels and rates of PTSD and CPTSD Symptoms

Among those who reported at least one trauma, the mean PTSD score was 5.16 ( $SD = 4.89$ , median = 4.00, range = 0–24) and the mean DSO score was 4.20 ( $SD = 4.00$ , median = 3.00, range = 0–23). As shown in Table 2, mean scores and endorsement rates were highest for the PTSD items ‘feel the experience is happening again in the here and now’ ( $M = 0.97$ ,  $SD = 1.10$ ; endorsement = 25.6%), ‘being on guard’ ( $M = 0.96$ ,  $SD = 1.18$ ; endorsement = 25.6%), and ‘avoiding internal reminders of the experience’ ( $M = 0.88$ ,  $SD = 1.04$ ; endorsement = 23.1%). There were significant gender differences in the endorsement

of some PTSD items, with females more likely to endorse the PTSD items ‘upsetting dreams that replay part of the experience or are clearly related to the experience’ (females = 16.3%, males = 4.5%), ‘the experience is happening again in the here and now’ (females = 20.1%, males = 5.5%), ‘avoiding internal reminders of the experience’ (females = 17.9%; males = 5.2%), ‘avoiding external reminders of the experience’ (females = 17.8%, males = 4.7%), and ‘feeling jumpy or easily startled’ (females = 15.3%, males = 3.9%). Mean scores and endorsement rates were highest for the DSO items ‘it takes me a long time to calm down’ ( $M = 1.30$ ,  $SD = 0.97$ ; endorsement = 39.4%), ‘hard to stay emotionally close to people’ ( $M = 0.67$ ,  $SD = 0.93$ ; endorsement = 14.4%), and ‘feel numb or emotionally shut down’ ( $M = 0.64$ ,  $SD = 0.93$ ; endorsement = 39.4%). There were significant gender differences in the endorsement of some DSO items, with females more likely to endorse the DSO items ‘long time to calm down’ (females = 30.2%, males = 9.2%), and ‘feel like a failure’ (females = 9.3%, males = 2.4%). Item-to-total correlations for the PTSD scale ranged from .71 for PTSD item 1 (‘upsetting dreams that replay part of the experience’) to .80 for PTSD item 3 (‘avoiding internal reminders of the experience’). Item-to-total correlations for the DSO scale ranged from .65 for DSO item 1 (‘takes a long time to calm down’) to .79 for DSO item 4 (‘I feel worthless’) and DSO item 5 (‘feel distant or cut off from people’).

Rates of probable PTSD and CPTSD were 0.4% ( $n = 6$ ; 95% CI: 0.1%, 0.8%) and 2.4% ( $n = 36$ ; 95% CI: 1.8%, 3.5%), respectively. There were no statistically significant gender differences in rates of PTSD (Male: 0%, Female: 0.5%;  $\chi^2 = 2.34$ ,  $p = .126$ ) or CPTSD (Male: 0.6%, Female: 1.8%;  $\chi^2 = .165$ ,  $p = .685$ ).

### 2.2. CFA results

The fit statistics for the CFA models are provided in Table 3. Model 1 provided a poor fit to the data. Both Model 2 and Model 3 demonstrated excellent fit.

