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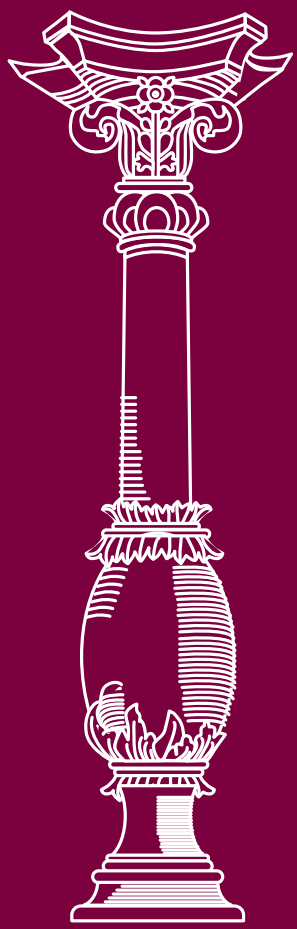
Complex Posttraumatic Stress Disorder: Assessment and Risk Factors



Monika Kvedaraitė

DOCTORAL DISSERTATION
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Social Sciences
Psychology **S 006**

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The dissertation was prepared between 2019 and 2023 at Vilnius University Faculty of Philosophy.

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ABBREVIATIONS

BPS – The Borderline Pattern Scale
CAPS5 – The Clinician-Administered PTSD Scale for DSM-5
CFA – Confirmatory Factor Analysis
Complex PTSD – Complex posttraumatic stress disorder
COPISAC – The Complex PTSD Item Set addition to the CAPS
CTI – The Complex Trauma Inventory
DERS – The Difficulties in Emotion Regulation Scale
DSM – Diagnostic and Statistical Manual of Mental Disorders
DSO – Disturbances in self-organization
DSS – The Dissociative Symptoms Scale
DTQ-12 – The Disclosure of Trauma Questionnaire
EPCACE – Enduring personality change after catastrophic experiences
ECR-S – The Experience in Close Relationship Scale – Short Form
GAD-7 – The Generalized Anxiety Disorder Scale-7
ICD-11 – 11th revision of the International Classification of Diseases
ITI – The International Trauma Interview
ITQ – The International Trauma Questionnaire
LEC-R – The Revised Life Events Checklist
PHQ-9 – The Patient Health Questionnaire-9
PTSD – Posttraumatic stress disorder
RSES – The Rosenberg Self-Esteem Scale
SAQ – The Social Acknowledgment Questionnaire
SBQ-R – The Suicidal Behaviors Questionnaire-Revised
SEM – Structural Equation Modelling
SOTS – The Symptoms of Trauma Scale
TSI-2 – Trauma Symptom Inventory
WHO-5 – The World Health Organization Well-being Index

CONTENTS

LIST OF PUBLISHED PAPERS

This doctoral dissertation is based on the following papers:

1. Kvedaraite, M., Gelezelyte, O., Kairyte, A., Roberts, N.P., & Kazlauskas, E. (2021). Trauma exposure and factors associated with ICD-11 PTSD and complex PTSD in the Lithuanian general population. *International Journal of Social Psychiatry*, 1-10 https://doi.org/10.1177/00207640211057720

2. Kvedaraite, M., Gelezelyte, O., Karatzias, T., Roberts, N., & Kazlauskas, E. (2021). Mediating role of avoidance of trauma disclosure and social disapproval in ICD-11 post-traumatic stress disorder and complex post-traumatic stress disorder: Cross-sectional study in a Lithuanian clinical sample. *BJPsych Open, 7*(6), 1-7, E217. https://doi.org/10.1192/bjo.2021.1055

3. Gelezelyte, O., Roberts, N.P., Kvedaraite, M., Bisson, J.I., Brewin, C.R., Cloitre, M., Kairyte, A., Karatzias, T., Shevlin, M., & Kazlauskas, E. (2022). Validation of the International Trauma Interview (ITI) for the clinical assessment of ICD-11 Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD) in a Lithuanian sample. *European Journal of Psychotraumatology*, *13*(1), https://doi.org/10.1080/20008198.2022.2037905

4. Gelezelyte, O., Kvedaraite, M., Kairyte, A., Roberts, N., Bisson, J., & Kazlauskas, E. (2022). The mediating role of complex posttraumatic stress and borderline pattern symptoms on the association between sexual abuse and suicide risk. *Borderline Personality Disorder and Emotion Dysregulation. 9*(1), 1-8. https://doi.org/10.1186/s40479-022-00183-z

1. INTRODUCTION

1.1. Definition of Complex PTSD

Historical background of Complex PTSD. Posttraumatic stress disorder (PTSD) was first defined in the 3rd edition of the Diagnostic and Statistical Manual of Mental Disorders released in 1980 (DSM-III; American Psychiatric Association, 1980). This diagnosis was distinguished from many others because it required having experienced at least one potentially traumatic event. The diagnosis of PTSD was updated in the DSM-IV (American Psychiatric Association, 2000) and DSM-5 (American Psychiatric Association, 2013) editions and, in 1993, was included in the International Classification of Diseases 10th edition (World Health Organization, 1993). However, in practice, it has been observed that individuals exposed to extremely complicated traumatic events (such as recurrent, prolonged traumatic events or childhood trauma) experience more complex psychological reactions than those defined by PTSD. These reactions were first described in 1992 by Judith Lewis Herman, who first proposed the term "complex posttraumatic stress disorder" (Herman, 1992). The first attempt to officially define more complex psychological reactions after potentially traumatic events was a diagnosis of an Enduring personality change after catastrophic experience (EPCACE) outlined in ICD-10 (World Health Organization, 1993). This disorder described disturbances in personality organization that could result from prolonged or repeated trauma from which escape is difficult or impossible (e.g., childhood abuse, domestic violence, torture, war, imprisonment). EPCACE symptoms included a hostile or distrustful attitude toward the world, social withdrawal, chronic feelings of emptiness or hopelessness, being on edge as if constantly threatened, and estrangement. However, these attempts to define the complex effects of trauma have been widely criticized for their extensive list of symptoms and core symptoms that overlap with other disorders, such as PTSD, major depression, and borderline personality disorder (Brewin, 2020). There was also a lack of evidence that these diagnoses were uniquely associated with prolonged or repeated trauma. It was questioned whether these definitions reflect a complex and severe form of PTSD or a disorder separate from PTSD (Brewin et al., 2017).

Complex PTSD in ICD-11. Considering all of the criticism and new empirical data, a new diagnosis of complex posttraumatic stress disorder (Complex PTSD) was included in the latest 11th revision of the International

Classification of Diseases (ICD-11) (World Health Organization, 2018). According to ICD-11, a diagnosis of Complex PTSD can be made if a potentially traumatic event has occurred and symptoms related to that event are present. The new diagnosis of Complex PTSD incorporates the existing symptoms of posttraumatic stress disorder as well as a cluster of symptoms related to disturbances in self-organization (World Health Organization, 2018). In total, the diagnosis of Complex PTSD incorporates six symptom clusters:

- *re-experience*, which can manifest as vivid intrusive memories, flashbacks, or nightmares. The content or affect of the recurring dreams or intrusive memories should be related to the traumatic experiences;
- *avoidance*, which involves intense avoidance of thoughts, feelings or memories related to traumatic experiences. It may also include avoiding people, places, situations, or activities that could remind of traumatic experiences;
- *persistent perceptions of heightened current threat,* that may manifest by increased alertness or strong startle reactions to various stimuli such as unexpected sounds. It could also manifest by various safety rituals;
- *affect dysregulation*, which can range from heightened emotional reactions and difficulty calming down to emotional numbness and dissociation in response to minor stressors;
- *negative beliefs about oneself*, such as feeling as if the person is diminished, defeated, or unworthy. Clinically significant symptoms of negative self-image should be persistent and occur in most areas of the client's life;
- *difficulties in relationships*, such as continuous and consistent difficulties sustaining relationships and feeling close to others (World Health Organization, 2018).

This new Complex PTSD diagnosis is based on the construct of Complex PTSD described by Herman, as well as the ICD-10 EPCACE diagnosis, and emphasizes similar aspects: long-term changes in personality organization, which usually result from prolonged or repetitive trauma that is difficult or impossible to prevent (Brewin, 2020). However, unlike EPCACE, the new Complex PTSD diagnosis does not describe these symptoms as personality changes. Also, the new Complex PTSD diagnosis is based on a symptom profile rather than the type of trauma exposure, and disruption to

daily life has become a mandatory criterion (Brewin, 2020; Brewin et al., 2017; Cloitre, 2020).

The definitions of ICD-11 PTSD and Complex PTSD were guided by the ICD-11 orientation towards a public health perspective and the need to maximize the clinical utility of the diagnoses worldwide. This means that the descriptions of disorders should comprise only the core symptoms, be easily differentiated from each other, and help develop effective and low-resource treatments (Maercker et al., 2013). Studies conducted with individuals who have experienced at least one traumatic event in their lifetime have shown that diagnoses of PTSD and Complex PTSD differ in terms of the number of symptom clusters present and the grouping of symptoms. Additionally, latent class analyses indicate that two distinct groups can be distinguished in clinical and general population samples: individuals who present with only PTSD symptoms and those who present with PTSD symptoms and symptoms of disturbances in self-organization, i.e., Complex PTSD symptoms (Brewin et al., 2017). Furthermore, studies assessing functional impairment indicate that Complex PTSD has been associated with more significant difficulties than PTSD and with higher levels of mental burden (Brewin et al., 2017; Cloitre, 2020; Hyland, Shevlin, et al., 2017).

To summarize, the new refined and narrowed definition of Complex PTSD will allow mental health professionals to offer the appropriate and effective treatment options for individuals who have experienced potentially traumatic events. Nevertheless, the new diagnosis also raises the problem of assessing Complex PTSD symptoms and the need for new instruments that allow clinicians to differentiate Complex PTSD from other mental health disorders.

1.2. Assessment of Complex PTSD

The new definition of ICD-11 Complex PTSD raises the need for new assessment instruments for mental health specialists. To this day, several self-report and clinical instruments are available. However, there is still a significant need for studies that analyze the validity of these instruments, especially in different populations.

Self-report measures for Complex PTSD. One of the most popular and widely studied self-report instruments for the assessment of Complex PTSD is the International Trauma Questionnaire (ITQ) (Cloitre et al., 2018),

which is based on the ICD-11, and, due to its short structure (twelve symptom items and six functional impairment items), allows for a very rapid assessment of the risk of ICD-11 PTSD and Complex PTSD (Seiler et al., 2023). Validation studies conducted in America, Europe, and South Asia show that the ITQ has very good psychometric properties (Ho et al., 2019; Karatzias et al., 2016; Mordeno et al., 2019; Shevlin et al., 2018). The results also show that posttraumatic reactions can be indeed divided into PTSD and Complex PTSD, each with its own symptom clusters. However, studies conducted in the Philippines and China show conflicting results (Ho et al., 2019; Mordeno et al., 2019). According to the results of these studies, PTSD and Complex PTSD are not two separate diagnoses but rather a single diagnosis of posttraumatic stress disorder, which can manifest itself in a variety of 6 distinct clusters of symptoms with different intensities, but these symptoms do not fall into separate PTSD and Complex PTSD clusters. Such inconsistencies in the results indicate the need for further research on applying the ITQ in different cultures. There are also other attempts to develop self-report measures, such as The Complex Trauma Inventory (CTI; Litvin et al., 2017) and the revised Trauma Symptom Inventory (TSI-2; Krammer et al., 2019). The initial validation results for these instruments show good psychometric properties; however, to this day, only one study has been conducted using each of these measures.

The described instruments, ITQ, CTI and TSI-2, are all based only on self-report questions. This allows easy and quick assessment of the potential risk of Complex PTSD, though self-report methods are insufficient for diagnosing patients in a clinical setting. Another way to assess Complex PTSD is using the Symptoms of Trauma Scale (SOTS; Ford et al., 2015), which includes a self-report and a clinical evaluation. This instrument is based on the DSM-IV and DSM-5 definitions of PTSD and includes additional questions, developed by the authors, about Complex PTSD symptoms based on the first ICD-11 proposal of Complex PTSD. The questionnaire also contains questions on dissociation, sexual behavior, beliefs, and somatic symptoms. The questionnaire consists of two parts: an interview with a trained professional and 12 self-report questions. However, when comparing the two parts of the instrument (the clinical interview and the questionnaire), discrepancies were found between the psychologist's assessment of the symptoms and the patient's self-assessment (Ford et al., 2017). The results also showed that the instrument differentiated poorly between Complex PTSD and PTSD.

Clinical interviews for Complex PTSD. The structured interview is considered the "gold standard" for posttraumatic stress assessment (Siqveland et al., 2017). During the interview, a trained clinician should perform an in-depth and multifaceted evaluation of possible symptoms, allowing one to make informed diagnostic decisions. To this day, there are two clinical interviews for the assessment of Complex PTSD. The Complex PTSD Item Set addition to the CAPS (COPISAC; Lechner-Meichsner & Steil, 2021) is a semi-structured interview based on DSM-5. The interview uses questions to assess symptoms of disturbances in self-organization in conjunction with the Clinician-Administered PTSD Scale for DSM-5 (CAPS5). However, this interview has not yet been empirically tested, and its validity and practical usefulness cannot be further explored at this moment.

Another clinical diagnostic tool for Complex PTSD is the International Trauma Interview (ITI; Roberts et al., 2019). This interview is designed to identify symptoms of PTSD and Complex PTSD and can be administered by a trained professional. The interview covers the same symptom clusters of PTSD and Complex PTSD as the International Trauma Questionnaire but collects more detailed information, such as when the symptoms started, their duration and frequency, and whether they are related to the index trauma. Currently, there are only a few validation studies, but the findings report good initial psychometric results with high inter-rater reliability and convergent validity (Bondjers et al., 2019; Vindbjerg et al., 2023).

To summarize, studies show that self-report questionnaires, particularly the International Trauma Questionnaire, are suitable for assessing the risk of PTSD and Complex PTSD. But in order to better understand the impact of trauma and make reliable diagnostic decisions, there is a need for clinically administrated structural interviews, such as the International Trauma Interview. However, as clinically administered instruments for Complex PTSD are still relatively new, there is still a lack of empirical evidence for these instruments.

Specificity and sensitivity of Complex PTSD measures. Assessing Complex PTSD is a challenging task that requires accurate and reliable instruments. To achieve the most precise diagnosis, the measures need to be both specific and sensitive. Specificity, in this case, refers to the ability of the instruments to differentiate between Complex PTSD and other disorders, while sensitivity refers to the ability of the instruments to consistently identify

Complex PTSD symptoms. A recent review by Seiler et al. (2023) highlighted that there is still a need for more empirical studies on the various assessment instruments of Complex PTSD as the results from existing data are not concise and should be tested in more various samples and populations. Additionally, these studies should focus on whether these instruments are appropriate to differentiate not only PTSD and Complex PTSD but also Complex PTSD from other stress-related disorders, as well as highly comorbid disorders such as borderline personality.

Moreover, there is still a lack of evidence for the sensitivity of these measures for repeated measurements. This lack of evidence may lead to inconsistencies in identifying Complex PTSD symptoms over time, resulting in inaccurate diagnosis and treatment planning. Furthermore, measures such as the International Trauma Questionnaire (ITQ) or the International Trauma Interview (ITI) use a diagnostic algorithm created by an expert group but are not based on previous empirical data or theories. This creates the need for more empirical evidence to validate these algorithms and determine whether a specific algorithm for certain groups, such as based on gender, age, or nationality, should be applied. The lack of specificity in these algorithms may limit the accuracy of the assessment and diagnosis of Complex PTSD in various samples.

To summarize, with the new diagnosis of Complex PTSD, we also see the need for new assessment instruments. Empirical evidence shows that currently, the most reliable self-report instrument for Complex PTSD assessment is the International Trauma Questionnaire. Moreover, there is growing empirical support for the clinically administered International Trauma Interview. However, further research is still needed to ensure the appropriateness of these instruments, especially in different populations and samples.

1.3. Complex PTSD risk factors

Another important focus of this dissertation was the risk factors of Complex PTSD. Evaluating risk factors for Complex PTSD is crucial because it helps identify individuals more susceptible to developing this disorder. Understanding these factors would allow us to improve the existing assessment tools, as well as arrange for early intervention, tailored treatment, and prevention strategies, ultimately improving mental health outcomes and reducing the psychological burden of trauma-exposed individuals. Based on

the existing literature, this dissertation focused on three main groups of potential risk factors: trauma-related, demographic, and social risk factors.

Trauma-related risk factors. Trauma-related disorders differ from all other mental health disorders in that they require the symptoms to be associated with an identifiable potentially traumatic event – an event of an extremely threatening or horrific nature. This creates a greater need for research on specific trauma-related aspects and how or if they can differentiate between PTSD and Complex PTSD.

Research has shown that the nature and duration of traumatic events are important factors in the development of PTSD, with interpersonal traumatic events, such as rape, other sexual assault, and stalking, being linked with the highest PTSD risk and burden (Kessler et al., 2017). However, studies including the new diagnosis of Complex PTSD show that these events may be more strongly related to Complex PTSD and not PTSD. Møller et al. (2020) found that exposure to interpersonal trauma (e.g., sexual and physical abuse) was associated with a higher likelihood of meeting the criteria for Complex PTSD than exposure to non-interpersonal trauma. Similar results were found by Contractor et al. (2020), who, in addition to previously mentioned interpersonal trauma, also found that emotional abuse, neglect and witnessing traumatic events are also related to stronger Complex PTSD reactions. Furthermore, individuals exposed to complex and long-lasting interpersonal trauma (e.g., childhood abuse and neglect) were more likely to meet the criteria for Complex PTSD than those exposed to single-event trauma (Hyland, et al., 2017). In contrast, those exposed to single-event trauma were more likely to meet the criteria for PTSD. Additionally, those who have experienced potentially traumatic events during their childhood show stronger PTSD and Complex PTSD reactions than those who have experienced potentially traumatic events only in adulthood (Frewen et al., 2019). Even so, some studies also show that adverse childhood experiences, including physical and sexual abuse, have a stronger relation with PTSD symptoms than Complex PTSD (Karatzias et al., 2020; Truskauskaite et al., 2023). Based on these contradictory results, we still see a need for future research and more concise evidence on how PTSD and Complex PTSD are related to different trauma exposures and whether we can definitively differentiate between these disorders based solely on trauma type.

There is also a scientific discussion on whether an identifiable traumatic experience is necessary to diagnose Complex PTSD. A recent study

by Hyland et al. (2021) explored the impact of trauma exposure on the rates of ICD-11 PTSD and Complex PTSD diagnoses. They found that requiring trauma exposure to diagnose PTSD and Complex PTSD led to lower diagnosis rates than a system that only required the presence of symptoms. This suggests that individuals who have not reported experiencing traumatic events but have significant symptoms may not be diagnosed under the current diagnostic criteria despite experiencing significant PTSD or Complex PTSD symptoms. Related to the issues raised by Hyland et al. (2021), another concern is whether we can diagnose Complex PTSD if the person cannot remember the traumatic event. This may occur due to physical trauma, such as head injury, or if the event happened early in childhood when the individual's memory system was not fully developed. The approach taken by ICD-11, which focuses on clinical guidance rather than a strict definition and classification of traumatic events, may present a practical solution to address some of the difficulties associated with previous and current efforts to define traumatic exposure and its significance in diagnosing PTSD and Complex PTSD.

In conclusion, while research has highlighted the importance of differentiating between PTSD and Complex PTSD based on the nature and duration of traumatic experiences, these results are still under debate. There are concerns about the potential problems related to applying strict diagnostic criteria in clinical practice, particularly in cases where the person cannot remember the traumatic event. Further research is needed to clarify these diagnostic issues in order to provide effective treatment for those who experience Complex PTSD symptoms regardless of whether the person can clearly identify a traumatic experience or the type of trauma exposure.