**Table 1.** Prevalence of potentially traumatic events in the study sample ( $N = 1,526$ ).

	Total sample $N$ (%)	Males $n$ (%)	Females $n$ (%)	$\chi^2(1)$
1. Natural disaster	269 (17.6)	76 (17.8)	193 (17.6)	.010, $p = .919$
2. Fire or explosion	296 (19.4)	83 (19.4)	213 (19.4)	.000, $p = .986$
3. Transportation accident	519 (34.0)	<b>169 (26.2)</b>	350 (20.7)	8.12, $p = .004$
4. Serious accident at work, home, or during recreational activity	339 (22.2)	<b>112 (6.1)</b>	227 (4.7)	5.49, $p = .019$
5. Exposure to toxic substance	78 (5.1)	26 (1.7)	52 (3.4)	1.16, $p = .281$
6. Physical assault	288 (18.9)	74 (17.3)	214 (19.5)	.936, $p = .333$
7. Assault with a weapon	100 (6.6)	25 (5.9)	75 (6.8)	.478, $p = .489$
8. Sexual assault	216 (14.2)	22 (5.2)	<b>194 (17.7)</b>	39.62, $p < .001$
9. Other unwanted or uncomfortable sexual experience	402 (26.3)	47 (11.0)	<b>355 (23.3)</b>	72.02, $p < .001$
10. Combat or exposure to a warzone	55 (3.6)	<b>25 (5.9)</b>	30 (2.7)	8.62, $p = .003$
11. Captivity	21 (1.4)	9 (2.1)	12 (1.1)	2.33, $p = .127$
12. Life-threatening illness or injury	661 (43.3)	193 (45.2)	468 (42.6)	.831, $p = .362$
13. Severe human suffering	665 (43.6)	165 (38.6)	<b>500 (45.5)</b>	5.95, $p = .020$
14. Sudden violent death	242 (15.9)	63 (14.8)	179 (16.3)	.552, $p = .457$
15. Sudden accidental death	189 (12.4)	46 (10.8)	143 (13.0)	1.44, $p = .231$
16. Serious injury, harm, or death you caused to someone else	25 (1.6)	<b>12 (2.8)</b>	13 (1.2)	5.04, $p = .030$

Note:  $\chi^2$  = chi square. Values in bold indicate where the statistically significant difference lies (e.g. transportation accident was significantly more likely for males than females).

**Table 2.** Descriptive statistics for the International Trauma Questionnaire (ITQ) items ( $n = 1,315$ ).

	Mean	Median	SD	Range	% (n)	% (n) female	% (n) male	$\chi^2$ (p)	Item-to-scale correlation
Re1: Upsetting dreams	0.80	0.00	1.06	0–4	20.8% (271)	<b>16.3% (212)</b>	4.5% (59)	5.59, $p = .018$	.71***
Re2: Reliving event in here and now	0.97	1.00	1.10	0–4	25.6% (332)	<b>20.1% (261)</b>	5.5% (71)	8.57, $p = .003$	.73***
Av1: Internal reminders	0.88	1.00	1.04	0–4	23.1% (299)	<b>17.9% (232)</b>	5.2% (67)	5.10, $p = .024$	.80***
Av2: External reminders	0.87	0.00	1.10	0–4	22.5% (292)	<b>17.8% (231)</b>	4.7% (61)	8.21, $p = .004$	.79***
Th1: Being on guard	0.96	1.00	1.18	0–4	25.6% (333)	19.5% (254)	6.1% (79)	3.07, $p = .080$	.74***
Th2: Jumpy/startled	0.75	0.00	1.04	0–4	19.2% (252)	<b>15.3% (201)</b>	3.9% (51)	7.99, $p = .005$	.74***
PTSD FI 1	0.74	0.00	1.02	0–4	17.7% (231)	12.9% (168)	4.8% (63)	0.00, $p = .992$	
PTSD FI 2	0.41	0.00	0.82	0–4	9.7% (126)	7.2% (93)	2.5% (33)	0.12, $p = .735$	
PTSD FI 3	0.56	0.00	0.93	0–4	13.7% (178)	10.7% (139)	3.0% (39)	3.18, $p = .075$	
Total PTSD	5.16	4.00	4.89	0–24	0.5% (6)	0.5% (6)	0% (0)	2.27, $p = .132$	
AD1: Long time to calm down	1.30	1.00	0.97	0–4	39.4% (516)	<b>30.2% (395)</b>	9.2% (121)	7.02, $p = .008$	.65***
AD2: Numb	0.64	0.00	0.93	0–4	15.2% (200)	11.1% (145)	4.2% (55)	0.00, $p = .994$	.75***
NSC1: Failure	0.51	0.00	0.83	0–4	11.6% (152)	<b>9.3% (121)</b>	2.4% (31)	4.41, $p = .036$	.78***
NSC2: Worthless	0.46	0.00	0.85	0–4	10.8% (141)	8.1% (106)	2.7% (35)	0.60, $p = .437$	.79***
DR1: Feel cut off from others	0.63	0.00	0.91	0–4	13.4% (175)	9.8% (128)	3.6% (47)	.038, $p = .846$	.79***
DR2: Difficulty staying close to others	0.67	0.00	0.93	0–4	14.4% (189)	10.3% (135)	4.1% (54)	.122, $p = .727$	.69***
DSO FI 1	0.75	1.00	0.93	0–4	15.7% (206)	11.6% (153)	4.0% (53)	.334, $p = .563$	
DSO FI 2	0.41	0.00	0.93	0–4	8.1% (105)	6.5% (84)	1.6% (21)	3.22, $p = .073$	
DSO FI 3	0.48	0.00	0.76	0–4	10.2% (133)	7.8% (101)	2.5% (32)	.898, $p = .343$	
Total DSO	4.20	3.00	4.00	0–23	2.7% (35)	0.6% (8)	2.1% (27)	.369, $p = .543$	

Note: AD = affective dysregulation; Av = avoidance; DSO = disturbances in self-organization; DR = disturbances in relationships; FI = functional impairment; NSC = negative self-concept; PTSD = posttraumatic stress disorder; Re = re-experiencing; Th = sense of threat. \*\*\* =  $p < .001$ . Values in bold indicate significantly higher scores in females than males.

**Table 3.** Fit statistics for the Confirmatory Factor Analyses (CFA) models ( $n = 1,315$ ).

Model	$\chi^2$ (df)	AIC	BIC	ssaBIC	CFI	TLI	RMSEA (95% CI)	SRMR
Model 1	1509.764 (54), $p < .001$	39523.091	39709.628	39595.273	0.676	0.604	0.143 (0.137, 0.149)	0.093
Model 2	100.816 (39), $p < .001$	37592.598	37856.859	37694.856	0.986	0.977	0.035 (0.026, 0.043)	0.018
Model 3	127.944 (47), $p < .001$	37615.570	37838.379	37701.788	0.982	0.975	0.036 (0.029, 0.044)	0.027

Note: AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; ssaBIC = sample size adjusted BIC; CFA = Confirmatory Factor Analysis; CFI = Comparative Fit Index; CI = Confidence Interval; TLI = Tucker Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.

Although the chi-square statistic was significant for both models, this should not be taken as evidence for model rejection, as the power of chi-square tests is positively associated with sample size (Tanaka, 1987). The difference in BIC values between Model 2 and Model 3 was greater than 10 points ( $\Delta\text{BIC} = 18.48$ ), and therefore, Model 3 was selected as the final model.<sup>1</sup> All items loaded significantly and strongly onto their respective first-order PTSD (Re, Av, Th) and DSO (AD, NSC, DR) factors, except for the AD item ‘when I am upset, it takes me a long time to calm down’, which had a relatively weak loading (.53). All first-order PTSD and DSO factors loaded onto their respective second-order PTSD and DSO factors (.79–1.01). The correlation between the PTSD and DSO latent factors was .66 ( $p < .001$ ). The composite reliability for the PTSD ( $\text{CR} = .91$ ) and DSO ( $\text{CR} = .89$ ) subscales were high.