Demographic risk factors. Researchers also notice gender and age-related issues in trauma-related diagnoses. Studies consistently show that females are two times more likely to experience PTSD symptoms than men (Kilpatrick et al., 2013; Olff, 2017), but the results on Complex PTSD symptom manifestation across genders are more inconsistent, with some studies showing similar results to PTSD while other studies showing no differences between genders (McGinty et al., 2021). Researchers trying to explain the possible gender differences in trauma-related disorders usually emphasize trauma-related factors and social aspects. For example, women are more likely to experience traumatic events more commonly associated with Complex PTSD, such as sexual abuse and domestic violence, leading to a higher prevalence of Complex PTSD in women than in men (Kira et al., 2019). However, there is a concern that the current diagnostic criteria for Complex

PTSD may not adequately capture the experiences of men exposed to traumatic events. For example, the diagnosis of Complex PTSD may include feelings of shame and guilt, which may not be as commonly reported by men who have experienced trauma (Briere & Scott, 2015). Furthermore, gender-related factors, such as gender roles, power dynamics, and discrimination, can also affect how the individual experiences and copes with trauma, leading to different manifestations of Complex PTSD symptoms and ways a person may disclose trauma-related symptoms, especially in sexual assault cases (Alaggia, 2005). We can see that crucial gender-sensitive research is still needed in order to accurately diagnose and provide appropriate help for both women and men experiencing Complex PTSD.

Another demographic factor to consider is a person's age and the age when a potentially traumatic event occurred. Research shows that young and middle-aged adults have higher rates of PTSD when compared with older adults (Reynolds et al., 2016), but the findings regarding Complex PTSD and age are again inconsistent. For example, a study conducted in four different countries found that in the UK and Israeli samples, the highest Complex PTSD rates were among the 18-34 year-old group and declined with age, but in Irish and US samples, the opposite was noticed, with the highest Complex PTSD rates recorded in 44-54 year-old group (McGinty et al., 2021). Compared to younger adults, older adults typically exhibit greater resilience when encountering adverse situations and stressful events (Böttche et al., 2012; MacLeod et al., 2016), which could explain the lower Complex PTSD rates in older samples. However, studies also show that older adults tend to express their psychological concerns through somatic complaints, and they might also exhibit a greater reluctance to acknowledge mental health issues, potentially due to fear of stigma (Pless Kaiser et al., 2019). The inconsistent findings across different populations could also be explained by a study conducted in seven countries that showed that country of residence was a significant determinant of mental health among older people, which may suggest the presence of geographical and cultural factors in the expression of trauma-related disorders across the life-span (Eslami et al., 2017). Furthermore, it is also important to note not only the age of participants but also when the traumatic event has occurred. Studies show that Complex PTSD is more commonly diagnosed in adults who have experienced trauma during childhood (Kazlauskas et al., 2018; Knefel et al., 2019; Krammer et al., 2016), but it can also manifest in adults who have experienced trauma in other stages of life, although the manifestation may differ from those who have experienced childhood trauma (Kira et al., 2019).

In conclusion, the effects of gender and age on Complex PTSD symptoms are still inconsistent. Further research is needed to better understand the underlying social and cultural differences associated with gender and age and how these factors may affect Complex PTSD symptoms.

Social risk factors. Another significant cluster of risk factors when researching Complex PTSD is social risk factors, such as cultural differences and social support. Research shows that the manifestation of Complex PTSD symptoms may vary across different cultures. One study found that in some cultures, such as Latin America, the concept of trauma is poorly understood, and people are more likely to express their distress through somatic complaints rather than psychological symptoms (Abarca et al., 2023). Similarly, in some cultures, symptoms of anxiety and depression may be more commonly reported than symptoms of dissociation, which are more commonly associated with Complex PTSD (Gallo-Silver & Rasmussen, 2017). These cultural differences in symptom expression can make diagnosing Complex PTSD challenging in multicultural societies and highlight the need for national Complex PTSD studies and research on Complex PTSD symptom manifestation in different populations.

Social factors may also affect the development and manifestation of Complex PTSD. Minority stress theory suggests that individuals who belong to marginalized groups, such as sexual and gender minorities, may experience chronic stress and trauma as a result of discrimination and social oppression, which can lead to Complex PTSD (Cardona et al., 2021). Similarly, the social context of trauma, such as the presence of social support or lack thereof, can affect the severity and persistence of trauma-related symptoms. Studies show that those with a higher risk for Complex PTSD exhibit lower levels of perceived social support, even when compared with a PTSD group (Simon et al., 2019). One contributing factor for lower perceived social support could be that traumatic events commonly associated with Complex PTSD, such as sexual and childhood trauma, are more challenging to disclose (Bedard-Gilligan et al., 2012) and are linked to increased negative emotions, such as shame (MacGinley et al., 2019), so trauma-exposed people may feel that they would not be understood or even be blamed for what happened. This combination of avoidance of disclosure and lack of social support may lead to reluctance to seek help and stronger avoidance reactions and thus may result in more complex and persistent trauma-related symptoms.

However, while there is a growing body of empirical studies exploring risk factors of Complex PTSD, there has been relatively little empirical research investigating the role of social factors, such as social support, discrimination, and the role of disclosure, in the development and maintenance of Complex PTSD (Ogle et al., 2013; Shevlin et al., 2017). This lack of research is concerning, given that social factors have been shown to play a crucial role in the development and maintenance of other mental health conditions, such as depression, anxiety, and even PTSD (Matthews & Gallo, 2011).

Cascade model of Complex PTSD. One attempt to conceptualize the risk factors of Complex PTSD is the cascade model of Complex PTSD proposed by Andreas Maercker, which focuses on childhood trauma and maltreatment, attachment, and socio-interpersonal factors (Maercker et al., 2022). The cascade model suggests that Complex PTSD symptoms result from a complex interaction between biological, psychological, and social factors. Biological factors, such as genetics, neurochemistry, and neuroendocrinology, can influence how an individual responds to trauma and may increase the risk of developing Complex PTSD. Psychological factors, such as personality traits, coping strategies, and self-efficacy, can also influence the severity and duration of Complex PTSD symptoms. Finally, social factors, such as cultural norms, social support, and discrimination, can affect how an individual experiences and copes with trauma. The cascade model highlights the importance of considering the unique social and interpersonal context in which trauma occurs and how this context may shape an individual's adaptation to traumatic stress over time. The model also emphasizes the potential role of attachment and social support in mitigating the negative impact of trauma and promoting resilience. However, to this day, there is only one empirical study to test this theory (Maercker et al., 2022). Study results show that childhood trauma and maltreatment can lead to stronger Complex PTSD symptoms through attachment anxiety and social factors, such as avoidance of trauma disclosure, lack of social acknowledgement and social support. However, trauma exposure in adulthood did not follow the full cascade model, so empirical evidence is still needed to understand the underlying processes of Complex PTSD symptoms fully.

In conclusion, the context of Complex PTSD diagnosis is complicated and multifaceted, with biological, psychological, and social factors interacting and exacerbating each other over time. The cascade model of Complex PTSD proposed by Andreas Maercker provides a valuable framework for

understanding the complex interplay of these factors. Even so, there is still a significant gap in our knowledge and further research is needed to improve our understanding of how various risk factors may affect Complex PTSD manifestation.

1.4. Knowledge gap and scientific novelty

Because Complex PTSD is a newly defined disorder, studies of Complex PTSD are relatively new and rapidly evolving within the field of psychotraumatology. While there has been progress in understanding the underlying mechanisms of Complex PTSD, there are still significant knowledge gaps, and the studies presented in my thesis address the following aspects.

A significant knowledge gap in the field concerns the challenges associated with identifying Complex PTSD as the majority of the instruments used to diagnose Complex PTSD rely on self-reporting, which raises concerns about their accuracy and suitability in a clinical setting. Additionally, while diagnostic algorithms for ICD-11 Complex PTSD assessment instruments are developed by experts, empirical evidence is needed to validate them and determine whether they should be adapted for different subgroups based on gender, age or culture. To address this knowledge gap, I aimed to evaluate Complex PTSD symptom structure and the psychometric properties of Lithuanian versions of a self-report instrument (the International Trauma Questionnaire) and a clinical interview (the International Trauma Interview) in the general population and clinical samples across different age and gender groups. Furthermore, there is a need to better understand risk factors that could effectively differentiate between PTSD and Complex PTSD. In this dissertation, I aimed to research different samples and various trauma-related and social risk factors to determine if specific factors such as trauma type, disclosure or social support have a stronger connection to Complex PTSD than PTSD and whether these results are the same across the different samples. Such research is critical as it would help to identify individuals with Complex PTSD more swiftly and accurately and provide more focused interventions.

The scientific novelty of the thesis lies in several aspects. Firstly, the research presented in my dissertation is based on the newly added diagnosis of Complex PTSD in the ICD-11 classification, which is a departure from the previous diagnostic classification of PTSD. Secondly, my thesis utilizes diverse samples, including the general population, people from the primary

mental health system, and trauma-exposed help-seeking samples. This approach allows for a comprehensive understanding of the prevalence and clinical presentation of Complex PTSD symptoms across different samples. Thirdly, my dissertation employs a new structural interview for assessing Complex PTSD – the International Trauma Interview. This instrument is a novel addition to the field of diagnostic assessment and has the potential to provide greater accuracy in diagnosing Complex PTSD.

In conclusion, Complex PTSD is a newly defined mental disorder that still needs to be studied extensively. While research on Complex PTSD is growing daily, significant knowledge gaps remain. Moreover, the importance of this dissertation is highlighted by the need for studies on factors that would help to differentiate between trauma-related disorders more swiftly, as well as the previously mentioned challenges associated with identifying Complex PTSD. The scientific novelty of using the newly defined diagnosis of ICD-11 Complex PTSD, a diverse range of samples, and new diagnostic assessment tools make this thesis a significant contribution to the field of psychotraumatology.

1.5. Aims of the thesis

The aim of this thesis was to gain knowledge of the assessment, prevalence, and risk factors of ICD-11 Complex posttraumatic stress disorder. Four empirical studies form the basis for this thesis and address the following objectives:

1) to evaluate psychometric properties and the diagnostic agreement of the assessment measures for PTSD and Complex PTSD;
2) to evaluate how trauma-related risk factors, such as trauma type and time of occurrence, can differentiate between PTSD and Complex PTSD;
3) to evaluate how demographic characteristics, such as gender and age, are associated with the risk for Complex PTSD;
4) to evaluate the role of social risk factors, such as trauma disclosure and social support, on the symptoms of Complex PTSD.

2. METHODS

This dissertation is based on the data from three empirical studies conducted at the Center for Psychotraumatology, Institute of Psychology at Vilnius University, Lithuania, and four published papers. The author of this thesis contributed to all empirical studies: for two of the studies by contributing to data collection, data analysis and is the first author of two published papers (Paper I and Paper II) based on the results from these studies, and by contribution to planning of the third study, recruitment of participants, data curation, data analysis, publication writing, and is a co-author of two published papers (Paper III and Paper IV) based on the results from this study.

2.1. Participants

The main demographic characteristics of the study samples are presented in Table 1. Complete sample characteristics can be found in the publications.

Table 1. *Characteristics of the Study Samples*.

	Paper I (*N* = 885)		**Paper II (*N* = 280)**		**Papers III and IV (*N* = 103)**	
Variable	*n*	*%*	*n*	*%*	*n*	*%*
Gender						
Male	324	36.6	63	22.5	17	16.5
Female	561	63.4	217	77.5	86	83.5
Age						
Mean (SD)	37.96 (14.67)		39.48 (13.35)		32.64 (9.36)	
Range	18–85		18–84		18–54	
Residence						
Urban	712	80.5	222	79.6	97	94.2
Rural	169	19.1	57	20.4	6	5.8
Employment						
Employed	673	76.0	179	65.1	51	49.5
Unemployed	205	23.2	96	34.9	21	20.4

Participants in Paper I

Participants in Paper I were a general population sample from various regions of Lithuania. Inclusion criteria for this study were: (1) ⩾18 years old; (2) understanding of the Lithuanian language. Overall, 1,146 adults were invited to participate using the quota sampling based on national census data, of which 77.2% fully completed the questionnaires.

In total, data from 885 participants were included in Paper I, of which 561 (63.4%) were female, mean age was 37.96 (*SD* = 14.67), ranging from 18 to 85 years. The majority of study participants were from an urban area (*n* = 712, 80.5%) and were employed (76.0%, *n* = 673) and around half of the participants (44.7%, *n* = 396) had a university degree.

Participants in Paper II

Participants in Paper II were from a clinical sample recruited in primary mental health care settings across Lithuania, such as private psychologists' practice, primary mental health centers, hospitals and out-patient mental health clinics. The inclusion criteria were: (1) ≥ 18 years old; (2) exposure to at least one lifetime traumatic experience; (3) full completion of the study assessments; and (4) currently in treatment or seeking treatment for mental health problems. Overall, 348 adults provided written informed consent for participation in the study, with a response rate of 81.1%. The data of 68 participants were not included in the analysis because they reported no previous trauma experiences (*n* = 29) or did not complete the PTSD or Complex PTSD assessments (*n* = 39).

The final sample used in Paper II comprised 280 participants; 217 (77.5%) were females, with a mean age of 39.48 years (*SD* = 13.35) and an age range of 18–84 years. The majority of participants (79.3%, *n* = 222) lived in an urban area, around two-thirds (63.9%, *n* = 179) were employed, and around one-third (37.9%, *n* = 106) had a university degree.

Participants in Paper III and Paper IV

Participants in Papers III and Paper IV were self-referred trauma-exposed participants. Inclusion criteria for the study were: (1) ≥ 18 years old, (2) experience of at least one traumatic event during their lifetime, (3) trauma exposure at least three months or more prior to the study, (4) substantial knowledge of the Lithuanian language. Overall, 192 participants registered to participate in this study. However, 89 participants were excluded for the following reasons: 1) the index traumatic event did not meet the ICD-11

criteria for a PTSD/Complex PTSD qualifying traumatic event (29.7%), and 2) refused to participate or could not be reached before or after completing the survey (16.7%).

The final sample included in Paper III and Paper IV data analysis comprised 103 participants, aged 32.64 years (SD = 9.36), aged 18 to 54 years. The majority were female (83.5%), living in an urban area (94.2%), and had a university degree (77.7%). Almost half were employed (49.5%), 15.5% were studying and working part-time, and 14.6% were students. Around half of the participants had a long-term relationship (45.6%). Nearly half of the sample were receiving mental health services from a psychologist or a psychiatrist (47.6%), more than a third had been seeing a mental health professional >12 months ago (33.0%), and 19.4% had never received mental health services.

2.2. Procedures

Procedures in Paper I

Participants in Paper I were recruited by 63 trained interviewers, 53 psychologists and 10 trained psychology students at various locations across Lithuania (e.g., home, work, community centers settings, etc.). After obtaining informed consent to participate in the study, the participants were asked to fill in the study questionnaires using a paper and pen method. The researchers were available for the participants for questions during the data collection. Participants were informed that they could withdraw from the study at any time.

Procedures in Paper II

Participants in Paper II were recruited by 20 clinical psychologists and 3 supervised clinical psychology master program students. The study was conducted in private psychologists' practices, primary mental health centers, hospitals and out-patient mental health clinics across Lithuania. After obtaining informed consent to participate in the study, the participants were asked to fill in the self-report measures using pen and paper. The researchers were available for the participants for questions during the data collection. Participants were informed that they could withdraw from the study at any time.

Procedures in Papers III and IV

Recruitment of the participants in Paper III and Paper IV was done using social communication platforms (e.g. Facebook, University webpage), the information about the study was also shared with mental health professionals across Lithuania. Firstly, all participants were screened for eligibility for the study by filling in a short online registration form. If they met the inclusion criteria, participants were invited to complete an online self-report questionnaire using a secure survey platform. All participants provided informed consent at the beginning of the survey. After the participant completed the online survey, a diagnostic interview was scheduled. All diagnostic interviews were conducted by a team of six clinical psychologists or a supervised master's student in clinical psychology who were all trained to administer and score the International Trauma Interview (ITI) by the instrument's authors. Interviewers were supervised throughout the study by one of the authors of ITI regarding the general coding issues for more complex cases. Regular team meetings to discuss the general ITI coding issues were organized to ensure accurate administration and scoring of the ITI interviews. The interviewers were blinded to the self-report survey data provided by the participants. Due to restrictions related to the COVID-19 (severe acute respiratory syndrome coronavirus 2, SARS-CoV-2) pandemic, all interviews were conducted via videoconferencing. Interviews with the participants who gave their consent were video recorded (98% of the total sample).

2.3. Measures

This section describes the measures used in the studies included in this thesis. The summary of the study measures is presented in Table 2.

Trauma exposure (Paper I, Paper II, Paper III and Paper IV)

Lifetime trauma exposure in Paper I, Paper II and Paper III was measured using the Revised Life Events Checklist (LEC-R) (Ben-Ezra et al., 2018; Weathers et al., 2013). LEC-R is comprised of 18 potentially traumatic events (e.g., natural disaster, assault, abuse in childhood). Participants had to indicate whether the traumatic event 'Happened to me', 'Witnessed it', 'Learned about it', 'Not sure' and 'Doesn't apply to me'. In line with ICD-11, exposure to trauma was considered if the participants either experienced the event themselves or witnessed it. The sum of all traumatic experiences was used to estimate cumulative trauma exposure. The Lithuanian version of the LEC-R was used in several studies previously (Kazlauskas et al., 2018;

Truskauskaite-Kuneviciene et al., 2020). The complete list of potentially traumatic events is presented in Paper I.

In Paper IV index trauma was identified using the International Trauma Interview (ITI) (Roberts et al., 2019), during which the participants were asked to describe "the worst traumatic event that happened to them".

Table 2. *The Measures of the Study.*

Measure	*Paper I*	*Paper II*	*Paper III*	*Paper IV*
1. Life Events Checklist (LEC-R)	x	x	x	
2. The International Trauma Questionnaire (ITQ)	x	x	x	
3. The Disclosure of Trauma Questionnaire (DTQ-12)	x	x		
4. Social Acknowledgment Questionnaire (SAQ)		x		
5. The International Trauma Interview (ITI)			x	x
6. Patient Health Questionnaire-9 (PHQ-9)			x	
7. Generalized Anxiety Disorder-7 (GAD-7)			x	
8. World Health Organization Well-Being Index (WHO-5)			x	
9. Difficulties in Emotion Regulation Scale (DERS)			x	
10. Experience in Close Relationship Scale – Short Form (ECR-S)			x	
11. Borderline Pattern Scale (BPS)			x	x
12. Rosenberg Self-Esteem Scale (RSES)			x	
13. Dissociative Symptoms Scale (DSS)			x	
14. Suicidal Behaviors Questionnaire-Revised (SBQ-R)				x

Self-reported PTSD and Complex PTSD symptoms (Paper I, Paper II, Paper III)

The International Trauma Questionnaire (ITQ) (Cloitre et al., 2018), is a self-report measure comprising 12 symptom related questions and 6 functioning related questions. PTSD symptoms related clusters as defined in the ICD-11 are re-experiencing (Re), avoidance (Av) and sense of threat (Th) (two items per cluster); and three DSO symptoms related clusters are affective dysregulation (AD), negative self-concept (NSC) and disturbances in relationships (DR) (two items per cluster). Functional impairment regarding

social life, occupational or any other important part of life was measured twice – for both PTSD and DSO symptoms. All the ITQ items were rated on a five-point scale from 0 (=Not at all) to 4 (=Extremely) in association with the index traumatic event. The endorsement of a symptom cluster or functional impairment is defined as a score of ⩾2. According to the diagnostic algorithm of the ITQ (Cloitre et al., 2018), the probable diagnosis of PTSD requires the endorsement of at least one of two symptoms from each PTSD cluster and the endorsement of functional impairment related to these symptoms. A probable CPTSD diagnosis is endorsed if a person meets the criteria for PTSD and all three DSO symptom clusters are endorsed, along with at least one DSO-related functional impairment item.