### 2.3. Predictors of PTSD and DSO latent variables

Three regression models were estimated, the first to examine demographics (i.e. age, gender, education, relationship status) and individual items from the LEC-5, the second to examine total LEC-5 scores, and the third to examine the cumulative effects of trauma exposure. Findings from the first regression model (see Table 4) showed that female gender, physical

assault, sexual assault, other unwanted or uncomfortable sexual experience, and severe human suffering were positively associated with the PTSD latent variable, while having a higher-level education was negatively associated with the PTSD latent variable. There were considerably fewer significant predictors of the DSO latent variable, except for physical assault, other unwanted or uncomfortable sexual experience, and severe human suffering, which were positively associated with the DSO latent variable. A significant ( $p < .001$ ) proportion of the variance was explained in both latent variables, explaining 11.2% of the variance in the PTSD latent variable and 6.6% of the variance in the DSO latent variable. Findings from the second regression model showed that total LEC-5 scores were positively associated with both the PTSD and DSO latent variables. A significant ( $p < .001$ ) proportion of the variance was explained in both latent variables, explaining 8.1% and 4.1% of the variance in the PTSD and DSO latent variables, respectively.

Findings from the final regression model (see Table 5) showed that experiencing  $\geq 2$  traumas was positively associated with the PTSD latent variable, and experiencing  $\geq 3$  traumas was positively associated with the DSO latent variable. A significant ( $p < .001$ ) proportion of the variance was explained in both latent variables, explaining 7.5% and 4.1% of the variance in the PTSD and DSO latent variables, respectively.

**Table 4.** Demographic and trauma-related (individual Life Events Checklist [LEC], items) predictors of PTSD and DSO CPTSD latent variables ( $n = 1,249$ ).

	PTSD		DSO	
	$\beta$	$p$	$\beta$	$p$
Age	.047	.150	-.017	.586
Sex (female)	<b>.080</b>	.017	.010	.755
Education (higher education)	<b>-.100</b>	.001	-.044	.171
Relationship (in a committed relationship)	.025	.442	-.034	.310
Natural disaster	-.035	.279	-.006	.842
Fire or explosion	-.007	.827	-.023	.489
Transportation accident	.038	.240	.025	.451
Serious accident at work, home, or during recreational activity	.049	.143	.061	.072
Exposure to toxic substance	-.016	.618	-.017	.571
Physical assault	<b>.100</b>	.007	<b>.071</b>	.049
Assault with a weapon	.031	.386	.019	.635
Sexual assault	<b>.088</b>	.016	.028	.433
Other unwanted or uncomfortable sexual experience	<b>.090</b>	.011	<b>.123</b>	<.001
Combat or exposure to a warzone	.049	.171	.049	.196
Captivity	.034	.405	.014	.737
Life-threatening illness or injury	.011	.728	.009	.786
Severe human suffering	<b>.154</b>	<.001	<b>.110</b>	<.001
Sudden violent death	.058	.071	.048	.146
Sudden accidental death	-.001	.967	-.028	.383
Serious injury, harm, or death you caused to someone else	-.005	.893	.051	.251
R-Squared	11.2%		6.7%	
LEC total	<b>.236</b>	<.001	<b>.185</b>	<.001
R-Squared	8.1%		4.1%	

Note: DSO = disturbances in self-organization; LEC = Life Events Checklist; PTSD = posttraumatic stress disorder. Values in bold are statistically significant.

**Table 5.** Demographic and trauma-related (cumulative trauma) predictors of PTSD and DSO latent variables ( $n = 1,249$ ).

	PTSD		DSO	
	$\beta$	$p$	$\beta$	$p$
Age	.044	.176	-.016	.586
Sex (female)	<b>.096</b>	.003	.022	.487
Education (higher education)	<b>-.100</b>	.002	-.044	.171
Relationship (in a committed relationship)	.001	.987	-.034	.310
1 potentially traumatic event	–	–	–	–
2 potentially traumatic events	.123	<.001	.045	.175
3 potentially traumatic events	.150	<.001	.113	<.001
4 or more potentially traumatic events	.296	<.001	.227	<.001

Note: DSO = disturbances in self-organization; PTSD = posttraumatic stress disorder.

Values in bold are statistically significant.

## 2.4. Convergent validity results

The correlation coefficients between the PTSD and DSO latent variables and the psychosocial variables are reported in Table 5. Loneliness, anxiety, and depression scores were positively associated with both the PTSD and DSO latent variables, while well-being scores were negatively associated with both the PTSD and DSO latent variables (Table 6).

## 3. Discussion

The aim of this study was to examine the prevalence, construct validity, predictors, and psychosocial correlates of ICD-11 PTSD and CPTSD in a sample of Swiss

**Table 6.** Correlations between PTSD and DSO subscales and mental health outcomes ( $n = 1,315$ ).

	PTSD		DSO	
	$R$	$p$	$r$	$p$
Loneliness	.237	<.001	.372	<.001
Psychological well-being	-.123	.006	-.209	<.001
Anxiety	.091	.052	.217	<.001
Depression	.398	<.001	.312	<.001

Note: DSO = disturbances in self-organization; PTSD = posttraumatic stress disorder.

older adults. A significant majority of the sample experienced at least one potentially traumatic event during their lifetime, averaging nearly three traumatic events per individual. Gender disparities were evident, with males more frequently reporting accidents and combat-related traumas and females reporting higher instances of sexual assault and severe human suffering. The prevalence rates for PTSD and CPTSD were relatively low (0.4% and 2.4%, respectively), with no significant gender differences observed. CFA findings supported the latent structure of the ITQ, indicating a two-factor second-order model as the best fit. Regression analyses identified female gender, specific trauma types, and lower education level as significant predictors of PTSD, with fewer significant predictors of DSO. Convergent validity analyses demonstrated strong associations between these symptoms and mental health variables, including loneliness, anxiety, depression, and well-being.

This study highlights the high prevalence of PTEs among individuals aged 65 and older. Among the Swiss participants, 86.2% reported having experienced at least one PTE, with an average of 2.86 PTEs per person. These numbers closely align with findings from a slightly younger US cohort (Ogle, Rubin, Berntsen, et al., 2013; 90% prevalence; mean PTEs: 2.85), and from the World Mental Health Survey (WMHS) Consortium (Benjet et al., 2016; 70.4% prevalence; mean PTEs: 3.2). Thus, experiencing at least one PTE over a lifetime is common globally. Around one third of the study participants experienced four or more traumatic events, consistent with the WMHS Consortium figure (30.5%; Benjet et al., 2016). This suggests that a substantial portion of the older adult population lives with the impact of multiple traumas.

The most commonly reported PTEs in this study – severe human suffering, life-threatening illness or injury, and transportation accident – were similar to those found in a previous study of German-speaking Swiss older adults (Thoma, Bernays, Eising, Maercker, et al., 2021), with some differences to other research involving older populations. These differences could be attributed to the different instruments used to assess PTEs and/or variations in socio-demographic characteristics. The older mean age and broader age range of participants in the current study are particularly relevant, as advancing age has been associated



with a higher likelihood of experiencing PTEs, particularly life-threatening illnesses or injuries (Glaesmer et al., 2010). The observed gender differences align with existing literature, as males and females are often exposed to different types of traumas, with women having a higher risk for sexual assault (e.g. Benjet et al., 2016; Møller et al., 2020). This emphasizes the need for tailored interventions that address the specific traumas encountered by different gender groups.