PTSD and Complex PTSD symptoms based on clinical interview (Paper III, Paper IV)

The International Trauma Interview (ITI) is a semi-structured clinical interview comprised of the description of an index traumatic event followed by two main parts for the assessment of ICD- 11 PTSD and DSO symptoms (Roberts et al., 2019). The structure of the first section of the ITI is based on the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) and includes three PTSD symptom clusters with two items per cluster: (1) nightmares or flashbacks as re-experiencing (Re) symptoms; (2) avoidance of internal or external reminders of traumatic experience (Av); and (3) hypervigilance or startle reactions as a current sense of threat (Th). The frequency and intensity of each PTSD symptom over the last month were evaluated on a five-point scale from 0 (=Absent) to 4 (= Extreme/incapacitating). The first section also includes functional impairment questions concerning the impact of PTSD symptoms on a person's social functioning, and occupational functioning or other important areas of life. Functional impairment items are scored from 0 = (No adverse impact) to 4 (= 'Extreme impact, little or no functioning).

The second section of the ITI includes three DSO symptom clusters with two items per cluster: (1) hyper- (heightened emotional reactions) or hypo-activation (emotional numbing or dissociation) as affective dysregulation when confronted with minor stressors (AD); (2) persistent feelings of being a failure or worthless as negative self-concept (NSC); and (3) persistent feelings of being distant from others or having difficulties in maintaining close relationships as disturbances in relationships (DR). The frequency and intensity of each DSO symptom was assessed on a five-point scale from 0 = 'Not at all' to 4 = 'Extremely'. The ITI provides guidelines for

the evaluation of the severity of each symptom. The second section also includes functional impairment items on the impact of the DSO symptoms on a person's social functioning, and occupational functioning or other important areas of life. To be included as part of the CPTSD diagnosis, the DSO symptoms need to be identified as having started or gotten worse after exposure to a traumatic event.

For the endorsement of a PTSD diagnosis, at least one PTSD symptom per symptom cluster must be present for no less than several weeks at least at a moderate level (i.e., severity score ≥ 2), and with at least moderate impact on respondents' occupational or social functioning (i.e., severity score ≥ 2). The DSO criterion is endorsed if at least one DSO symptom per symptom cluster is present at least moderately for at least 3 months with at least moderate functional impairment. For endorsement of a CPTSD diagnosis, full PTSD criteria, and all DSO symptom clusters, as well as DSO-related functional impairment must be endorsed. The total ITI score may range from 0 to 24 for each PTSD and DSO part, and from 0 to 48 for the total CPTSD.

Additionally, the ITI includes a validity question that is not included in the total scoring but is relevant for diagnostic procedures. The general validity has to be evaluated by an interviewer on a scale from 'Excellent' (=0) to 'Invalid responses' (=4). In the current study, the validity of the interviews was scored from 'Excellent' (=0) to 'Fair' (=2). The ITI can be administered and scored only by a trained clinician or researcher who has completed the ITI training. The ITI administration typically ranges from 30 to 90 minutes, depending on the complexity of the case. The ITI at the time of the empirical data collection in the study was under evaluation and was only available for researchers engaged in the validation process.

Mental health indicators (Paper III and Paper IV)

Depression. The Patient Health Questionnaire-9 (PHQ-9) is a widely used nine-item self-report measure for the assessment of depression (Kroenke et al., 2001). Items are based on the DSM-IV diagnostic criteria for depression, with the evaluation on how often each symptom has bothered a person over the last two weeks, on a four-point scale from 0 = 'Not at all' to 3 = 'Nearly every day'. The maximum score for the PHQ-9 is 27, with higher scores representing a more severe risk for depression.

Anxiety. The Generalized Anxiety Disorder-7 (GAD-7) is a seven-item self-report questionnaire for the screening of generalized anxiety symptoms (Spitzer et al., 2006). Respondents report how often each symptom has bothered them over the last two weeks, on a four-point scale from 0 = 'Not at all' to 3 = 'Nearly every day'. Higher scores represent a higher risk for generalized anxiety.

Psychological well-being. The World Health Organization Well-Being Index (WHO-5) is a five-item self-report scale that assesses subjective psychological well-being over the last two weeks (Topp et al., 2015). Each item is evaluated on a six-point scale, ranging from 0 = 'At no time' to 5 = 'All of the time'. The raw WHO-5 score ranging from 0 to 25 is multiplied by 4 so the range of the final WHO-5 index score ranges from 0 to 100, with higher scores indicating better well-being.

Borderline Personality Pattern. The Borderline Pattern Scale (BPS) is a 12-item self-report measure for the borderline personality pattern qualifier, newly presented in the ICD-11. The BPS assesses components of borderline personality functioning, such as person's affective instability, maladaptive self-functioning, maladaptive interpersonal functioning, and maladaptive regulation strategies (Oltmanns & Widiger, 2019). Individuals are asked to respond to the items on how they feel or behave on a five-point scale, ranging from 1 = 'Strongly disagree' to 5 = 'Strongly agree'. A higher score indicates stronger borderline personality pattern symptoms.

Dissociative Symptoms. The Dissociative Symptoms Scale (DSS) is a 20-item self-report measure aimed at assessing dissociative symptoms during the last week, such as depersonalization, derealization, gaps in awareness of memory, and dissociative re-experiencing (Carlson et al., 2018). All items were evaluated on a five-point scale, ranging from 'Not at all' (0) to 'More than once a day' (4). Higher scores indicate more intense dissociative symptoms.

Suicidal Behaviors. The Suicidal Behaviors Questionnaire-Revised (SBQ-R) (Osman et al., 2001) is a brief self-report measure used to evaluate four dimensions of suicidality. The first dimension is lifetime suicide ideation, and suicide attempts evaluated using a four-point scale, from 'never' (= 1) to 'I have attempted to kill myself' (= 4). The second dimension is the frequency of suicide ideation evaluated using a five-point scale from 'never' (= 1) to 'very often' (= 5). The third dimension is the threat of suicidal behavior

evaluated by how often a person communicated about it to other people, using a three-point scale, from 'no' (= 1) to 'yes, more than once' (= 3). The last dimension includes the likelihood of suicidal behavior in the future, evaluated on a seven-point scale from 'never' (= 0) to 'very likely' (=6). The final score of the SBQ-R is calculated by summing all items (ranging from 3 to 18). A higher score indicates a more severe suicide risk.

Difficulties in emotion regulation. The Difficulties in Emotion Regulation Scale (DERS) is a thirty-six-item self-report questionnaire for evaluating clinically relevant difficulties in emotion dysregulation (Gratz & Roemer, 2004). The DERS assesses emotional difficulties, such as non-acceptance of emotional responses, difficulty engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. Each item is evaluated on a five-point scale, ranging from 1 = 'Almost never' to 5 = 'Almost always'. Higher scores of the overall DERS suggest greater problems with emotion regulation.

Social factors related to PTSD and CPTSD (Paper I, Paper II, Paper III)

Disclosure of trauma. The Disclosure of Trauma Questionnaire (DTQ-12) was used to measure avoidance of trauma disclosure (Müller & Maercker, 2006). The DTQ-12 comprise 12 items forming three subscales: (1) Reluctance to talk, (2) Urge to talk and (3) Emotional reactions, with four items per subscale. Participants were asked to respond according to how they felt about each item in relation to the experienced index traumatic event and were asked to rate each item on a six-point scale ranging from 0 (=I agree not at all) to 5 (=I agree completely). Total scores for the three subscales were calculated by adding all item's scores included in the subscales. Higher urge to talk subscale scores indicates more willingness to disclose traumatic experiences. In contrast, higher Emotional reactions and Reluctance to talk subscales scores indicate greater difficulty to talk about the traumatic experiences.

Social acknowledgment. Social acknowledgment from family and friends was measured using items extracted from the Social Acknowledgment Questionnaire (SAQ) (Maercker & Müller, 2004). In this study, we used only the five-item Family and Friends Disapproval subscale, which is related to social acknowledgement from family and friends, to estimate participant's interaction with the closest social context. Participants rated on a Likert scale

ranging from 0 (completely disagree) to 3 (completely agree) how much their friends or family members support or understand them and their experiences concerning the most troubling traumatic experience. The total score was computed by summing all responses: higher scores indicated stronger social disapproval from friends and family.

Experience in Close Relationships. The Experience in Close Relationship Scale – Short Form (ECR-S) is a 12-item self-report measure used to assess adults' attachment dimensions (Wei et al., 2007). The measure consists of two subscales: attachment anxiety and attachment avoidance, which measure anxious and avoidant attachment styles. The ECR-S items are related to how, in general, an individual feels in romantic relationships, with the evaluation for each item on a seven-point scale, ranging from 1 = 'Strongly disagree' to 7 = 'Strongly agree', with four reversed items. Higher scores indicated stronger relationship anxiety and avoidance.

Self-esteem. The Rosenberg Self-Esteem Scale (RSES) is a 10-item self-report measure used to assess a person's subjective worthiness as a human being (Rosenberg, 1965). All items were rated on a four-point scale, ranging from 1 = 'Strongly disagree' to 4 = 'Strongly agree', half of the items are reverse-coded. Higher scores of the RSES indicate higher self-esteem.

2.4. Data analyses

The prevalence of potentially traumatic events, PTSD and Complex PTSD was evaluated using descriptive statistics.

The ITQ and ITI structure was tested using Confirmatory Factor Analysis (CFA) on alternative Complex PTSD structure models. The measurement invariance (Configural, Metric and Scalar) tests were used to check whether the ITQ can be used for both genders (female vs. male) and across different age groups, such as emerging adults (18–29 years old) and older (>29 years). The convergent and discriminant validity of the ITI was tested by applying the Structural Equation Modelling (SEM) approach. Krippendorff's alpha (α) test was used to evaluate interrater agreement. Cohen's kappa (κ) was calculated to measure the diagnostic consistency across the ITI and the ITQ, as well as the endorsement of each symptom cluster.

The trauma-related and social risk factors of PTSD and Complex PTSD were assessed using a multivariable binary logistic regression. The

mediating role of social factors on the relationship between traumatic exposure and PTSD and Complex PTSD was tested by applying the Structural Equation Modelling (SEM) approach. Parallel mediation analyses were performed to analyze to what extent PTSD, Complex PTSD and borderline personality pattern mediate the effect between sexual trauma and suicide risk.

2.5. Research ethics

All studies were approved by the Institutional Psychological Research Ethics Committee (2016/04/05 Nr.8 (Paper I and Paper II) and 2020/01/16 Nr.33 (Paper III and Paper IV)). All participants provided informed written consent before participating in the studies. All participants were informed about the study's objectives and received information about psychological help options. Researchers were also trained on how to react if participants experienced adverse emotional reactions during the study.

All Participants were asked to disclose their traumatic experiences, which may trigger negative emotional reactions and memories of painful experiences. Although both studies include sensitive information (mental health difficulties, traumatic experiences, stressors, etc.), previous studies have shown that disclosing this information during research studies does not cause significant harm to the participants (van der Velden et al., 2013). All participants were provided with information about available mental health services to mitigate any potential risk.

Studies presented in Paper I and Paper II offered no incentives to the participants, while during the study presented in Paper III and Paper IV, individual feedback regarding mental health and contact information for mental health services was provided for all participants.

3. RESULTS

The main findings from the four papers were as follows.

3.1. Trauma, PTSD and Complex PTSD prevalence

In the Lithuanian general population sample, 81.4% of participants reported exposure to at least one potentially traumatic event in their lifetime. Participants reported an average of 3.41 (*SD* = 2.17) types of traumatic events, ranging from zero to 18. The most common traumatic experiences in the general population sample were transportation accidents (42.6%), physical assault (40.0%) and sudden accidental death of a loved one (28.7%) (Paper I). In a trauma-exposed clinical sample, participants reported experiencing an average of 5.77 (*SD* = 2.97) different lifetime traumatic experiences. The most prevalent trauma experiences were sudden accidental death of a loved one (72.1%), severe human suffering (67.9%) and transportation accidents (60.7%) (Paper II). The index traumatic event most often experienced as the worst by the participants was physical abuse in childhood (20.4%). Other participants reported the sudden violent death of a loved one (14.6%), sexual abuse in adulthood (14.6%), unwanted sexual experiences in childhood (12.6%), sexual abuse in childhood (11.7%) as the most traumatic experiences (Paper IV).

In the general population sample, 5.8% of participants met the diagnostic criteria for probable PTSD and 1.8% – for probable Complex PTSD (Paper I). In the clinical sample, 13.9% of participants met the diagnostic criteria for probable PTSD and 10.0% for Complex PTSD (Paper II). In the self-referred trauma-exposed sample, 18.4% of participants fulfilled the diagnostic criteria for PTSD and 21.4% for Complex PTSD (Paper III and Paper IV).

3.2. Validity of the ITQ and ITI

The psychometric properties of the ITQ and ITI in the study samples were good. The CFA results confirmed a correlated second-order two-factor model to be the best fit for both ITQ and ITI, where a second-order PTSD factor accounts for the covariation between the Re-experience, Avoidance and Sense of Threat factors and a second-order DSO factor accounts for the covariation between the Affect Disorganization, Negative Self Concept and Disturbed Relationship factors (Paper I, Paper II and Paper III). The scalar age measurement invariance and the partial scalar gender measurement invariance

were established by allowing for the intercepts of one ITQ scale item (DR2 'Disturbed Relationships – Feeling Close to Other') to vary across gender groups (Paper I). For the ITI, the interrater agreement for videotaped interviews (n = 11) was good (Krippendorff's α = .89). The associations with various mental health indicators supported the convergent and discriminant validity of the ITI. However, the clinician-administered ITI and self-report ITQ had poor to moderate diagnostic agreement across different symptom clusters, most notably, the agreement for the sense of threat and affect dysregulation clusters was poor (Paper III). Considering these results, the data obtained by the ITQ (Paper I and Paper II) and the ITI (Paper III and Paper IV) are not directly compared in this dissertation, and only hypothetical observations are made.

3.3. PTSD and Complex PTSD risk factors

Trauma-related risk factors. Results from univariate logistic regression analysis revealed that cumulative lifetime trauma exposure was a significant predictor for both probable PTSD and Complex PTSD in contrast to no diagnosis, while exposure to a recent traumatic event significantly predicted PTSD risk but not Complex PTSD (Paper I and Paper II).

Demographic risk factors. We found no significant age effect, but there was a significant gender effect on both ICD-11 PTSD and Complex PTSD, with female participants having a higher risk for PTSD and Complex PTSD in the general population sample but not in a clinical sample (Paper I and Paper II).

Social risk factors. Participants from the PTSD group reported stronger reluctance to talk about traumatic events and stronger emotional reactions while disclosing than the no diagnosis group. In comparison, participants from the Complex PTSD group reported stronger social disapproval from family and friends, stronger reluctance, and stronger emotional reactions than those with no diagnosis or PTSD (Paper I and Paper II). Trauma exposure was significantly directly associated with Complex PTSD, but not with PTSD when social disapproval from friends and family and avoidance of trauma disclosure were included as mediators (Paper II). A high overlap between Complex PTSD and suicide attempts was found. 73% of participants with Complex PTSD reported previous suicide attempt(s). Participants with the experience of sexual trauma had higher levels of suicide risk than the remaining sample (Paper IV).

4. DISCUSSION

The foundation of this thesis rests on four empirical studies, each addressing specific objectives that collectively enhance our knowledge in the field of psychotraumatology. The first objective of this dissertation involves evaluating the psychometric properties and diagnostic sensitivity of assessment measures for PTSD and Complex PTSD. Understanding the reliability and validity of these measures is crucial for accurate diagnosis and effective treatment planning. The second objective focuses on differentiating between PTSD and Complex PTSD by examining trauma-related risk factors, such as trauma type and timing. By evaluating the role of these factors, we can better understand the unique aspects of Complex PTSD and how it differs from PTSD. The third objective aims to determine how demographic characteristics, such as gender and age, are associated with the risk for Complex PTSD. This would help us to identify individuals with a higher risk for Complex PTSD more effectively and would also inform us if gender or age-based algorithms for the assessment of Complex PTSD are needed. Lastly, the fourth objective explores the impact of social risk factors in the development of Complex PTSD, specifically examining trauma disclosure and social support. By comparing if these factors have different associations with Complex PTSD and PTSD, we can gain insights into the distinct mechanisms underlying the development of Complex PTSD and adapt the treatment plan accordingly.

By addressing these research objectives, this dissertation contributes to the existing literature on ICD-11 PTSD and Complex PTSD, shedding light on the assessment, prevalence, and risk factors of these disorders in the Lithuanian context.

4.1. Assessment of Complex PTSD

This study contributes valuable insights to the expanding field of research on ICD-11 PTSD and Complex PTSD by examining the use of the International Trauma Questionnaire (ITQ) and the clinically administered International Trauma Interview (ITI) as instruments for assessing complex posttraumatic stress reactions.

Self-report measure for Complex PTSD. The findings described in Paper I and Paper II on the validity of the International Trauma Questionnaire (ITQ) align with previous research conducted by Cloitre et al. (2018, 2021),

Ho et al. (2019), Owczarek et al. (2020) and are consistent with the diagnostic criteria outlined in the ICD-11 for both PTSD and Complex PTSD. Both studies support the two-factor second-order model, which encompasses distinct factors for PTSD and the disturbances in self-organization (DSO) symptoms. This model demonstrated the best fit for the Lithuanian version of the ITQ, reinforcing its efficacy in assessing posttraumatic stress reactions in both the general population and clinical samples. Additionally, through configural, metric, and scalar measurement invariance testing, the study demonstrates that the ITQ is suitable for screening PTSD and Complex PTSD symptoms across different adult age groups. However, gender invariance measurement revealed certain issues when utilizing the ITQ in female and male general populations, specifically regarding the item that measures DSO symptoms related to "close relationships with others." Although gender invariance was not fully achieved, partial scalar invariance indicated that the ITQ can still be used to measure both PTSD and Complex PTSD regardless of gender, albeit with caution regarding the specific item mentioned.

Overall, this study contributes to the field of psychotraumatology by validating the two-factor second-order model and establishing its suitability for screening symptoms of PTSD and Complex PTSD across different adult age and gender groups.

Clinical interview for Complex PTSD. One of the primary objectives of this thesis was to examine the psychometric properties of the International Trauma Interview (ITI), the latest version of the diagnostic interview for assessing ICD-11 PTSD and Complex PTSD. While a previous study done in a Swedish sample provided promising findings for an earlier version of the ITI (Bondjers et al., 2019), our study expands on those findings by offering additional evidence for the validity and clinical utility of the current version of the ITI as well as its agreement with the ITQ.

The findings of our study, presented in Paper III, largely supported the discriminant and convergent validity of the ITI. We observed that the latent PTSD factor exhibited associations with generalized anxiety, depression, dissociative symptoms, and symptoms of borderline personality pattern. In contrast, the latent DSO factor was linked to depression, poorer general well-being, symptoms of borderline personality pattern, difficulties in emotion regulation, lower self-esteem, issues with anxiety, and avoidance of romantic relationships. Notably, the associations with depression and symptoms of borderline personality pattern were more substantial for the DSO

factor than the PTSD factor. Previous research has also indicated associations between anxiety symptoms and both PTSD and Complex PTSD, given the fear-based nature of PTSD (Facer-Irwin et al., 2022; Hyland, et al., 2021). Furthermore, studies employing the ITQ have highlighted the relationship between depressive symptoms and both PTSD and Complex PTSD, with stronger associations observed for Complex PTSD (Hyland, et al., 2021).

Our study additionally revealed a negative association between DSO symptoms and general well-being. This aligns with prior research demonstrating that individuals with Complex PTSD tend to experience higher psychiatric burdens and lower levels of psychological well-being compared to those with PTSD or no trauma-related diagnosis (Cloitre et al., 2018; Karatzias et al., 2019). The associations observed between the DSO factor and difficulties in emotion regulation, lower self-esteem, and problems in romantic relationships provide further support for the validity of the ITI in detecting self-organization issues outlined in the ICD-11.