Results showed that mean scores and symptom endorsement rates, at both the item and subscale levels of the ITQ, were significantly lower than those reported in clinical samples (e.g. Haselgruber et al., 2020; Murphy et al., 2020; Valdovinos et al., 2023; Vang et al., 2021) and some population-based studies (e.g. Cloitre et al., 2019; Peraud et al., 2022), but were comparable to findings from other studies (e.g. Shevlin et al., 2024). The relatively low rates of probable PTSD and CPTSD in the sample (0.4% and 2.4%, respectively) suggest that while trauma exposure is ubiquitous, only a small fraction of the affected individuals develop clinically significant symptoms of a stress-related disorder. This highlights the heterogeneity in response to PTEs. The overall prevalence of meeting criteria for PTSD or CPTSD (2.8%) is similar to the prevalence of ICD-11 PTSD in the World Mental Health Survey (3.2%, Stein et al., 2014). While a 6-fold higher prevalence of CPTSD compared to PTSD was observed in this study, many international studies have reported a smaller ratio, with CPTSD prevalence ranging from 1.4- to 4-fold higher in older samples (McGinty et al., 2021). Exceptions include findings from Israel (Ben-Ezra et al., 2018) and Germany (Maercker et al., 2018), where higher rates of PTSD (compared to CPTSD) were observed. These differences may be explained by the well-documented variations in PTSD and CPTSD rates, which often depend on socio-demographic factors, geographic regions, exposure to war or conflict, and other contextual variables. Furthermore, the 6-fold higher prevalence of CPTSD in this sample may be attributed to the cumulative effect of lifetime trauma. Older adults may experience multiple traumas across their lifespan, which aligns with the risk factors for CPTSD, resulting in the development of more complex symptomatology.

Earlier studies on PTSD in older adults indicate that the use of the ICD-11 PTSD criteria results in lower prevalence rates compared to the PTSD criteria in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association [APA], 2013) (Fox et al., 2020). The PTSD diagnostic criteria in ICD-11 and DSM-5 reflect distinct conceptualizations of trauma-related disorders, which can significantly influence prevalence rates and clinical care, particularly in older adults. The DSM-5 applies broader diagnostic criteria for PTSD

by defining PTSD as a mental health disorder resulting from exposure to a traumatic event, with symptoms grouped into four symptom clusters: Intrusion, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity. These symptoms must cause significant distress or impairment and be linked to the traumatic event through temporal or contextual association (APA, 2013). Notably, there is limited research on CPTSD in older adults and few studies directly comparing PTSD diagnoses using ICD-11 and DSM-5 in this population, underscoring the need for further investigation (Fox et al., 2020). Developing a clearer understanding of these differences is essential for improving diagnostic accuracy and ensuring consistent treatment approaches across contexts.

Previous research on PTSD in older adults also indicates significantly lower prevalence rates of ICD-11 PTSD compared to ICD-10 (WHO, 1992). For instance, Glück et al. (2016) compared ICD-10 and ICD-11 PTSD criteria in Austrian older survivors with a history of childhood trauma. Results showed a significantly lower PTSD prevalence rate using ICD-11 criteria compared to ICD-10 criteria. The authors argued that the observed reduction in prevalence could largely be attributed to the more stringent definition of the re-experiencing criterion in ICD-11. Consequently, ICD-11 may be more specific to individuals with severe PTSD symptoms, potentially excluding those with milder symptomatology (Glück et al., 2016). As a result, individuals with subthreshold PTSD symptoms remain undiagnosed and are therefore more likely to go untreated, despite their often significant levels of functional impairment (e.g. Pietrzak et al., 2012). This is an underserved group of individuals that should be examined with respect to comorbidities, treatment needs, and responsiveness to interventions (Glück et al., 2016).

No gender differences were found with respect to the rates of PTSD and CPTSD. While this corroborates some studies (e.g. Fox et al., 2020; Møller et al., 2020; Rusmir et al., 2024), it contrasts with others (e.g. Hyland et al., 2021; Kazlauskas et al., 2022). The reasons behind the inconclusive data on gender as a risk factor remain speculative. However, research has investigated potential gender-related item biases in the ICD-11 PTSD criteria. Unlike the DSM-5, the ICD-11 PTSD items have been shown, through differential item functioning (DIF) analysis, to lack gender-related biases in older adults (Fox et al., 2020). Given the inconclusive data on gender as a risk factor, further research should examine the complex interplay between gender, trauma-related factors (e.g. developmental stage at trauma onset, type, frequency, relationship to perpetrator, disclosure, post-trauma sequelae), and pathological outcomes (Cloitre et al., 2019; McGinty et al., 2021).