In summary, these results add to existing data by studying the psychometric properties of the latest version of the ITI in a Lithuanian sample. The results largely support the discriminant and convergent validity of the ITI, highlighting its ability to capture distinct PTSD and DSO factors. The associations observed between these factors and various psychological symptoms validate the ITI's ability to identify problems in self-organization as described in the ICD-11.

Agreement between ITQ and ITI. Even though both the ITQ and the ITI show good psychometric properties, our study highlights the possible difficulties in comparing the results of these instruments. Our findings revealed moderate agreement between the two measures for PTSD, DSO, and Complex PTSD. Specifically, the agreement on the endorsement of PTSD criteria, when considering both PTSD and Complex PTSD cases, was moderate, while the agreement for DSO and Complex PTSD criteria was fair. The results further show that the agreement for the sense of threat and affect dysregulation clusters was poor. The poor results regarding the sense of threat cluster could be related to the instrument's translation, as the study's interviewers reported having to often clarify questions in this cluster. It is important to note that similar results with the same conclusions regarding the translation were found in a study conducted with refugees in Denmark (Vindbjerg et al., 2023), indicating a possible problem with translating the questions in the sense of threat cluster to other languages. Nevertheless, this

indicates that the final version of the Lithuanian translation of the ITI should be modified based on the feedback from the study participants. As for the results regarding the affect dysregulation cluster, the poor agreement between the ITQ and ITI may be attributed to the fact that this cluster encompasses questions on affective hyperactivation and deactivation. These opposite aspects of affect dysregulation could be better understood in a clinical interview with additional questions, but it could be hard for the participants to accurately describe their emotion-related symptoms in the self-report questionnaire. Sele et al., (2020) also suggest that in the ITQ, affect dysregulation could be more adequately represented as two different clusters rather than one.

Our analysis revealed a higher endorsement of all symptom clusters when measured by the ITQ. As a screening instrument, the ITQ is more likely to identify individuals at risk who may not meet the criteria through a comprehensive clinical assessment. Similar findings of diagnostic discordance between self-report and clinician-administered measures have been observed with the PTSD Checklist for DSM-5 (PCL-5) and the clinician-administered PTSD Scale for DSM-5 (CAPS-5) (Bovin et al., 2016; Marmar et al., 2015). In these studies, clinician ratings yielded lower estimates of PTSD compared to self-report measures. Several factors may contribute to the discrepancies observed. Feedback from participants in one study highlighted reasons such as time-frame reminders, comprehension of symptoms, trauma-related attribution errors, increased awareness, and general errors in self-reporting (Kramer, 2019). Additionally, participants may feel less social stigma when completing self-report measures compared to engaging in face-to-face assessments (Marmar et al., 2015).

Currently, the ITI and the ITQ utilize similar diagnostic algorithms. However, with empirical data from future studies with larger samples and more varied populations, it is possible that different algorithms or cut-off scores for the ITQ or ITI may be identified as more accurate in detecting individuals at risk for trauma-related disorders. Continued research is needed to refine and validate the diagnostic algorithms and scoring approaches of measures like the ITQ and ITI to ensure their accuracy and utility in identifying individuals at risk for trauma-related disorders.

4.2. Trauma-related risk factors of Complex PTSD

Trauma prevalence. The three sample groups from the conducted studies provided information about the prevalence and types of traumatic experiences reported by participants. The results from the general population sample revealed that a significant majority (81.4%) reported exposure to at least one traumatic event in their lifetime. Comparing the trauma-related results from different study samples, there is a remarkable overlap between the most common types of traumas reported by the general population and the clinical sample, both groups having a high prevalence of sudden accidental death of a loved one and transportation accidents. However, the clinical population reported a higher average number of traumatic experiences, indicating a more severe and complex trauma history. A significant result is that while childhood abuse was not commonly reported, the study conducted in a help-seeking sample showed that childhood physical abuse was most often described as the worst traumatic event. These results may suggest that cumulative trauma, especially childhood trauma, significantly impacts individuals' psychological health and may have more severe psychological consequences and are in line with other studies (Choi et al., 2021; Hyland, Murphy, et al., 2017b; Karatzias et al., 2022; Møller et al., 2020).

When comparing the findings from the conducted studies with the results of previous research, several similarities and differences emerge. One notable similarity is the high prevalence of traumatic experiences reported in both the general population and clinical samples, which is consistent with previous research (Cloitre et al., 2018; Ho et al., 2019; Hyland et al., 2020). This suggests that exposure to trauma is a widespread phenomenon that affects a significant proportion of individuals across various populations. However, it is important to note that the prevalence of specific types of trauma may vary across different populations, with some studies showing the illness of a loved one (Hyland, et al., 2021; Knipscheer et al., 2020), psychical abuse (Møller et al., 2020) as the most common types of trauma, while the WHO World Mental Health survey conducted in 24 countries showed that, in line of our results, the most common traumatic events were unexpected death of a loved one and motor vehicle accidents (Kessler et al., 2017). These possible differences in the distribution of trauma types indicate that certain traumas may be more prevalent or salient within specific populations, potentially reflecting the unique challenges and experiences faced in different cultures.

In summary, these findings have important implications for developing appropriate interventions and treatments for individuals who have experienced traumatic events. The high prevalence of trauma exposure in the general population emphasizes the need to provide universal trauma-informed care, while the clinical population's more severe trauma history requires specialized and individualized treatment approaches. The identification of childhood physical abuse as the most common worst traumatic event experienced by the help-seeking sample highlights the importance of addressing childhood trauma in therapy and the need for early intervention and prevention programs to reduce the long-term impact of childhood adversity. Furthermore, understanding the differences in trauma types across different cultures and populations is crucial for tailoring interventions and support to meet individuals' specific needs and offering culturally informed care after certain potentially traumatic events that may not be necessary in a different population. It highlights the importance of considering the diverse range of traumatic experiences individuals may have encountered when assessing and addressing the psychological impact of trauma. This approach would align with a broader and less strictly defined trauma exposure criteria in ICD-11 compared to a more strictly defined trauma exposure definition in DSM-5 classification.

Trauma and Complex PTSD. One of the objectives of this dissertation was to evaluate whether trauma-related risk factors, such as trauma type, time since trauma, etc., can help to differentiate between PTSD and Complex PTSD. We found that various types of interpersonal trauma were related to PTSD and Complex PTSD symptoms, mainly sexual assault and assault with a weapon, significantly increased the risk of both trauma-related disorders. These results align with previous studies (Karatzias et al., 2017). However, the conducted studies show conflicting results when trying to differentiate between PTSD and Complex PTSD. In line with previous findings (Cloitre et al., 2009; Kazlauskas et al., 2018; Knefel et al., 2019; Krammer et al., 2016), results from a clinical sample presented in Paper II demonstrated that childhood sexual abuse, more than other types of potentially traumatic events, are more closely related to stronger Complex PTSD reactions than to PTSD reactions. On the other hand, a study conducted in a general population sample (Paper I) did not find a significant association between childhood abuse (physical or sexual) and Complex PTSD. This lack of relation between Complex PTSD and childhood trauma in the general population sample could be attributed to several factors. Firstly, individuals in the general population may report lower levels of childhood trauma

prevalence and less severe Complex PTSD reactions compared to those in a clinical sample. Therefore, the absence of a significant association in the general population may be influenced by the lower prevalence and severity of Complex PTSD symptoms within that sample. Furthermore, the general population may have access to better social support systems or possess more efficient coping mechanisms and stronger resilience than the clinical sample. These protective factors may mitigate the impact of childhood trauma on the development of Complex PTSD, however, more empirical studies are needed to better understand the underlying effects of childhood trauma.

The current studies replicate previous findings that PTSD is more strongly associated with recent trauma exposure than Complex PTSD (Karatzias et al., 2019). However, our study findings show that the cumulative effect of trauma exposure increased the risk of not only Complex PTSD but PTSD as well, as opposed to previous findings, showing that cumulative trauma is more strongly related to Complex PTSD and not PTSD (Cloitre et al., 2019; Hansford & Jobson, 2021; Knefel et al., 2019). Traditionally, the differentiation between PTSD and Complex PTSD has been based on the nature and severity of trauma exposure, with Complex PTSD associated with prolonged or repeated traumas, particularly during childhood. However, the conducted studies suggest that trauma exposure, whether recent or accumulated over time, can contribute to the development of both disorders and, while the type of trauma experienced and the cumulative effect of trauma can provide valuable insights, these factors should not be used as sole determinants for distinguishing between the symptoms of PTSD and Complex PTSD.

These findings highlight the complexity of trauma-related disorders and indicate that the diagnostic process should consider a comprehensive assessment of various factors, including the type, timing, and cumulative effect of trauma, as well as the individual's specific symptomatology and functional impairments. It underscores the need for a nuanced and individualized approach to diagnosis and treatment planning for individuals with trauma-related disorders.

4.3. Demographic risk factors of Complex PTSD

The results of the conducted studies show that age was not associated with Complex PTSD reactions, indicating that Complex PTSD may manifest similarly during all of adulthood. The results for the association between

gender and Complex PTSD, however, are inconsistent, with female participants reporting stronger Complex PTSD reactions in the general population sample but not the clinical sample. One possible interpretation for the gender-related results could be that in a clinical sample consisting of people actively seeking help for psychological difficulties, both males and females experience similar trauma-related reactions and may have similar levels of disclosure, but in the general population, males are less likely to disclose having psychological problems due to various social aspects related to gender roles and possible stigma. However, research on Complex PTSD and demographic characteristics is still lacking. To this day, we do not have sufficient empirical studies directly comparing the general population and clinical samples and analyzing their underlying differences.

All in all, these results indicate that Complex PTSD may manifest similarly across different age groups in Lithuania, but we still need more gender-sensitive studies to fully understand the possibly different manifestations of trauma-related disorders between genders. These studies would provide further knowledge on possible changes in how we assess and diagnose Complex PTSD and would provide a better understanding of gender-specific treatment.

4.4. Social risk factors of Complex PTSD

This dissertation presents intriguing findings that shed light on the association between trauma disclosure, social support, and the symptoms of Complex PTSD. While previous research has explored the impact of avoidance of trauma disclosure on PTSD, the current studies presented in this thesis delve into its significance in the context of Complex PTSD.

Trauma disclosure. The results presented in Paper I reveal a compelling relationship between avoidance of trauma disclosure and Complex PTSD symptoms. It demonstrates that individuals with a higher risk of Complex PTSD, as opposed to individuals with a higher risk of PTSD, exhibit stronger avoidance behaviors when discussing their negative experiences, coupled with intense emotional reactions when prompted to disclose them. This aversion to disclosure may be particularly influenced by negative emotions such as shame and humiliation, which are more often associated with interpersonal traumas like sexual assault and abuse (Cunningham, 2020). The consequences of disclosure avoidance can be far-reaching, potentially leading

to a reluctance to seek professional help and exacerbating adverse psychopathology.

Notably, the results presented in Paper II establish that avoidance of trauma disclosure significantly mediates the link between traumatic exposure and the risk of developing ICD-11 PTSD and Complex PTSD. These findings align with previous research emphasizing the positive impact of disclosure on well-being and reduced PTSD symptoms (Kazlauskas, 2017; Maercker & Hecker, 2016). Moreover, the study emphasizes that the importance of trauma disclosure holds true not only for PTSD but also for Complex PTSD, a diagnostic category that represents a new understanding of trauma-related disorders.

In conclusion, this dissertation contributes to our understanding of the association between trauma disclosure and the symptoms of Complex PTSD. It highlights the significance of avoidance of trauma disclosure as a substantial risk factor of Complex PTSD, emphasizing the potential impact of negative emotions associated with the traumatic event and the need to address reluctance in seeking help.

Social support. Our results highlight the role of social disapproval from family and friends as a significant mediator for Complex PTSD but not for PTSD. This implies that the lack of support from close relationships contributes to more adverse psychopathological outcomes after traumatic experiences, potentially leading to the manifestation of Complex PTSD. These findings are consistent with research by Simon et al. (2019), who also identified associations between perceived social support and disturbances in self-organization symptom clusters in Complex PTSD. However, it is crucial to interpret these results with caution due to the moderate reliability of the social support measure used in the study. Additionally, because the conducted studies were cross-sectional, it is plausible that the symptoms of PTSD and Complex PTSD influence perceptions of social support and willingness to disclose. The disparities observed between PTSD and Complex PTSD regarding disapproval from friends and family may be attributed to the additional DSO symptoms encompassed within Complex PTSD, such as disturbed relationships or even negative self-view.

The results on Complex PTSD risk factors from our studies are in line with the Cascade model of Complex PTSD proposed by Andreas Maercker (Maercker et al., 2022). The importance of childhood trauma in the

development of Complex PTSD, emphasized in the Cascade model, is in agreement with our results that childhood sexual assault is more strongly related to Complex PTSD in a clinical sample, as well as the results that self-referred trauma-exposed sample described childhood abuse as the most common worst traumatic event. Furthermore, as described in the Cascade model, our results also confirm the importance of social acknowledgement and trauma disclosure in the development of Complex PTSD. However, due to the design of our studies, we were not able to assess the role of attachment on Complex PTSD, therefore, we were not able to fully confirm the Cascade model of Complex PTSD.

An additional important risk factor found in our studies was that participants with Complex PTSD had the highest percentage of reported suicide attempts compared to those with no PTSD and PTSD alone. The difference in suicide attempt rates between individuals with no diagnosis and those with Complex PTSD was statistically significant. While it is known that PTSD increases the risk of suicide ideation, attempts, and deaths, the research on Complex PTSD and suicidality is still scarce. However, we could speculate that the complex consequences of traumatic experiences associated with Complex PTSD, such as sexual abuse, as well as social factors, such as perceived social disapproval and avoidance of disclosure, may further elevate this risk. These results highlight the need for further research and possibly indicate that assessment of suicidality risk should be included in the assessment of Complex PTSD.

In conclusion, these findings shed light on the mediating role of social disapproval from close relationships in Complex PTSD, suggesting that social support plays a vital role in the trajectory of psychopathology following trauma and is also in line with the cascade model of Complex PTSD. Nonetheless, further longitudinal research is warranted to explore these relationships more comprehensively, considering the current study's limitations.

4.5. Limitations

The studies presented in this thesis are subject to several limitations, which should be considered when interpreting the findings. Firstly, the chosen study design was cross-sectional, which inherently restricts the ability to establish causal relationships between variables. While cross-sectional studies provide valuable insights into associations between variables, they are unable

to determine the directionality of these relationships. Therefore, caution should be exercised in drawing causal inferences based solely on the observed associations. Furthermore, cross-sectional studies are susceptible to biases, such as recall bias, which may affect the validity and reliability of the findings. Therefore, the identified associations should be interpreted with caution, considering the potential influence of confounding factors that cannot be fully controlled for in a cross-sectional study.

Another limitation of this thesis is the relatively small sample sizes, particularly within the groups of individuals with probable PTSD and Complex PTSD. Due to the limited number of participants in these groups, the statistical power for accurately estimating predictors was constrained. Small sample sizes can result in reduced precision, limiting the generalizability and reliability of the findings. Consequently, the results of this study should be interpreted with caution and considered as preliminary evidence. Future studies with larger population-based sample sizes are warranted to validate and extend the current findings.

Moreover, it is important to acknowledge that the samples used in this thesis were not representative of the entire population of Lithuania. The recruitment strategy (e.g., self-referred participants) and inclusion criteria employed may have introduced selection bias, potentially impacting the generalizability of the results. Consequently, caution should be exercised when generalizing the findings to the entire Lithuanian population. Replication studies encompassing more diverse populations and utilizing random sampling techniques would enhance the external validity and generalizability of the findings.

Furthermore, the sample predominantly consisted of female participants, which may limit the generalizability of the results to males or other gender identities. The overrepresentation of females in the sample may introduce gender-specific biases and potentially obscure gender-related differences in the studied variables. Therefore, caution should be exercised when extrapolating the findings to broader populations, particularly those with a different gender distribution. Future research should strive to include more balanced gender representation, including non-binary individuals, to ensure a comprehensive understanding of the phenomena under investigation.

In conclusion, the aforementioned limitations underscore the need for further research to address these limitations and advance the knowledge in the field.

4.6. Future directions

Building upon the findings and limitations of this study, several directions for future research can be identified. These directions aim to address the limitations and further enhance our understanding of the complex phenomena related to trauma and social risk factors of Complex PTSD.

Firstly, future studies should aim to incorporate larger population-based sample sizes. By increasing the sample size, the statistical power can be improved, allowing for more precise estimation of predictors and enhancing the generalizability of the findings. Additionally, larger sample sizes enable subgroup analyses, facilitating a better understanding of potential differences in the manifestation and correlates of Complex PTSD across various demographic and clinical factors.

Secondly, longitudinal designs should be employed to examine the underlying mechanisms of trauma-related and social risk factors of Complex PTSD over time. Longitudinal studies enable the exploration of temporal relationships, offering insights into the dynamic nature of Complex PTSD and its associated factors. Such designs can elucidate the directionality of associations and provide a more comprehensive understanding of the development, maintenance, and potential recovery processes of Complex PTSD.

Furthermore, future research should prioritize the inclusion of diverse populations. This includes ensuring a more accurate representation of gender by recruiting equal numbers of male and female participants, as well as considering the inclusion of other gender identities. By including a more diverse sample, the generalizability of the findings can be enhanced, and potential gender-specific differences in the manifestation and correlates of Complex PTSD can be examined. Moreover, diverse populations should also encompass individuals from different socioeconomic backgrounds, cultural groups, and geographic locations. Comparison between different countries and populations would allow for a more comprehensive exploration of the influence of contextual factors on the development and expression of Complex PTSD.

Additionally, qualitative approaches can complement quantitative data by capturing the richness and complexity of individuals' experiences, shedding light on unique aspects of Complex PTSD that may not be fully captured by self-report measures alone, such as a more comprehensive understanding of social factors in the development and maintenance of Complex PTSD symptoms. In addition, more future studies should consider incorporating objective, clinically administered measures, such as the International Trauma Interview (ITI). The ITI used in this dissertation proved to be a robust clinical instrument, particularly in treatment-seeking samples.

By incorporating these future directions, the field can advance our understanding of the underlying mechanisms, risk factors, and manifestations of Complex PTSD. A more robust and comprehensive understanding of Complex PTSD will contribute to the development of effective prevention strategies, assessment tools, and intervention approaches, ultimately improving the well-being and quality of life of individuals affected by this complex disorder.

4.7. Practical implications

The findings of this study have important practical implications for mental health professionals and policymakers. Firstly, the results suggest that treatment approaches for individuals with Complex PTSD should be tailored to the unique symptoms and experiences of their population, particularly regarding their social relationships and trauma disclosure. Clinicians should prioritize providing empathic and supportive environments for individuals to disclose their traumatic experiences. Additionally, education for the general population on the effects of traumatic experiences could improve social support and reduce the stigma surrounding trauma and mental health.

Secondly, the study highlights the importance of assessing and managing suicide risk in individuals with Complex PTSD. Mental health professionals should be aware of the increased risk of suicide in this population and use appropriate assessment tools and interventions to manage this risk.

Thirdly, the study provides evidence for the validity of the ITQ and ITI measures for assessing Complex PTSD in clinical populations. However, the poor diagnostic agreement between the self-report and clinician-administered measures suggests that caution should be exercised in relying

solely on self-report measures for diagnosis. Clinicians should consider using both self-report and clinician-administered measures to obtain a more comprehensive understanding of an individual's symptoms and experiences.

Finally, the study highlights the need for future research to incorporate larger population-based samples, diverse populations, and longitudinal designs to enhance the generalizability and causal understanding of the associations identified in this study. Policymakers and funders should prioritize funding for research that addresses these gaps in knowledge and provides a more robust understanding of Complex PTSD and its associated risk factors.

CONCLUSIONS

1. The Lithuanian versions of a self-report instrument, the International Trauma Questionnaire, and a clinically administered International Trauma Interview for the assessment of PTSD and Complex PTSD demonstrated good psychometric properties and validity. However, the self-report and clinical interview measures had poor to moderate diagnostic agreement across different Complex PTSD symptom clusters.
2. Childhood physical abuse was a significant factor in differentiating between PTSD and Complex PTSD in a clinical sample and was more strongly related to Complex PTSD, while other types of traumas were associated with both trauma-related disorders. Cumulative lifetime trauma exposure did not differentiate between PTSD and Complex PTSD and was a significant predictor of both trauma-related disorders.
3. Age was not associated with Complex PTSD symptoms. The association between gender and Complex PTSD was inconsistent across the studied samples, with females reporting higher Complex PTSD symptoms in the general population sample but not in the clinical sample.
4. Complex PTSD, compared to PTSD, was associated with higher self-perceived social disapproval from family and friends, higher reluctance to talk about trauma, and more intense disclosure-related negative emotional reactions, such as shame and helplessness.

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I.

Trauma exposure and factors associated with ICD-11 PTSD and complex PTSD in the Lithuanian general population

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Trauma exposure and factors associated with ICD-11 PTSD and complex PTSD in the Lithuanian general population

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Abstract

Background: After the inclusion of a novel diagnosis of Complex Posttraumatic Stress Disorder (CPTSD) in the 11th edition of the International Classification of Diseases (ICD-11), there is a growing need for research focused on not only studying the underlying risk factors of this disorder but also differentiating the risk factors of Posttraumatic Stress Disorder (PTSD) and CPTSD to understand better the factors leading to CPTSD onset and symptom maintenance.

Aims: This study aimed to explore the prevalence of traumatic experiences, trauma-related disorders and risk factors associated with ICD-11 PTSD and CPTSD in a population-based Lithuanian sample using the International Trauma Questionnaire (ITQ).

Methods: The study sample included 885 participants (age *M*[*SD*] = 37.96 [14.67], 63.4% female). The Life Events Checklist was used to measure trauma exposure, PTSD and CPTSD symptoms were measured by the Lithuanian ITQ version. The Disclosure of Trauma Questionnaire (DTQ) was used to measure the urge or reluctance to talk about trauma.

Results: The prevalence of at least one traumatic experience in the study sample was 81.4%. The prevalence of PTSD and CPTSD among the general population in Lithuania was 5.8% and 1.8%, respectively. Accumulative lifetime trauma exposure, sexual assault and assault with a weapon were significant predictors for both PTSD and CPTSD. Participants from the CPTSD group reported greater reluctance to disclose trauma and stronger emotional reactions than no diagnosis and PTSD groups. Results also indicate that the Lithuanian ITQ version is a valid measure for screening PTSD and CPTSD in the general population.

Conclusion: Previous history of trauma and interpersonal trauma were associated with posttraumatic stress disorders but did not differentiate between PTSD and CPTSD in our study. However, social trauma-related factors, such as trauma disclosure, were associated with stronger CPTSD symptoms.

Keywords

ICD-11, trauma, PTSD, CPTSD, trauma disclosure

Introduction

The inclusion of a new diagnosis of Complex Posttraumatic Stress Disorder (CPTSD) in the 11th edition of the International Classification of Diseases (ICD-11) (World Health Organization, 2018) calls for comprehensive research and validation of possible assessment tools and exploration of risk factors to better understand the new diagnosis. The most widely used measure for ICD-11 CPTSD is the self-report International Trauma Questionnaire (ITQ; Cloitre et al., 2018). The ITQ measures the three core posttraumatic stress disorder (PTSD) symptoms – (1) re-experience, (2) avoidance and (3) current sense of threat – and the functional impairment caused by these symptoms. In addition, the ITQ measures the three core symptoms of disturbances in self-organisation (DSO) – (1) affect dysregulation, (2) negative self-concept and (3) disturbances in relationships and DSO symptom-related functional impairment (Cloitre et al., 2018).

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The ITQ has been validated in various samples, including the general population, clinical and veteran samples (Cloitre et al., 2019; Hyland et al., 2019; Karatzias et al., 2019) and is the best currently available measure of ICD-11 CPTSD. There is also a growing number of studies using the translated versions of the ITQ (Folke et al., 2019; Ho et al., 2019; Maercker et al., 2018; Mordeno et al., 2019), enabling CPTSD studies in various cultures. However, although most studies have supported the ITQ validity, there are differences in symptom structure in different samples (Redican et al., 2021). Hence, translation to other languages and exploring the validity of the ITQ across cultures is highly relevant, considering the ICD-11 will be implemented in healthcare from 2022. Furthermore, to our knowledge, there is also a lack of studies showing the measurement invariance of the ITQ across age or gender.

The current study was conducted in Lithuania, a European Union country that, despite a high prevalence of trauma exposure based on empirical findings (Kazlauskas & Zelviene, 2016), is struggling to provide adequate treatment for PTSD in healthcare (Kazlauskas, 2017). In the context of the ICD-11 updates of PTSD and CPTSD definitions, the only published Lithuanian study exploring trauma exposure and risk factors of PTSD and CPTSD in an adult population is in the clinical sample (Kazlauskas et al., 2018). However, that study did not use the final version of the ITQ, but one including additional items for testing the structural validity (Kazlauskas et al., 2018).

An important research line following the inclusion of a novel diagnosis of CPTSD in ICD-11 is studying the underlying risk factors for CPTSD, which is essential for both prevention and intervention of CPTSD. Given the nature of CPTSD, which includes all three core PTSD symptoms and additional DSO symptoms (World Health Organization, 2018), CPTSD could be more disabling and have a more chronic course than PTSD. Furthermore, differentiating the risk factors of PTSD and CPTSD could lead to a better understanding of CPTSD onset and symptom maintenance and would help in providing appropriate treatment. Previous research on PTSD shows that peri- and post-trauma risk factors have the most substantial impact on the onset of PTSD (Brewin et al., 2000; Ozer et al., 2003). Among the most researched risk factors are trauma and social-related factors such as trauma type, previous trauma, trauma severity, disclosure of trauma and social support.

A growing number of studies explores the link between these risk factors and CPTSD, showing that childhood or sexual trauma is one of the strongest predictors of CPTSD, as well as cumulative trauma and lack of social support (Cloitre et al., 2019; Hansford & Jobson, 2021; Kazlauskas et al., 2018; Knefel et al., 2019; Krammer et al., 2016; Simon et al., 2019). However, the majority of these studies have been conducted in the US or UK, and the results indicate that there could be substantial differences in trauma-related risk factors across different populations and settings (Palic et al., 2016). Furthermore, to our knowledge, there is a lack of studies exploring the relationship between disclosure of trauma and CPTSD, even though studies conducted in the context of PTSD shows that disclosure of trauma could have a robust therapeutic effect (Gradus, 2017). Traumatic experiences more commonly associated with CPTSD, such as interpersonal violence, could lead to more negative adverse emotional reactions such as shame or guilt (Cunningham, 2020), which are shown to inhibit trauma disclosure. Therefore CPTSD related trauma experiences could lead to a poorer negative self-concept, more adverse psychopathological reactions and poorer treatment outcomes (Bedard-Gilligan et al., 2012; MacGinley et al., 2019). Hence, it is important to have a greater understanding of the relationship between trauma disclosure and CPTSD.

This study aimed to validate the Lithuanian version of the ITQ and assess whether this instrument is suitable for screening for ICD-11 PTSD and CPTSD reactions regardless of age or gender. Furthermore, we aimed to explore the prevalence of traumatic experiences and trauma-related disorders in Lithuania and risk factors associated with PTSD and CPTSD. We explored gender and age effects as well as trauma-related risk factors of PTSD/CPTSD, such as the recency of trauma, trauma type, cumulative trauma and the disclosure of trauma as these factors are shown to be related to stronger psychopathology following traumatic experiences (Brewin et al., 2000).

Methods

Participants and procedure

This study was a part of a larger trauma and mental health study conducted by the Center for Psychotraumatology, Vilnius University. It was approved by the Institutional Psychological Research Ethics Committee. Data collection took place between July 2015 and December 2017 and was collected by 63 trained interviewers (53 psychologists and 10 trained psychology students). Inclusion criteria for this study were: (1) ⩾18 years old; (2) understanding of the Lithuanian language. Participants were recruited at various locations in Lithuania (e.g. home, work, community centres settings) throughout the country, including urban and rural areas. Overall, 1,146 people were invited to participate in this study – 78.9% of them agreed, of which 77.2% fully completed the survey. All participants provided informed written consent before completing the questionnaires.

In total, 885 participants were included in the current study, of which 561 (63.4%) were female, mean age was 37.96 (SD = 14.67), ranging from 18 to 85 years. The majority of study participants were from an urban area

Table 1. Sociodemographic characteristics of the sample ($N = 885$).

Variable	Total sample ($n = 885$)	No diagnosis ($n = 818$)	PTSD ($n = 51$)	CPTSD ($n = 16$)	Significance statistics
	n (%)	*n* (%)	*n* (%)	*n* (%)	
Gender					
Male	324 (36.6)	311 (38.0)	10 (19.6)	3 (18.7)	$\chi^2(2) = 9.25$**
Female	561 (63.4)	507 (62.0)	41 (80.4)	13 (81.3)	
Age					
Mean (*SD*)	37.96 (14.67)	38.06 (14.70)	38.04 (14.49)	32.50 (13.59)	$F(2) = 1.13$
Range	18–85	18–85	19–76	21–63	
Relationship status[a]					
In a committed relationship	589 (66.6)	556 (68.0)	27 (54.0)	6 (37.5)	$\chi^2(2) = 10.93$***
Not in a committed relationship	289 (32.7)	256 (31.3)	23 (46.0)	10 (62.5)	
Children[a]					
Yes	494 (55.8)	453 (55.4)	32 (62.7)	9 (56.3)	$\chi^2(2) = 1.04$
No	390 (44.1)	364 (44.5)	19 (37.3)	7 (43.8)	
Residence[a]					
Urban	712 (80.5)	657 (80.3)	43 (84.3)	12 (75.0)	$\chi^2(2) = 0.76$
Rural	169 (19.1)	157 (19.2)	8 (15.7)	4 (25.0)	
Education					
University degree	396 (44.7)	364 (44.5)	27 (52.9)	5 (31.3)	$\chi^2(4) = 4.95$
Professional or technical school	318 (35.9)	297 (36.4)	16 (31.4)	5 (31.3)	
High school or lower	171 (19.3)	157 (19.2)	8 (15.7)	6 (37.5)	
Employment[a]					
Employed	673 (76.0)	623 (76.2)	40 (78.4)	10 (62.5)	$\chi^2(2) = 1.89$
Unemployed	205 (23.2)	188 (23.0)	11 (21.6)	6 (37.5)	
Income in Euros[a]					
Average or higher	491 (55.5)	456 (55.7)	25 (52.1)	5 (35.7)	$\chi^2(2) = 1.26$
Lower than average	372 (42.0)	340 (41.6)	23 (47.9)	9 (64.3)	

Note. χ^2 = Chi-square statistics; F = variation between sample means.
[a]Results calculated with missing data (<3%).
**$p < .01$. ***$p < .001$.

($n = 712$, 80.5%). More detailed sociodemographic characteristics of the sample are presented in Table 1. The majority of participants ($n = 720$, 81.4%) were exposed to at least one traumatic event during their lifetime, and 51 (5.8%) met the probable diagnostic criteria for PTSD and 16 (1.8%) – for CPTSD.

Measures

The revised version of the Life Events Checklist (LEC-R) was used to measure trauma exposure during the lifetime (Weathers et al., 2013). LEC-R is comprised of 16 potentially traumatic events (e.g. natural disaster, assault) with two additional items added to the standard version measuring: (1) physical abuse in childhood and (2) sexual abuse in childhood. Participants had to indicate whether the traumatic event 'Happened to me', 'Witnessed it', 'Learned about it', 'Not sure' and 'Doesn't apply to me'. Exposure to trauma was considered if the participants either experienced the event themselves or witnessed it. The sum of all traumatic experiences was used to estimate cumulative trauma exposure. The Lithuanian version of LEC-R was used in several studies previously (Kvedaraite et al., 2020; Truskauskaite-Kuneviciene et al., 2020).

The International Trauma Questionnaire (ITQ) was used to measure PTSD and CPTSD based on ICD-11 criteria (Cloitre et al., 2018). The ITQ is comprised of two parts – PTSD and DSO, constituting of the three symptom clusters each, with two items per cluster. PTSD clusters as defined in the ICD-11 are re-experiencing (Re), avoidance (Av) and sense of threat (Th); and three DSO symptom clusters are affective dysregulation (AD), negative self-concept (NSC) and disturbances in relationships (DR). Functional impairment regarding social life, occupational or any other important part of life was measured twice – for both PTSD and CPTSD symptoms. All ITQ items were rated on a five-point scale from 0 (=Not at all) to 4 (=Extremely) in association with the index traumatic event. The endorsement of a symptom cluster or functional impairment is defined as a score of ⩾2. According to the diagnostic algorithm (Cloitre et al., 2018) of the ITQ, the diagnosis of PTSD requires the endorsement of at least one

of two symptoms from each PTSD cluster and the endorsement of functional impairment related to these symptoms. A diagnosis of CPTSD requires all criteria for PTSD and the endorsement of at least one of two symptoms from each of DSO clusters, plus the endorsement of functional impairment related to these symptoms. The internal reliability of the ITQ scale in a trauma-exposed group was found to be good – McDonald's omega for the total ITQ score was 0.86, for PTSD and DSO symptom scores McDonald's omega was 0.85 and 0.77, respectively.

The Disclosure of Trauma Questionnaire (DTQ-12) was used to measure avoidance of trauma disclosure (Müller & Maercker, 2006). The DTQ-12 comprise 12 items forming three subscales: (1) Reluctance to talk, (2) Urge to talk and (3) Emotional reactions, with four items per subscale. Participants were asked to respond according to how they felt about each item in relation to the experienced index traumatic event and were asked to rate each item on a six-point scale ranging from 0 (=I agree not at all) to 5 (=I agree completely). Total scores for the three subscales were calculated by adding all item's scores included in the subscales. Higher urge to talk subscale scores indicates greater disclosure of traumatic experience. In contrast, higher Emotional reactions and Reluctance to talk subscales scores indicate greater difficulty to talk about the traumatic experiences. Previous studies using the Lithuanian version of DTQ demonstrated good internal reliability of this measure (Kvedaraite et al., 2020). McDonald's omega of the DTQ scale in this study was 0.78 and varied from 0.77 to 0.82 for the subscales.

Data analysis

The data analyses were conducted using IBM SPSS version 25.0 and the Mplus version 8.2. To test the factor structure of the ITQ, we conducted Confirmatory Factor Analysis (CFA). In this analysis, we tested four factor models tested in previous studies (Kazlauskas et al., 2018, 2020). The CFA models were estimated using the Robust Maximum Likelihood (MLR) estimator. The model fit in CFA analysis was evaluated by using the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA), following the goodness of fit recommendation provided by Kline (2011). Namely, CFI/TLI values higher than 0.90 indicated an acceptable fit, and values higher than 0.95 represented a good fit; RMSEA values below 0.08 indicated an acceptable fit, and values <0.05 suggested a good fit. The measurement invariance test was used to check whether the ITQ scale can be used for both genders (female vs. male) and across different age groups, such as emerging adults (18–29 years old) and older (>29 years). Model comparisons were conducted by examining the changes in fit indices, where $\Delta CFI \geqslant 0.010$ supplemented by $\Delta RMSEA \geqslant 0.015$ were indicative of the significant difference between models (Chen, 2007). To test the reliability of the measurements, we computed McDonald's omega reliability coefficients (McDonald, 1978).

Results

Validity of the ITQ

The psychometric properties of the ITQ in the general population sample were good. In line with the previous studies (Cloitre et al., 2018, 2021; Ho et al., 2019; Owczarek et al., 2020), the CFA results confirmed a correlated second-order two-factor model to be the best fit, where a second-order PTSD factor accounts for the covariation between the Re, Av and Th factors and a second-order DSO factor accounts for the covariation between the AD, NSC and DR factors ($\chi^2(47)=162.62$, $p<.001$; CFI/TLI = 0.970/0.958; RMSEA [90% CI] = 0.058 [0.049–0.068]; SRMR = 0.041). All factor loadings in the CFA model were significant at $p<.001$ and ranged from 0.36 to 0.96. The standardised factor loading of the first-order AD factor on the second-order DSO factor was 1.18. This could be explained by multicollinearity, but it is not indicative of model misspecification (Deegan, 1978). The standardised factor correlation between PTSD and DSO was 0.58 ($p<.001$).

The scalar age measurement invariance and the partial scalar gender measurement invariance were established by allowing for the intercepts of one ITQ scale item (DR2 'Disturbed Relationships – Feeling Close to Other') to vary across gender groups (see Table 2).

Trauma exposure in the general population

The exposure to various traumatic experiences in the total sample and by gender and age are presented in Table 3. The majority of the study sample (81.4%) reported exposure to at least one traumatic event in their lifetime. Participants reported 3.41 ($SD=2.17$) lifetime types of trauma exposure on average, ranging from zero to 18 events. The most common traumatic experiences in our sample were transportation accidents (42.6%), physical assault (40.0%) and sudden accidental death of a loved one (28.7%).

We found significant differences in the prevalence of traumatic events between genders, with males participants reporting more lifetime trauma exposure ($M=3.12$, $SD=2.51$) than females ($M=2.26$, $SD=2.26$) ($t(883)=-3.32$, $p=.001$). Male participants reported higher exposure to transportation accidents, serious other accidents (at work, home or during recreational activities), exposure to toxic substances, physical assault, assault with a weapon, combat or exposure to a warzone, captivity and serious injury, harm or death caused to someone else (see Table 3). Sexual assault, other unwanted or uncomfortable sexual experiences and severe human suffering were more

Table 2. Results of the ITQ measurement invariance tests by gender and age groups in the trauma-exposed sample ($n = 720$).

	Model fit indices			Model comparisons	
	χ^2 (*df*)	CFI	RMSEA [90% CI]	ΔCFI	ΔRMSEA
Gender					
Configural	166.57 (78)	0.967	0.056 [0.044–0.068]		
Metric	178.98 (84)	0.965	0.056 [0.045–0.067]	0.002	0.000
Scalar	218.19 (90)	0.953	0.063 [0.052–0.074]	0.014	0.007
Partial scalar	166.95 (79)	0.968	0.056 [0.044–0.067]	0.001	0.000
Age					
Configural	143.86 (78)	0.976	0.048 [0.036–0.061]		
Metric	144.79 (84)	0.978	0.045 [0.032–0.057]	0.003	0.002
Scalar	160.43 (90)	0.974	0.047 [0.035–0.058]	0.001	0.002

Note. ITQ = International Trauma Questionnaire; χ^2 = Chi-square goodness of fit statistics; *df* = degrees of freedom; CFI = Comparative Fit Index; RMSEA [90% CI] = root mean square error of approximation with 90% confidence intervals.

frequently reported by females than males (see Table 3). We also found significant differences in the prevalence of traumatic events between the two analysed age groups. The participants in the emerging adulthood group (18–29 years old) reported higher exposure to natural disasters, physical assault and assault with a weapon than older participants.

Prevalence and trauma-related predictors of PTSD and CPTSD in the general population

In the general population sample, 51 (5.8%) participants met the diagnostic criteria for PTSD and 16 (1.8%) – for CPTSD. We found no significant age effect but there was significant gender effect on both ICD-11 PTSD and CPTSD diagnosis with 80.4% ($n = 41$) female as compared to 19.6% ($n = 10$) male participants in PTSD group and 81.3% ($n = 13$) female as compared to 18.7% ($n = 3$) male participants in CPTSD group (see Table 1).

Descriptive statistics for all PTSD and CPTSD symptoms are presented in Table 4. PTSD symptoms in the PTSD and CPTSD groups were higher in comparison to the no diagnosis group. Furthermore, PTSD and DSO symptoms were greater in the CPTSD group than in the PTSD group (see Table 4).