The results demonstrated that those who reported at least one trauma exhibited varying levels of PTSD and DSO symptoms. The most frequently endorsed PTSD symptoms were re-experiencing the trauma and hypervigilance, while the most common DSO symptoms were difficulty calming down and emotional numbing. These observations extend the current developmental presentation for older adults with CPTSD in the ICD-11, which states that CPTSD in older age often manifests through anxious avoidance, alongside physiological symptoms of anxiety, and deep regret over the influence of the traumatic events on their lives (WHO, 2019). The current findings highlight the persistent and pervasive nature of trauma-related symptoms, particularly those related to re-experiencing trauma, hyperarousal, and emotion regulation.

The CFA results indicated a two-factor second-order model as the best fit for the data, which parallels previous studies (e.g. Frost et al., 2022; Redican, Cloitre, et al., 2022). This model demonstrated strong factor loadings for PTSD and DSO items, confirming the distinct yet related nature of these constructs. Consistent with previous studies (Frost et al., 2022), the AD item ‘*when I am upset, it takes me a long time to calm down*’, had a relatively weak loading. Results from previous research indicate that affective dysregulation in the ITQ might be more accurately understood as two distinct facets rather than a single one, and that a person may show a preference for either one (Ben-Ezra et al., 2018; Sele et al., 2020). The high composite reliability of the PTSD and DSO subscales further supports the robustness of the ITQ. The correlation between PTSD and DSO latent factors (.66) suggests that while these constructs overlap, they also capture unique aspects of trauma-related symptomatology.

The regression analyses identified key demographic and trauma-related predictors of PTSD and DSO latent variables. Female gender, sexual assault, and lower education were specific PTSD symptom predictors, while other trauma types (i.e. physical assault, other unwanted or uncomfortable sexual experience, and severe human suffering), and the total number of PTEs were predictors for both latent variables. The cumulative effect of multiple traumas was also evident, with increasing numbers of traumatic events associated with higher levels of PTSD and DSO symptoms in this older-aged sample. These findings corroborate previous research regarding a dose–response relationship between lifetime exposure to traumatic events and (C)PTSD symptom severity (Cloitre et al., 2019; Redican, Cloitre, et al., 2022). This emphasizes the need to consider both the type and cumulative burden of trauma in understanding and treating PTSD and CPTSD.

This study also showed that both PTSD and DSO latent variables were positively correlated with indicators of mental health distress (i.e. loneliness, anxiety, depression) and negatively correlated with psychological well-being. These correlations were strongest in magnitude for CPTSD, which is in line with previous research showing a link between symptom comorbidity, reduced well-being, and life satisfaction in individuals with ICD-11 CPTSD (Cloitre et al., 2019; Rusmir et al., 2024). The findings support the convergent validity of the PTSD and DSO constructs, indicating a meaningful link to broader aspects of mental health. This reinforces the need for integrated treatment approaches that address trauma-specific symptoms and general psychological distress.

These findings should be considered with some limitations: (1) *Study design*: The cross-sectional design limits causal conclusions. Reliance on retrospective self-reports of trauma may affect data accuracy, and self-reporting can reduce diagnostic precision, depending on participants’ willingness to share sensitive information. Though anonymity may have reduced this issue, non-disclosure and defensive reporting remain concerns. (2) *Assessment of PTEs*: Assessing 16 PTEs in this underrepresented age group is valuable. However, the LEC-5 lacks data on frequency, timing, or prior disclosure of PTEs, which is crucial for understanding long-term effects. Future studies should also assess the relationship to the perpetrator (e.g. guardian vs. non-guardian), as this can influence post-trauma outcomes (Cloitre et al., 2019). (3) *Lack of representativeness*: This study used a convenience sample of older adults, not representative of the Swiss German-speaking population. While the average age aligns with the 65+ group, the oldest age category (80+) may be underrepresented. Participants also had higher education levels and more financial stability compared to national data (FSO, 2024). (4) *Applied scale*: This study employed brief (screening) scales to minimize participant burden. As a result, some scales have a limited number of items, which may reduce the scope of symptom coverage and the precision of the assessments.