Cumulative lifetime trauma exposure was a significant predictor for both PTSD (OR = 1.16) and CPTSD (OR = 1.24) diagnostic status in contrast to no diagnosis, while exposure to a recent traumatic event significantly predicted PTSD (OR = 2.45), but not CPTSD (see Table 5). Assault with a weapon (OR = 2.77), sexual assault (OR = 4.22), sudden violent death of a loved one (OR = 3.01) and sudden accidental death of a loved one (OR = 1.98) were significant predictors of higher risk of PTSD (see Table 5). Assault with a weapon (OR = 4.58), sexual assault (OR = 7.30), other unwanted or uncomfortable sexual experiences (OR = 6.40), life-threatening illness or injury (OR = 2.80) and severe human suffering (OR = 8.47) were significant predictors of higher risk of CPTSD (see Table 5).

We also found significant differences in the disclosure of traumatic events between no diagnosis, PTSD and CPTSD groups (see Table 4). Participants from the PTSD group reported stronger reluctance to talk about traumatic events and stronger emotional reactions while disclosing than the no diagnosis group. In comparison, participants from the CPTSD group reported stronger reluctance and stronger emotional reactions than those with no diagnosis or PTSD. The results also show that participants from the PTSD group indicated a stronger urge to talk about the traumatic event than the no diagnosis group.

Discussion

This was one of the first studies which analysed trauma exposure prevalence and ICD-11 PTSD and CPTSD prevalence in the Lithuanian general sample. In total, 885 people agreed to participate in our study, and the response rate of 77% is similar to other studies of stress-related disorders conducted in the general Lithuanian population (Zelviene et al., 2020). We found a high prevalence of trauma exposure in the sample in line with previous studies (Kazlauskas & Zelviene, 2016). In the total sample, PTSD prevalence was 5.8% and CPTSD −1.8%, and is broadly comparable to findings in other countries (Ben-Ezra et al., 2018) in non-clinical samples, although population-based studies undertaken in different countries have produced variable prevalence rates (Cloitre et al., 2019; Maercker et al., 2018). Furthermore, we identified various PTSD and CPTSD predictors, particularly trauma and trauma disclosure related predictors relevant to future studies and clinical practice.

This study adds to the growing body of research on the ICD-11 PTSD and CPTSD, showing that the ITQ is an acceptable tool to measure posttraumatic stress reactions. In line with previous studies (Cloitre et al., 2018, 2021;

Table 3. Lifetime traumatic experiences and age and gender effects ($N = 885$).

	Total sample	Gender			Age		
		Male	Female	$\chi^2(1)$	18–29 years	>29 years	$\chi^2(1)$
	n (%)	*n* (%)	*n* (%)		*n* (%)	*n* (%)	
1. Natural disaster	55 (6.2)	26 (8.0)	29 (5.2)	2.87	32 (9.5)	23 (4.2)	9.93**
2. Fire or explosion	192 (21.7)	77 (23.8)	115 (20.5)	1.29	75 (22.2)	117 (24.4)	0.08
3. Transportation accident	377 (42.6)	163 (50.3)	214 (38.1)	12.43***	152 (45.0)	225 (41.1)	1.26
4. Serious other accident	205 (23.2)	98 (30.2)	107 (19.1)	14.41***	84 (24.9)	121 (22.1)	0.88
5. Exposure to toxic substance	53 (6.0)	29 (9.0)	24 (4.3)	7.97**	21 (6.5)	32 (5.9)	0.05
6. Childhood physical abuse	205 (23.2)	85 (26.2)	120 (21.4)	2.71	85 (25.1)	120 (21.9)	1.21
7. Physical assault	354 (40.0)	184 (56.8)	170 (30.3)	60.04***	153 (45.3)	201 (36.7)	6.32*
8. Assault with a weapon	75 (8.5)	43 (13.3)	32 (5.7)	15.16***	37 (10.9)	38 (6.9)	4.31*
9. Childhood sexual abuse	21 (2.4)	4 (1.2)	17 (3.0)	2.86	5 (1.5)	16 (2.9)	1.89
10. Sexual assault	29 (3.3)	2 (0.6)	27 (4.8)	11.41***	7 (2.1)	22 (4.0)	2.51
11. Other unwanted sexual experience	66 (7.5)	11 (3.4)	55 (9.8)	12.22***	25 (7.4)	41 (7.5)	0.00
12. Combat or exposure to a war-zone	15 (1.7)	12 (3.7)	3 (0.5)	12.38***	5 (1.5)	10 (1.8)	1.15
13. Captivity	10 (1.1)	7 (2.2)	3 (0.5)	4.86*	4 (1.2)	6 (1.1)	0.01
14. Life-threatening illness or injury	198 (22.4)	71 (21.9)	127 (22.6)	0.06	72 (21.3)	126 (23.0)	0.36
15. Severe human suffering	258 (29.2)	72 (22.2)	186 (33.2)	11.89***	93 (27.5)	165 (30.2)	0.71
16. Sudden violent death	60 (6.8)	22 (6.8)	38 (6.8)	0.00	18 (5.3)	42 (7.7)	1.83
17. Sudden accidental death	259 (28.7)	86 (26.5)	168 (29.9)	1.16	91 (26.9)	163 (29.8)	0.84
18. Serious injury, harm or death caused to someone else	29 (3.3)	19 (5.9)	10 (1.8)	10.80***	11 (3.3)	18 (3.3)	0.0

Note. χ^2 = Chi-square statistics.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 4. Means and standard deviations of PTSD and CPTSD symptoms in the trauma-exposed group ($n = 720$).

Variable	No diagnosis ($n = 653$)	PTSD ($n = 51$)	CPTSD ($n = 16$)	Significance statistics
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*F*(2)
Total ITQ symptom score	8.47 (6.54)[b,c]	21.45 (5.15)[a,c]	30.69 (4.95)[a,b]	182.31***
PTSD symptoms	3.82 (3.96)[b,c]	14.35 (3.21)[a]	16.19 (3.90)[a]	240.28***
Re-experiencing	1.00 (1.52)[b,c]	4.22 (1.55)[a,c]	5.38 (1.96)[a,b]	161.73***
Avoidance	1.43 (1.95)[b,c]	4.88 (1.56)[a]	5.75 (1.77)[a]	110.93***
Sense of threat	1.38 (1.72)[b,c]	5.26 (1.64)[a]	5.06 (1.61)[a]	152.31***
DSO symptoms	4.65 (4.02)[b,c]	7.10 (3.28)[a,c]	14.50 (2.78)[a,b]	55.80***
Affective dysregulation	1.99 (1.52)[b,c]	3.00 (1.49)[a,c]	4.06 (1.29)[a,b]	23.79***
Negative self-concept	1.02 (1.69)[c]	1.51 (1.33)[c]	5.63 (1.26)[a,b]	61.34***
Disturbed relationships	1.64 (1.85)[b,c]	2.59 (1.94)[a,c]	4.81 (1.60)[a,b]	28.15***
Trauma disclosure				
Reluctance to talk	6.03 (4.24)[b,c]	7.82 (4.48)[a,c]	11.40 (3.75)[a,b]	15.27***
Urge to talk	7.48 (4.53)[b]	9.98 (4.24)[a]	9.13 (3.54)	8.13***
Emotional reactions	6.27 (4.29)[b,c]	11.30 (4.39)[a,c]	14.69 (3.00)[a,b]	59.72***

Note. ITQ = International Trauma Questionnaire; *F* = variance between sample means.
[a,b,c]Significant differences at $p < .05$ ([a]No diagnosis, [b]PTSD, [c]CPTSD groups).
***$p < .001$.

Ho et al., 2019; Owczarek et al., 2020) and consistent with ICD-11 diagnostic criteria for PTSD and CPTSD (World Health Organization, 2018), we found that the two-factor (PTSD and DSO) second-order model demonstrated the best fit for the Lithuanian version of ITQ. Furthermore, using configural, metric and scalar measurement invariance testing, the study also showed that the ITQ could be used to screen for PTSD and CPTSD symptoms among different adult age groups. The gender invariance measurement indicated issues in the use of the ITQ among female and male populations, particularly regarding the item measuring DSO 'close relationships with others'

Table 5. Univariate logistic regression analysis for traumatic experiences as predictors of ICD-11 PTSD and CPTSD in trauma-exposed participants ($n = 720$).

Traumatic experiences	PTSD versus no diagnosis ($n = 704$)		CPTSD versus no diagnosis ($n = 669$)	
	OR [95% CI]	*p*	OR [95% CI]	*p*
1. Natural disaster	0.24 [0.03–1.86]	.160	0.76 [0.10–5.83]	.787
2. Fire or explosion	1.34 [0.74–2.44]	.337	1.28 [0.44–3.74]	.650
3. Transportation accident	0.95 [0.55–1.62]	.842	0.90 [0.33–2.42]	.832
4. Serious other accident	0.73 [0.37–1.44]	.361	1.49 [0.53–4.15]	.451
5. Exposure to toxic substance	1.82 [0.75–4.46]	.188	0.88 [0.11–6.80]	.902
6. Childhood physical abuse	1.74 [0.96–3.12]	.066	2.69. [0.99–7.27]	.051
7. Physical assault	1.31 [0.78–2.24]	.307	0.62 [0.22–1.74]	.367
8. Assault with a weapon	2.77 [1.35–5.68]	.005	4.58 [1.54–13.62]	.006
9. Childhood sexual abuse	1.44 [0.33–6.39]	.631	2.35 [0.29–18.78]	.420
10. Sexual assault	4.22 [1.61–11.03]	.003	7.30 [1.93–27.67]	.003
11. Other unwanted sexual experience	0.91 [0.32–2.61]	.857	6.40 [2.24–18.24]	.001
12. Combat or exposure to a war-zone	0.91 [0.12–7.08]	.931	–	–
13. Captivity	–	–	–	–
14. Life-threatening illness or injury	1.53 [0.84–2.78]	.168	2.80 [1.13–7.57]	.043
15. Severe human suffering	1.74 [0.98–3.08]	.059	8.47 [2.39–30.04]	.001
16. Sudden violent death	3.01 [1.42–6.37]	.004	0.82 [0.11–6.35]	.851
17. Sudden accidental death	1.98 [1.12–3.51]	.019	0.44 [0.12–1.56]	.212
18. Serious injury, harm or death caused to someone else	1.03 [0.24–4.46]	.973	3.59 [0.78–16.65]	.103
Sum of all traumatic events	1.16 [1.04–1.29]	.010	1.24 [1.06–1.45]	.008
Exposure to a recent traumatic event (<12-months)	2.45 [1.30–4.61]	.005	1.87 [0.59–5.96]	.292

Note. OR = odds ratio; CI = confidence interval.

symptoms. However, the partial scalar invariance showed that the ITQ could be used to measure PTSD and CPTSD in both genders. Consistent with a large body of previous research, our results also showed that female gender is associated with a higher risk of developing posttraumatic stress disorders (Ditlevsen & Elklit, 2012; Pineles et al., 2017).

This study aimed to assess the role of trauma-related factors, such as the type of trauma and the disclosure of traumatic events, on the onset of PTSD and CPTSD. In line with previous studies (Karatzias et al., 2017), various types of interpersonal trauma were related to PTSD and CPTSD symptoms, mainly sexual assault and assault with a weapon significantly increased the risk of both PTSD and CPTSD reactions in the current study. However, the results of this study did not find a significant association between childhood abuse (physical or sexual) and CPTSD, even though these findings have been reported previously (Cloitre et al., 2009; Kazlauskas et al., 2018; Knefel et al., 2019; Krammer et al., 2016). The current study replicates previous findings that PTSD is more strongly associated with recent trauma exposure than CPTSD (Karatzias et al., 2019). However, our study findings show that the cumulative effect of trauma exposure increased the risk of not only CPTSD but PTSD as well. These results are highly important in the clinical setting, suggesting that the type of trauma or the cumulative effect of trauma may be regarded only as a guiding factor but should not be used to determine the possible diagnosis or differentiate between PTSD or CPTSD symptoms.

A novel aspect of this study is the finding that avoidance of trauma disclosure is strongly associated with CPTSD symptoms, as disclosure of trauma has been sparsely studied in the context of ICD-11 CPTSD diagnosis. Previous studies have shown that avoidance of trauma disclosure can lead to stronger PTSD reactions (Bolton et al., 2003; Maercker & Horn, 2013), but the current study shows that it is a more substantial factor when talking about CPTSD reactions. Our results indicate that a higher risk of CPTSD is more strongly related to adverse reactions to trauma-related stimuli, such as strong reluctance to talk about the negative experiences and having strong emotional reactions when prompted to disclose them. Strong reluctance to disclose may be particularly related to the experience of negative social emotions such as shame and humiliation, which are often associated with interpersonal traumas such as sexual assault and sexual abuse, and could have undermining consequences as it could lead to reluctance to seek professional help (Kazlauskas, 2017) and more adverse psychopathology.

Compared to other studies that showed that disclosure of trauma is related to lower PTSD symptoms and could be used as an effective therapeutic method (Jeffreys et al., 2010), the current study showed that the urge to talk about trauma-related content is more strongly related to higher PTSD symptoms. A possible explanation for these results could be that disclosure of trauma when met with adverse social reactions from others could lead to even stronger PTSD reactions (Pielmaier & Maercker, 2011; Ullman & Filipas, 2001). Therefore, when exploring the effect of trauma disclosure on PTSD or CPTSD, it is important also to include the experience of perceived social support and social acknowledgement from others.

Limitations

The current study provided important insights into assessing trauma-related disorders and trauma-related risk factors in the general population; however, it has several limitations that need to be considered when interpreting the findings. Firstly, the study is cross-sectional, limiting causal inferences and making the identified associations more challenging to interpret and susceptible to biases. Also, as this was not a clinical sample, PTSD and CPTSD groups were relatively small, so the estimation of predictors was limited to small statistical power. Therefore, the results of this study should be interpreted carefully. Moreover, even though our sample size was sufficient for a trustworthy data analysis, it was not a representative population-based study, meaning that the generalisation of our results for all population of Lithuania should be made with caution. Furthermore, we used self-report measures to assess the risk of PTSD and CPTSD. While the ITQ used in the current study is one of the most used measures for ICD-11 posttraumatic stress disorders, diagnostic clinical interviews, such as the International Trauma Interview (ITI), could provide more accurate diagnostic decisions (Bondjers et al., 2019) in future studies.

Conclusions

All in all, the study provides insight into the role of trauma-related factors on PTSD and CPTSD in the general population. Our findings suggest that previous trauma and interpersonal trauma are important risk factors associated with posttraumatic stress disorders but may not differentiate between PTSD and CPTSD diagnosis, especially in non-clinical samples. However, this study highlights that CPTSD symptoms are related to adverse trauma disclosure, such as more substantial reluctance to disclose trauma history and having stronger emotional reactions, which could lead to the development of CPTSD and may be associated with reluctance to seek mental health services.

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II.

Mediating role of avoidance of trauma disclosure and social disapproval in ICD-11 post-traumatic stress disorder and complex post-traumatic stress disorder: Cross-sectional study in a Lithuanian clinical sample.

Kvedaraite, M., Gelezelyte, O., Karatzias, T., Roberts, N., & Kazlauskas, E. (2021). Mediating role of avoidance of trauma disclosure and social disapproval in ICD-11 post-traumatic stress disorder and complex post-traumatic stress disorder: Cross-sectional study in a Lithuanian clinical sample. *BJPsych Open,* *7*(6), 1-7, E217. https://doi.org/10.1192/bjo.2021.1055

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Mediating role of avoidance of trauma disclosure and social disapproval in ICD-11 post-traumatic stress disorder and complex post-traumatic stress disorder: cross-sectional study in a Lithuanian clinical sample

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Background

ICD-11 includes a new diagnosis of complex post-traumatic stress disorder (CPTSD), resulting predominantly from reoccurring or prolonged trauma. Previous studies showed that lack of social support is among the strongest predictors of PTSD, but social factors have been sparsely studied in the context of the ICD-11 definition of PTSD and CPTSD.

Aims

To analyse the factor structure of the International Trauma Questionnaire (ITQ) in a Lithuanian clinical sample and to evaluate the mediating role of social and interpersonal factors in the relationship between trauma exposure and ICD-11 PTSD and CPTSD.

Method

The sample comprised 280 adults from out-patient mental health centres (age, years: mean 39.48 (s.d. = 13.35); 77.5% female). Trauma-related stress symptoms were measured with the ITQ. Social disapproval was measured with the Social Acknowledgment Questionnaire (SAQ) and trauma disclosure using the Disclosure of Trauma Questionnaire (DTQ).

Results

ICD-11 PTSD and CPTSD prevalence among the participants in this study was 13.9% and 10.0% respectively. Results indicated that avoidance of trauma disclosure mediated the relationship between trauma exposure and PTSD as well as CPTSD, whereas social disapproval mediated only the relationship between trauma exposure and CPTSD.

Conclusions

The findings suggest that disclosure of traumatic experiences and support from closest friends and family members might mitigate the effects of traumatic experiences, potentially reducing the risk of developing CPTSD.

Keywords

ICD-11; trauma disclosure; social disapproval; PTSD; complex PTSD.

A new diagnosis of complex post-traumatic stress disorder (CPTSD) along with post-traumatic stress disorder (PTSD) was included in the recently published ICD-11.[1] CPTSD diagnosis comprises the three PTSD symptom clusters: (a) re-experiencing, (b) avoidance and (c) sense of threat; as well as three symptom clusters of disturbances in self-organisation (DSO): (a) affect dysregulation, (b) negative self-concept and (c) disturbances in relationships.

PTSD and CPTSD are both very disabling disorders and often can have a late onset or chronic course. Identifying underlying risk and protective factors is therefore particularly important for the mitigation of risk and development of care for trauma survivors. Previous studies, using DSM-5 or ICD-10 definitions of PTSD, identified various peri-trauma or post-trauma risk factors of post-traumatic stress, but it has been consistently reported that inadequate social support is a strong factor contributing to the development and maintenance of PTSD;[2,3] in particular, social approval from close friends and family[4] and emotional social support[5] have a substantial mediating (protective) effect between lifetime trauma exposure and PTSD. Even if it is generally accepted that lack of social support is one of the prominent risk factors for the onset and continuation of PTSD symptoms,[2,6] further research is needed to explore the underlying risk factors for CPTSD. In particular, the role of social factors has been sparsely studied in the context of the new ICD-11 definitions of PTSD and CPTSD. Given the nature of the symptom profile of CPTSD, which includes exaggerated negative beliefs and disturbed relationships with others, it is plausible that social support is associated more strongly with CPTSD symptoms than PTSD symptoms.[7]

Social support is a broad and multidimensional concept, but research shows that disclosure of trauma[8] and social acknowledgement[9] are among the most relevant social support factors following traumatic experiences. Disclosing trauma and trauma-related problems following the traumatic experiences has been shown to have positive therapeutic effects; in contrast, the lack of disclosure can predict stronger ICD-10 PTSD reactions.[10] Furthermore, traumatic events that are more commonly associated with CPTSD reactions, such as sexual and childhood trauma, were associated with greater difficulty in disclosing,[11] alongside increased experience of negative self-referential emotions such as shame.[12] However, results of the trauma disclosure effects are inconsistent, with some studies showing negative effects of disclosing.[13] These results can be partially explained by negative social reactions towards trauma survivors who choose to disclose their experiences. Therefore it is important to study the effects of disclosure of trauma in tandem with social acknowledgement and approval. To our knowledge, disclosure of trauma has not yet been studied in the context of the ICD-11 definition of CPTSD, and therefore links between social acknowledgement and CPTSD are unknown. One study relevant

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Table 1 Sociodemographic characteristics of the study sample ($n = 280$)

Variable	No PTSD ($n = 213$) *n (%)*	PTSD ($n = 39$) *n (%)*	CPTSD ($n = 28$) *n (%)*	Significance statistics
Gender				
Male	43 (20.2)	12 (30.8)	8 (28.6)	$\chi^2(2) = 2.77$
Female	170 (79.8)	27 (69.2)	20 (71.4)	
Age				
Mean (s.d.)	39.52 (13.77)	41.75 (12.15)	36.32 (11.53)	$F(2) = 1.31$
Range	18–84	18–69	19–58	
Relationship status				
In relationship	133 (63.3)	23 (60.5)	12 (42.9)	$\chi^2(2) = 4.35$
Single	77 (36.7)	15 (39.5)	16 (57.1)	
Children				
Yes	135 (63.4)	29 (74.4)	18 (64.3)	$\chi^2(2) = 1.75$
No	78 (36.6)	10 (25.6)	10 (35.7)	
Residence				
Urban	171 (80.7)	32 (82.1)	19 (67.9)	$\chi^2(2) = 2.67$
Rural	41 (19.3)	7 (17.9)	9 (32.1)	
Education				
University degree	86 (40.6)	13 (33.3)	7 (25.0)	$\chi^2(4) = 8.22$
Secondary non university education or some college	68 (32.0)	19 (48.8)	9 (32.1)	
High/secondary school or lower	58 (27.4)	7 (17.9)	12 (42.9)	
Employment				
Employed	142 (68.3)	21 (53.8)	16 (57.1)	$\chi^2(2) = 3.87$
Not employed	66 (31.7)	18 (46.2)	12 (42.9)	
Income				
Average or higher	80 (48.5)	14 (46.7)	12 (52.2)	$\chi^2(2) = 0.16$
Lower than average	85 (51.5)	16 (53.3)	11 (47.8)	

PTSD, post-traumatic stress disorder; CPTSD, complex PTSD.

to the exploration of the effects of social factors on CPTSD shows that those with a higher risk for CPTSD exhibit lower levels of perceived social support, even when compared with a PTSD group.[7] Taking into account these studies and updates in ICD-11, we find it important to further explore the lack of social acknowledgement and avoidance of disclosure of the trauma event as relevant risk factors for the onset and maintenance of CPTSD. A more comprehensive understanding of the role of social risk factors in traumatic stress would also be in line with a social–interpersonal framework model of PTSD,[14] which states that the social and interpersonal context (social affects, interpersonal relationships, culture and society) is an important factor not only for the onset of PTSD but also for resilience and positive adaptation following traumatic experiences.

Furthermore, the recent CPTSD diagnosis has created the need for new methods of assessment.[15] The symptom structure of ICD-11 PTSD and CPTSD has been validated across multiple samples, and a new instrument was developed to specifically measure ICD-11 PTSD and DSO symptoms – the International Trauma Questionnaire (ITQ).[16] Previous studies in Lithuania evaluated the test version of the 22-item ITQ and found that the factor structure was in line with the ICD-11 PTSD and CPTSD formulation.[17] Since then, a shorter 12-item ITQ version has been developed after validation in various samples.[16] However, the 12-item ITQ factor structure has not been tested in a Lithuanian sample yet, and researchers and clinicians in Lithuania do not have reliable measures to screen for PTSD and CPTSD symptoms. This shortage of reliable measures may be one of the reasons for poor recognition of trauma-related disorders in Lithuanian mental health services.[18]

This study aimed to (a) evaluate the structural validity of the ITQ in a Lithuanian sample of mental health service patients and (b) assess the role of social–interpersonal factors (i.e. avoidance of trauma disclosure and lack of social approval from friends and family) in PTSD and CPTSD. We hypothesised that avoidance of trauma disclosure and lack of social approval from friends and family would mediate PTSD and CPTSD following exposure to trauma.

Method

Participants and procedure

A dataset for analysis in this study was obtained from a larger research project on the ICD-11 stress-related disorders conducted by the Vilnius Center for Psychotraumatology, Lithuania. A secondary analysis of the previously unpublished data was conducted. Results of the larger research project have been published previously.[17] The study was approved by the Institutional Psychological Research Ethics Committee at Vilnius University (2016/04/05 Nr.8). Participants were recruited by 20 psychologists in multiple cities across Lithuania. The settings for data collection included private clinical psychologists' practice, primary mental health centres, hospitals and out-patient mental health clinics. All participants provided written informed consent before data collection.

In total, 348 adults provided written informed consent for participation in the study, a response rate of 81.1%. The data of 68 participants were not included in analysis because they reported no previous trauma experiences ($n = 29$) or did not complete the PTSD and CPTSD assessments ($n = 39$). The final sample comprised 280 participants: 217 (77.5%) female, mean age 39.48 years (s.d. = 13.35), age range 18–84 years. The majority of participants (79.3%, $n = 222$) lived in an urban area, around two-thirds (63.9%, $n = 179$) were employed and around one-third (37.9%, $n = 106$) had a university degree. More information on sociodemographic characteristics of the PTSD, CPTSD and no-PTSD groups is presented in Table 1. We found no significant differences regarding the sociodemographic characteristics among these groups.

Measures

The Life Events Checklist (LEC) was used to measure trauma exposure in the sample.[19] We used the revised version, which lists 18 different traumatic experiences, with two additional items added to the standard version measuring physical abuse in childhood

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and sexual abuse in childhood.[20,21] Participants were asked to report whether they have experienced, witnessed, learned about or never have been exposed to the listed experiences. Experiencing or witnessing a potentially traumatic event was regarded as exposure to trauma. Previous studies showed adequate stability and association with PTSD symptoms.[22] We used the sum of traumatic experiences to estimate cumulative trauma exposure in our sample.

The International Trauma Questionnaire (ITQ)[16] was used to assess ICD-11 PTSD and CPTSD. The ITQ comprises 12 symptom items that assess 6 symptom clusters in total (two items per cluster). Three of the clusters are for PTSD: re-experiencing, avoidance and sense of current threat; and three are for DSO: affective dysregulation, negative self-concept and disturbances in relationships. Participants indicated the intensity of the listed PTSD symptoms over the previous month. For the DSO assessment, participants were asked to indicate how they typically feel, think about themselves and relate to others. After PTSD and DSO symptom items, the questionnaire lists functional impairment items associated with problems in: relationships and social life, work or ability to work, and any other important part of life. All items were rated from 0 (not at all) to 4 (extremely). Endorsement of a symptom or functional impairment is defined as a score $\geq$2.[16] As the algorithm of the ITQ indicates, the diagnosis of PTSD requires the endorsement of one of two symptoms from each PTSD cluster, plus the endorsement of functional impairment related to these symptoms. CPTSD is diagnosed if a person meets criteria for PTSD and all three DSO symptom clusters are endorsed, along with at least one DSO-related functional impairment item.[16] In the current study, Cronbach's alpha for the total ITQ score was 0.88, for the PTSD symptoms $\alpha = 0.86$ and for the DSO symptoms $\alpha = 0.85$.

Avoidance of trauma disclosure was measured using the 12-item Disclosure of Trauma Questionnaire (DTQ-12).[8] For the purposes of this study, we used the Reluctance to Talk subscale, which consists of four items specifically associated with avoidance of trauma disclosure. Each item was rated on a Likert scale ranging from 0 (not at all) to 5 (completely), evaluating how much participants are willing to disclose the most troubling traumatic experience. The DTQ-12 score was computed by summing all responses: higher scores indicated a stronger reluctance to disclose traumatic experiences. Previous studies have shown good reliability for the Lithuanian version of the DTQ-12.[23,24] Cronbach's α for the Reluctance to Talk subscale in this study was 0.77.

Social acknowledgement from family and friends was measured using items extracted from the Social Acknowledgment Questionnaire (SAQ).[9] In this study, we used only the five-item Family and Friends Disapproval subscale, which is related to social acknowledgement from family and friends, to estimate participant's interaction with the closest social context. Participants rated on a Likert scale ranging from 0 (completely disagree) to 3 (completely agree) how much their friends or family members support or understand them and their experiences concerning the most troubling traumatic experience referred to in the ITQ. The total score was computed by summing all responses: higher scores indicated stronger social disapproval from friends and family. Cronbach's α in this study was 0.58. The low value of Cronbach's α for the social disapproval measure could in part be explained by the low number of items. Nevertheless, an alpha ranging from 0.5 to 0.7 still shows moderate reliability and is acceptable in research.[25]

Data analysis

To test the factor structure and the validity of the ITQ scale, we conducted confirmatory factor analysis (CFA). In our analysis we tested four alternative CFA models, which were described in a previous study[26] and are presented in Fig. 1. These CFA models were estimated using the Robust Maximum Likelihood (MLR) estimator method.

The mediating role of social factors on the relationship between traumatic exposure and PTSD and CPTSD was tested by applying the Structural Equation Modelling (SEM) approach. We included PTSD and CPTSD diagnosis as binary variables in the SEM model, computed using the ITQ diagnostic algorithm. When testing the models, we used the weighted least square mean and variance adjusted (WLSMV) estimation method. We tested both direct and indirect (or mediated) links between the study variables. Indirect effects were tested using a bootstrap estimation approach with 5000 samples.[27] Two alternative SEM models were tested. The first SEM model did not include any control variables, the second SEM model was estimated after controlling for gender, age, education and relationship status effects on social factors, as these factors have been shown to independently associate with either PTSD or CPTSD.[28] Model fit for the CFA and SEM models was assessed using the root mean square error of approximation (RMSEA), the chi-square test, the standardised root mean square residual (SRMR) indices, the comparative fit index (CFI), and the Tucker–Lewis index (TLI). CFI and TLI values >0.90 and RMSEA and SRMR values $\leq$0.08 indicate acceptable model fit.[28]

IBM SPSS Statistics 25 (for Windows) was used for descriptive statistics analyses. Mplus 8.2 (for Windows) was used to conduct the CFA and SEM analysis.

Results

Trauma exposure

Participants reported experiencing an average of 5.77 (s.d. = 2.97) different lifetime traumatic experiences, with each participant reporting between 1 and 16 types (from those listed in the LEC). Exposure to only 1 trauma type was reported by 3.9% ($n = 11$), 2–3 trauma types were reported by 21.1% ($n = 59$), 4–6 types were experienced by 35.7% ($n = 100$), 7–9 types were reported by 27.9% ($n = 78$) and $\geq$10 types were reported by 11.4% ($n = 32$) of participants. The most prevalent trauma experiences were sudden accidental death of a loved one (72.1%), severe human suffering (67.9%), transportation accidents (60.7%) and physical assault (58.9%).

In total, 39 (13.9%) participants met the probable diagnostic criteria for PTSD and 28 (10.0%) for CPTSD. Significant differences between the non-PTSD, PTSD and CPTSD groups' exposure to different trauma experiences were found. The CPTSD group reported experiencing more lifetime types of trauma (7.75; s.d. = 2.77) than the non-PTSD group (5.40; s.d. = 2.95) ($F(2) = 9,1$; $P < 0.001$). The CPTSD group reported experiencing more childhood physical abuse ($\chi^2(2) = 15.83$; $P < 0.001$) than the PTSD and non-PTSD groups, whereas the PTSD group reported experiencing more physical assault (χ^2 $(2) = 8.19$; $P = 0.017$) than the non-PTSD and CPTSD groups. In addition, the CPTSD and PTSD groups reported experiencing more assault with a weapon ($\chi^2(2) = 11.20$; $P = 0.004$) and unspecified unwanted or uncomfortable sexual experience ($\chi^2(2) = 8.11$; $P = 0.017$) than the non-PTSD group.

Analysis of PTSD and CPTSD symptom structure

Model fit statistics for all the tested CFA models are presented in Table 2. Model 4 had a non-significant chi-square result and demonstrated acceptable fit based on the CFI, TLI, SRMR and RMSEA values. Thus, the second-order two-factor model (Model 4) has been chosen as the best fitting model in line with CPTSD theoretical conceptualisation. Factor loadings and all correlations among the latent factors were significant ($P < 0.001$) (Table 3). Factor loadings ranged between 0.52 and 0.95; the correlation

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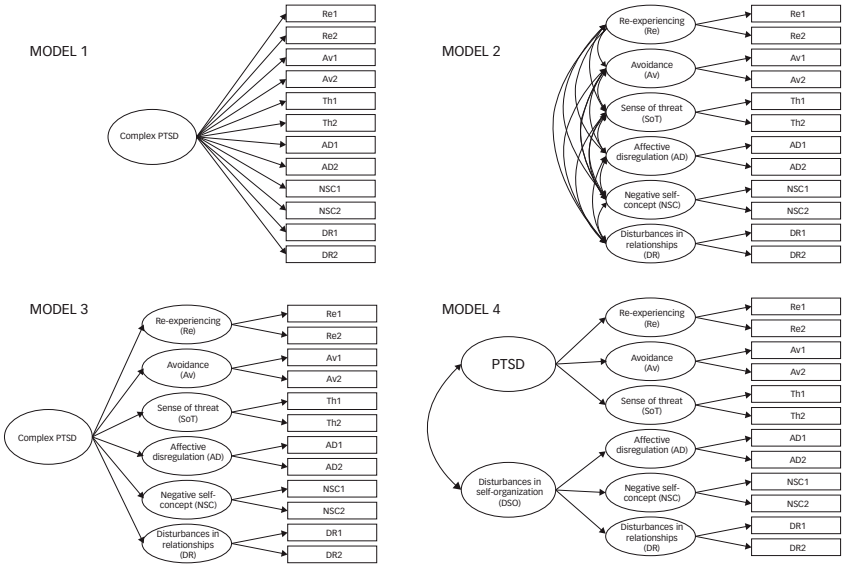

Fig. 1 ICD-11 post-traumatic stress disorder (PTSD) and complex PTSD (CPTSD) confirmatory factor analysis models.

between latent factors ranged between 0.72 and 1.00. Owing to the negative covariance matrix error, the correlation between DSO and affective dysregulation was constrained at 1. The correlation between DSO and PTSD factors was 0.60.

Social factors, PTSD and CPTSD

We found that the CPTSD group experienced stronger social disapproval from family and friends than the PTSD and non-PTSD groups, and both the PTSD and CPTSD groups reported higher avoidance of trauma disclosure than the non-PTSD group (Table 4).

The mediating role of social factors on PTSD and CPTSD when exposed to traumatic events was tested by applying the SEM approach. The final SEM model of the role of social factors on PTSD and CPTSD is shown in Fig. 2. In this model, trauma exposure predicted avoidance of trauma disclosure and social disapproval from friends and family for PTSD and CPTSD. PTSD and CPTSD were also predicted by social disapproval from friends and family and avoidance of trauma disclosure. The model explained significant levels of variance in all variables ($P < 0.05$) except for the effects of trauma exposure and social disapproval from friends and family on PTSD. We therefore included the estimation of the indirect effects of accumulative exposure on traumatic events through social disapproval from friends and family and avoidance of trauma disclosure to CPTSD. The estimation of the model yielded good model fit ($\chi^2(14) = 19.91$, $P = 0.133$, CFI/TLI = 0.972/0.944, RMSEA 90% CI 0.039 (0.000–0.076), SRMR = 0.051). We also tested an alternative model controlling for gender, age and relationship status effects on avoidance of trauma disclosure and social disapproval from friends and family. However, an alternative model yielded unacceptable model fit ($\chi^2(26) = 51.32$, $P = 0.002$, CFI/TLI = 0.890/0.810, RMSEA 90% CI 0.060 (0.036–0.084), SRMR = 0.036). As the final model, we therefore chose the one without control variables.

Trauma exposure was significantly directly associated with CPTSD, but not with PTSD when social disapproval from friends and family and avoidance of trauma disclosure were included as mediators (Fig. 2). We also found that both social disapproval from friends and family and avoidance of trauma disclosure were significantly directly related to CPTSD symptoms. However, only avoidance of trauma disclosure was directly related to PTSD symptoms. Additionally, we found that the indirect link between trauma exposure and CPTSD symptoms through avoidance of trauma disclosure (IND = 0.08 (0.02–0.15)) was significant but weak. All other indirect links were found to be non-significant.

Table 2 Model fit statistics for the tested confirmatory factor analysis models

Model	RMSEA (90% CI)	SRMR	CFI	TLI	χ^2 (d.f.), *P*
Model 1	0.230 (0.216–0.243)	0.121	0.560	0.462	851.77 (54), <0.001
Model 2	0.055 (0.034–0.074)	0.111	0.976	0.961	73.58 (40), <0.001
Model 3	0.093 (0.077–0.109)	0.083	0.918	0.887	163.65 (48), <0.001
Model 4	**0.029 (0.000–0.051)**	**0.042**	**0.992**	**0.989**	**58.09 (47), 0.129**

RMSEA, root mean square error of approximation; SRMR, standardised root mean square residual; CFI, comparative fit index; TLI, Tucker–Lewis index.
Bold denotes the best fitting model.

Discussion

This is one of the first studies analysing the role of social–interpersonal factors on ICD-11 PTSD and CPTSD in a clinical sample

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Table 3 Standardised factor loadings and standard errors for the second-order two-factor model (Model 4)[a]

Items	Re-experiencing	Avoidance	Sense of current threat	Affect dysregulation	Negative self-concept	Disturbances in relationships
Re1	0.73 (0.04)					
Re2	0.86 (0.04)					
Av1		0.83 (0.03)				
Av2		0.93 (0.03)				
SoT1			0.75 (0.03)			
SoT2			0.90 (0.03)			
AD 1				0.58 (0.05)		
AD 2				0.52 (0.05)		
NSC 1					0.94 (0.02)	
NSC 2					0.95 (0.02)	
DR 1						0.89 (0.03)
DR 2						0.78 (0.03)
First-order factors		PTSD			Disturbances in self-organisation	
Re		0.77 (0.04)				
Av		0.72 (0.04)				
SoT		0.97 (0.04)				
AD					1.00 (0.00)	
NSC					0.77 (0.04)	
DR					0.77 (0.04)	

Re, re-experiencing; AV, avoidance; SoT, sense of current threat; AD, affect dysregulation; NSC, negative self-concept; DR, disturbances in relationships; PTSD, post-traumatic stress disorder.
a. All factor loadings are statistically significant ($P < 0.001$).

Table 4 Symptoms and social factors by group ($n = 280$)[a]

Variable	Non-PTSD group ($n = 213$) Mean (s.d.)	PTSD group ($n = 39$) Mean (s.d.)	CPTSD group ($n = 28$) Mean (s.d.)	Significance statistics F (d.f. = 2)	P
CPTSD symptoms	12.26 (7.93)[b,c]	23.85 (5.12)[a,c]	32.21 (5.93)[a,b]	115.28	<0.001
PTSD symptoms	5.78 (4.65)[b,c]	15.74 (3.97)[a]	16.25 (3.59)[a]	132.30	<0.001
Re-experiencing	1.50 (1.78)[b,c]	4.87 (1.88)[a]	4.82 (2.09)[a]	85.50	<0.001
Avoidance	2.21 (2.38)[b,c]	5.54 (1.65)[a]	6.07 (1.30)[a]	66.22	<0.001
Sense of threat	2.07 (2.09)[b,c]	5.33 (1.58)[a]	5.36 (1.54)[a]	70.07	<0.001
DSO symptoms	6.48 (5.05)[b,c]	8.10 (2.98)[a,c]	15.96 (3.74)[a,b]	50.56	<0.001
Affect dysregulation	2.53 (1.60)[b,c]	3.36 (1.29)[a,c]	4.75 (1.71)[a,b]	26.93	<0.001
Negative self-concept	1.69 (2.23)[c]	1.90 (2.00)[c]	5.86 (1.98)[a,b]	45.53	<0.001
Disturbed relationships	2.26 (2.17)[c]	2.85 (1.99)[c]	5.36 (1.39)[a,b]	27.62	<0.001
Social disapproval from family/friends	5.91 (2.85)[c]	6.11 (2.70)[c]	8.80 (2.63)[a,b]	11.83	<0.001
Avoidance of trauma disclosure	6.62 (4.47)[b,c]	9.68 (3.65)[a]	12.07 (4.45)[a]	23.85	<0.001

PTSD, post-traumatic stress disorder; CPTSD, complex post-traumatic stress disorder; DSO, disturbances in self-organisation.
a. Superscripts denote significant differences at $P < 0.05$ for the respective groups: [a], non-PTSD; [b], PTSD; [c], CPTSD.