An empirical investigation of the potential unique characteristics of CPTSD in older adults is necessary. ICD-11 lists physiological indicators of anxiety, nervous avoidance of triggers, and deep sadness regarding the trauma’s impact as features of CPTSD in this population (WHO, 2019). Research should also examine the effectiveness of newly developed CPTSD interventions across different age groups, as well as the performance of well-established PTSD treatments in addressing CPTSD. Additionally, future studies should assess protective factors, such as perceived social support, which has been shown to moderate PTSD symptoms in older adults (Ogle et al., 2014).

Furthermore, comparisons of PTSD prevalence rates in older adults using ICD-11 and DSM-5 criteria would help clarify diagnostic overlaps or discrepancies and determine which classification system is more developmentally sensitive for diagnosing PTSD and CPTSD in older individuals (e.g. Fox et al., 2020; Glück et al., 2016). This area of research is crucial for gaining deeper insight into the specific characteristics of trauma-related psychopathology in older populations. This will ensure accurate symptom identification and timely diagnosis, as well as the provision of appropriate support from health care professionals. Ultimately, these efforts will contribute to the development of more effective, tailored interventions for older adults with ICD-11 PTSD and CPTSD. Currently, some existing evidence-based treatments, such as Prolonged Exposure and Narrative Exposure Therapy, have been evaluated in older adult samples (Bichescu et al., 2007; Pless Kaiser et al., 2019; Thorp et al., 2019). In the development of interventions, it is important to give equal consideration to the subgroup of older adults who exhibit subthreshold PTSD symptoms. These symptoms are associated with significant levels of impairment, often comparable to those experienced by individuals meeting the full diagnostic criteria, highlighting their clinical importance and the need for targeted interventions (Pietrzak et al., 2012).

The study findings contribute to the growing body of literature on trauma exposure and its psychological consequences, particularly in relation to PTSD and CPTSD. The observed gender differences, the impact of multiple traumas, and the relationship between trauma symptoms and general mental health provide important considerations for future research and clinical practice. Further studies should aim to replicate these findings in more representative samples, explore the mechanisms underlying these associations, and develop targeted interventions that address both trauma-specific and general psychological needs.

## Note

1. The standardized factor loading for the AD item 1 'when I am upset, it takes me a long time to calm down' was above 1.00. This typically occurs in the context of high levels of multicollinearity, but is not outside the normal range of results (Deegan 1978; as cited by Hyland et al., 2017). Prior research using the ITQ has reported similar findings (e.g. Fresno et al., 2023; Vang et al., 2021).

## Acknowledgements

The authors wish to thank all participants who shared their experiences for this study. The study was conducted at the

University of Zurich and was supported by the University Research Priority Program (URPP) 'Dynamics of Healthy Aging' at the University of Zurich.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Data available statement

Requests to access the datasets and material should be directed to the corresponding author.

## Ethics

All participants provided informed consent, adhering to the principles of the Declaration of Helsinki. Ethical approval for the study was obtained from the Ethics Committee of the Faculty of Arts and Social Sciences at the University of Zurich, Switzerland (ID: 23.10.21).

## Declaration of generative AI in scientific writing

During the preparation and revision of this work the authors used ChatGPT to improve the readability and language of the manuscript. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

## ORCID

Myriam V. Thoma  <http://orcid.org/0000-0003-4316-522X>

Enya Redican  <https://orcid.org/0000-0002-8863-2234>

Mark Shevlin  <https://orcid.org/0000-0001-6262-5223>

Andreas Maercker  <https://orcid.org/0000-0001-6925-3266>

Shauna L. Rohner  <http://orcid.org/0000-0001-8273-0987>

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