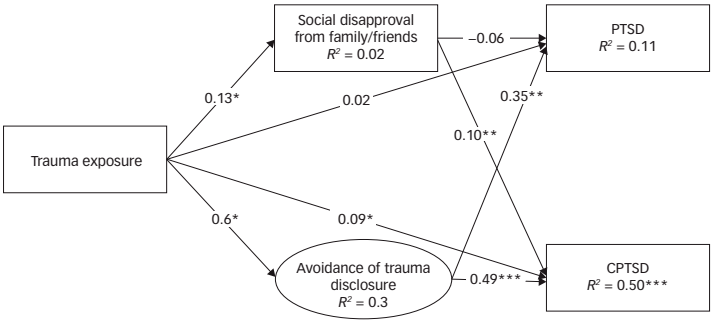

Fig. 2 Model of post-traumatic stress disorder (PTSD) and complex PTSD (CPTSD) symptoms through social disapproval from friends and family and avoidance of trauma disclosure. *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$.

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revealing the different effects of avoidance of disclosure and social disapproval on the two disorders. Our results show that social–interpersonal factors are important mediators for both PTSD and CPTSD.

In our study, avoidance of trauma disclosure significantly mediated the relationship between traumatic exposure and the risk for ICD-11 PTSD and CPTSD. These results are in line with previous research which shows that, although survivors with PTSD often avoid being open about their traumatic experiences,[29] disclosure is related to well-being and lower levels of PTSD symptoms.[14] Furthermore, our results suggest that disclosure of trauma is no less important in the case of CPTSD – a diagnostically new condition.

More important, our results showed that social disapproval from family and friends associated with trauma exposure was a significant mediator for CPTSD but not for PTSD. Simon et al[7] also found significant associations between perceived social support and the disturbances in self-organisation (DSO) symptom clusters in CPTSD, whereas relationships between social support and symptom clusters in PTSD were non-significant. These findings indicate that the lack of support from friends and family contributes to more adverse trajectories of psychopathology after traumatic experiences, which might result in complex post-traumatic stress symptoms. However, these results should be interpreted carefully, as the instrument used to measure social support showed moderate reliability. Furthermore, this is a cross-sectional study and it is equally possible that PTSD and DSO symptoms influence perceptions of social support and willingness to disclose. Moreover, the differences we found between PTSD and CPTSD in relation to disapproval from friends and family might be explained by additional DSO symptoms that CPTSD encompasses. PTSD can be perceived more as a conditioned fear response, whereas CPTSD represents a more complex effect of trauma resulting in disturbances of emotion regulation, self-identity and relationships with others.[15]

As this was the first study using the final version of the ITQ in a Lithuanian clinical sample, we also aimed to evaluate the factor structure of the ITQ in a Lithuanian sample of mental health service users. In line with previous studies,[17,30–32] we found that the two-factor second-order model where a second-order PTSD factor accounts for the covariation between the re-experiencing, avoidance and sense of current threat factors and a second-order DSO factor accounts for the covariation between the affect dysregulation, negative self-concept and disturbances in relationships factors had a good fit. This model was consistent with ICD-11 diagnostic criteria for PTSD and CPTSD. The ITQ factor structure and reliability analysis also indicate that this measure can be used in Lithuania in clinical practice for PTSD and CPTSD screening.

The prevalence of PTSD and CPTSD among the mental health patients in this study was 23.9%. In total, 13.9% of participants met the criteria for PTSD and 10.0% for CPTSD. Other studies with treatment-seeking samples (who experienced sexual abuse, childhood abuse or were referred to the psychologist for other reasons) reported a similar or even higher prevalence of trauma-related disorders.[33,34] However, the rates of PTSD and CPTSD prevalence in general population studies are lower.[28,31,35] Thus, these findings indicate that PTSD and CPTSD symptoms are highly prevalent among mental health patients in Lithuania and that recognising stress-related symptoms and their risk factors in a clinical setting is very important.

Limitations and future research

The study has several limitations. First, this is a cross-sectional study, which limits causal inferences and makes the identified associations more challenging to interpret and more susceptible to biases. Future studies should explore social factors in relation to PTSD and CPTSD in a longitudinal study. Further studies could also explore how social factors, such as disclosure of trauma or acknowledgement from family members, contribute to recovery following traumatic experiences. Another limitation of this study is the low, although still of moderate reliability, Cronbach's α of the Social Acknowledgment Questionnaire. The results related to social acknowledgement should be interpreted carefully, and other instruments should be considered for measuring social acknowledgement. In the current study, we also did not collect data regarding possible comorbidities of various disorders related to PTSD and CPTSD, such as borderline personality disorder, depression and anxiety. Further studies could benefit from including this data as it might help to better identify risk factors that are specifically related to PTSD or CPTSD. Furthermore, we used self-report measures to evaluate PTSD and CPTSD. Although the ITQ is a widely used instrument for ICD-11 post-traumatic stress disorders, diagnostic interviews such as the International Trauma Interview might provide more extensive information on which to make diagnostic decisions.[36]

Clinical implications

Our findings suggesting that supporting disclosure of traumatic experiences in an empathic way might mitigate the effects of traumatic experiences require further investigation, but are nonetheless important for clinicians who are providing treatment for trauma survivors. The inclusion of family members, partners or friends in the treatment process could foster therapeutic effects in the treatment of CPTSD. Furthermore, providing education to the general population on the effects of traumatic experiences might help family members and friends interact in a more understanding and respectful way with close ones who have experienced traumatic experiences.

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Data availability

The raw data supporting the conclusions of this article are available from the corresponding author on request.

Author contributions

M.K. contributed to the data analysis and writing – original draft. E.K. was the principal investigator and contributed to the writing – review and editing. O.G., T.K. and N.R. contributed to the review and editing of the manuscript.

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Declaration of interest

None.

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III.

Validation of the International Trauma Interview (ITI) for the Clinical Assessment of ICD-11 Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD) in a Lithuanian Sample.

Gelezelyte, O., Roberts, N.P., Kvedaraite, M., Bisson, J.I., Brewin, C.R., Cloitre, M., Kairyte, A., Karatzias, T., Shevlin, M., & Kazlauskas, E. (2022). Validation of the International Trauma Interview (ITI) for the clinical assessment of ICD-11 Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD) in a Lithuanian sample. *European Journal of Psychotraumatology*, *13*(1), https://doi.org/10.1080/20008198.2022.2037905

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BASIC RESEARCH ARTICLE

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Validation of the International Trauma Interview (ITI) for the Clinical Assessment of ICD-11 Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD) in a Lithuanian Sample

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ABSTRACT

Background: The 11th revision of the International Classification of Diseases (ICD-11) includes a new diagnosis of complex posttraumatic stress disorder (CPTSD). The International Trauma Interview (ITI) is a novel clinician-administered diagnostic interview for the assessment of ICD-11 PTSD and CPTSD.

Objective: The aim of this study was to evaluate the psychometric properties of the ITI in a Lithuanian sample in relation to interrater agreement, latent structure, internal reliability, as well as convergent and discriminant validity.

Method: In total, 103 adults with a history of various traumatic experiences participated in the study. The sample was predominantly female (83.5%), with a mean age of 32.64 years (*SD* = 9.36). For the assessment of ICD-11 PTSD and CPTSD, the ITI and the self-report International Trauma Questionnaire (ITQ) were used. Mental health indicators, such as depression, anxiety, and dissociation, were measured using self-report questionnaires. The latent structure of the ITI was evaluated using confirmatory factor analysis (CFA). In order to test the convergent and discriminant validity of the ITI we conducted a structural equation model (SEM).

Results: Overall, based on the ITI, 18.4% of participants fulfilled diagnostic criteria for PTSD and 21.4% for CPTSD. A second-order two-factor CFA model of the ITI PTSD and disturbances in self-organization (DSO) symptoms demonstrated a good fit. The associations with various mental health indicators supported the convergent and discriminant validity of the ITI. The clinician-administered ITI and self-report ITQ had poor to moderate diagnostic agreement across different symptom clusters.

Conclusion: The ITI is a reliable and valid tool for assessing and diagnosing ICD-11 PTSD and CPTSD.

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Entrevista Internacional de Trauma, trastorno de estrés postraumático, trastorno de estrés postraumático complejo, evaluación, CIE-11

关键词
国际创伤访谈, 创伤后应激障碍, 复杂性创伤后应激障碍, 评估, ICD-11

HIGHLIGHTS

- A study in Lithuania showed that the International Trauma Interview is a valid tool for assessing and diagnosing ICD-11 posttraumatic stress disorder (PTSD) and complex PTSD (CPTSD).

Validación de la Entrevista Internacional de Trauma (ITI) para la Evaluación Clínica del Trastorno de Estrés Postraumático (TEPT) y el TEPT Complejo (TEPT-C) de la CIE-11 en una Muestra Lituana

Antecedentes: La 11ª revisión de la Clasificación Internacional de Enfermedades (CIE-11) incluye un nuevo diagnóstico de trastorno de estrés postraumático complejo (TEPT-C). La Entrevista Internacional de Trauma (ITI en su sigla en inglés) es una nueva entrevista diagnóstica administrada por un clínico para la evaluación del TEPT y el TEPT-C de la CIE-11.

Objetivo: El objetivo de este estudio fue evaluar las propiedades psicométricas de la ITI en una muestra lituana en relación con el acuerdo entre evaluadores, la estructura latente, la confiabilidad interna, así como la validez convergente y discriminante.

Método: En total, participaron en el estudio 103 adultos con antecedentes de diversas experiencias traumáticas. La muestra fue predominantemente femenina (83.5%), con una edad media de 32.64 años (*DE* = 9.36). Para la evaluación del TEPT y TEPT-C de la CIE-11, se utilizaron la ITI y el Cuestionario Internacional de Trauma (ITQ en su sigla en inglés) de autoinforme. Los indicadores de salud mental, como la depresión, la ansiedad y la disociación, se midieron mediante cuestionarios de autoinforme. La estructura latente de la

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Supplemental data for this article can be accessed here.

ITI se evaluó mediante análisis factorial confirmatorio (AFC). Para probar la validez convergente y discriminante de la ITI, llevamos a cabo un modelo de ecuaciones estructurales (SEM).
Resultados: En general, según la ITI, el 18.4% de los participantes cumplió con los criterios diagnósticos de TEPT y el 21.4% de TEPT-C. El modelo AFC de dos factores de segundo orden de la ITI de TEPT y los síntomas de trastornos en la autoorganización (DSO) demostraron un buen ajuste. Las asociaciones con varios indicadores de salud mental apoyaron la validez convergente y discriminante de la ITI. La ITI administrada por un clínico y el ITQ autoinformado tuvieron una concordancia de diagnóstico pobre a moderada en diferentes grupos de síntomas.
Conclusión: La ITI es una herramienta fiable y válida para evaluar y diagnosticar TEPT y TEPT-C según la CIE-11.

个立陶宛样本中国际创伤访谈 (ITI) 对 ICD-11 创伤后应激障碍 (PTSD) 和复杂性 PTSD (CPTSD) 临床评估的验证
背景: 第 11 版国际疾病分类 (ICD-11) 纳入了对复杂性创伤后应激障碍 (CPTSD) 的新诊断。国际创伤访谈 (ITI) 是一种评估 ICD-11 PTSD 和 CPTSD的全新临床用诊断访谈。
目的: 本研究旨在评估立陶宛样本中 ITI与评分者之一致性, 潜在结构, 内部信度以及收敛效度和区分效度有关的心理测量学特性。
方法: 共有 103 名有各种创伤经历史的成年人参与了这项研究。样本主要为女性 (83.5%), 平均年龄为 32.64 岁 (*SD* = 9.36) 。对于 ICD-11 PTSD 和 CPTSD 的评估, 使用了 ITI 和自我报告的国际创伤问卷 (ITQ)。使用自我报告问卷测量心理健康指标, 如抑郁, 焦虑和解离。使用验证性因子分析 (CFA) 评估 ITI 的潜在结构。为了检验 ITI 的收敛和区分效度, 我们进行了结构方程模型 (SEM)。
结果: 总体而言, 根据 ITI, 18.4% 的参与者符合 PTSD 诊断标准, 21.4% 符合 CPTSD 诊断标准。ITI PTSD 和自组织障碍 (DSO) 症状的二阶双因子 CFA 模型表现出良好的拟合。与各种心理健康指标的关联支持 ITI 的收敛效度和区分效度。临床用ITI 和自我报告的 ITQ 对不同症状群的有较差到中等的诊断一致性。
结论: ITI 是评估和诊断 ICD-11 PTSD 和 CPTSD 的可靠且有效的工具

1. Introduction

The 11th revision of the International Classification of Diseases (ICD-11) proposed significant changes in trauma-related diagnoses (World Health Organization, 2018a). Complex posttraumatic stress disorder (CPTSD), a sibling disorder to posttraumatic stress disorder (PTSD), was recognized as a distinct psychiatric diagnosis (World Health Organization, 2018a). In the ICD-11, posttraumatic stress disorder is characterized by symptoms of re-experiencing in the present, avoidance, and a heightened sense of current threat that develop following traumatic experiences. For the diagnosis of PTSD, at least one clinically significant symptom from each cluster and significant impairment in social, occupational, or other important areas of functioning are required. In addition to meeting all PTSD criteria, CPTSD encompasses three clusters collectively known as disturbances in self-organization (DSO) symptoms, including affect dysregulation, negative self-concept and disturbances in relationships (World Health Organization, 2018a). Clinical levels of all PTSD and DSO symptoms, as well as functional impairment criteria, have to be present in order to meet diagnostic requirements for CPTSD. An individual can be diagnosed with either PTSD or CPTSD, but not both. The existence of two distinct symptom profiles of PTSD and complex PTSD has been supported in a number of studies across multiple samples (Brewin et al., 2017; Redican et al., 2021). Severe prolonged, multiple or repeated traumatic events from which escape is difficult or impossible are expected to increase the risk for CPTSD (Karatzias et al., 2017; Maercker et al., 2013).

The identification of CPTSD is important so that people suffering from more complex consequences of their traumatic experiences can be recognized, and targeted intervention can be offered (Karatzias & Cloitre, 2019). This is particularly important considering that effective interventions for PTSD may not be necessarily helpful for those with CPTSD (Karatzias et al., 2019). The validation of a clinical interview such as the International Trauma Interview (ITI) will not only enable accurate assessment of ICD-11 PTSD and CPTSD in everyday clinical practice, but it can also be used in research. However, since CPTSD is a new diagnosis, there has been a lack of assessment instruments available that specifically assess ICD-11 CPTSD. The most commonly used self-report measure for the assessment of ICD-11 PTSD and CPTSD is the International Trauma Questionnaire (ITQ; Cloitre et al., 2018). Numerous studies in different countries demonstrated support for the factorial and discriminant validity of PTSD and CPTSD measured using the ITQ (Redican et al., 2021). However, the ITQ is a brief self-report measure that could be useful in screening for PTSD or CPTSD symptoms, but it can be rather limited when a thorough and robust clinical or research-based evaluation of PTSD or CPTSD is required. Diagnostic interviews are conducted and evaluated by a trained interviewer so they are considered to be more diagnostically accurate than self-

report measures (Siqveland, Hussain, Lindstrøm, Ruud, & Hauff, 2017).

The International Trauma Interview (ITI; Roberts, Cloitre, Bisson, & Brewin, 2019) is a new clinician-administered diagnostic interview for ICD-11 PTSD and CPTSD. However, there has been only one study published so far on its validity. This study tested an earlier version of the ITI in a Swedish trauma-exposed community sample (Bondjers et al., 2019). It demonstrated good psychometric properties of the instrument and acceptable fit for a second-order two-factor model consistent with the ICD-11 PTSD and CPTSD formulation. Following the completion of this study, a number of revisions were made to the ITI, based on the feedback of the interviewers and allied collaborators. Revisions included additional prompt questions for DSO items and clearer criteria for making judgements about symptom presence. There is an urgent need to explore the reliability and validity of this latest available version of the ITI. The overall aim of this study was to evaluate the psychometric properties of the revised ITI in a Lithuanian sample with regards to interrater agreement, latent structure, and internal reliability, as well as the evaluation of convergent and discriminant validity. Following the theoretical descriptions and previous research, we hypothesized that (1) the internal reliability and interrater agreement of the ITI would be satisfactory; (2) a second-order two-factor model of the PTSD and DSO symptoms would demonstrate the best fit to the study data; (3) PTSD symptoms would be most strongly associated with measurements of anxiety, and DSO symptoms would be most strongly associated with indicators of difficulties in emotion regulation, lower self-esteem, and problems with avoidance in romantic relationships, as well as depression, dissociative and borderline personality pattern symptoms, and worse general wellbeing; (4) the agreement between the ITI and the ITQ would be satisfactory.

2. Methods

2.1. Participants and procedures

The study was approved by the Vilnius University Psychological Research Ethics Committee. Information about the study was disseminated via social communication platforms (e.g. Facebook). Adults exposed to traumatic experiences were invited to participate in the study. We also shared the information about the study with mental healthcare providers via e-mailing lists and online groups of various organizations and professional associations across all regions of Lithuania. Inclusion criteria for the study were: (1) adults of at least 18 years old, (2) experience of at least one traumatic event during the lifetime, evaluated following the ICD-11 diagnostic guidelines, (3) trauma exposure at least three months prior to the study, (4) substantial knowledge of Lithuanian language. Participants were screened for eligibility for the study by filling in the online registration form. If they met the inclusion criteria, participants were further invited to fill in an online survey using a secure survey platform. All participants provided informed consent at the beginning of the survey. A diagnostic interview was scheduled after the participant completed an online survey. Individual feedback regarding mental health and contact information of mental health services was provided for all participants. Data were collected from October 2020 to June 2021.

All diagnostic interviews were conducted by a team of six clinical psychologists or a supervised master's student in clinical psychology who were all trained by one of the co-authors of the ITI (NR) in how to administer and score the ITI. Interviewers were supervised over the course of the study by NR regarding the general coding issues of the ITI for more complex cases. Regular team meetings to discuss the general ITI coding issues were organized to ensure accurate administration and scoring of the ITI interviews. The interviewers were blinded to the survey data provided by the participants. Due to restrictions related to the COVID-19 (severe acute respiratory syndrome coronavirus 2, SARS-CoV-2) pandemic, all interviews were conducted via video-conferencing. Interviews with the participants who gave their consent were video-recorded (98% of the total sample).

Overall, 192 participants registered to participate in this study. In the process of recruitment and data collection, 89 participants were excluded for the following reasons: for 29.7% of the registered participants, the index event did not meet the ICD-11 criteria for a PTSD/CPTSD qualifying traumatic event, and 16.7% refused to participate or could not be reached before or after completing the survey. The final sample included in the analysis comprised 103 participants, aged 32.64 years (SD = 9.36, range = 18–54), 83.5% female, mostly of Lithuanian (91.3%) nationality. The majority of participants were living in an urban area (94.2%), and had a university degree (77.7%). Almost half were employed (49.5%), 15.5% were studying and working part-time, and 14.6% were students. Around half of the participants were in a long-term relationship (45.6%). Nearly half of the sample were receiving mental health services from a psychologist or a psychiatrist (47.6%), more than a third had been seeing a mental health professional >12 months ago (33.0%), and 19.4% had never received mental health services.

2.2. Measures

2.2.1. The International Trauma Interview (ITI)

The ITI is a semi-structured clinical interview comprised of the description of an index traumatic event followed by two main parts for the assessment of ICD-11 PTSD and DSO symptoms (Roberts et al., 2019). The structure of the first section of the ITI is based on the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) (Weathers et al., 2013a) and includes three PTSD symptom clusters with two items per cluster: (1) nightmares or flashbacks as re-experiencing (Re) symptoms; (2) avoidance of internal or external reminders of traumatic experience (Av); and (3) hypervigilance or startle reactions as a current sense of threat (Th). The frequency and intensity of each PTSD symptom over the last month were evaluated on a five-point scale from 0 = 'Absent' to 4 = 'Extreme/incapacitating'. The first section also includes functional impairment questions concerning the impact of PTSD symptoms on a person's social functioning, and occupational functioning or other important areas of life. Functional impairment items are scored from 0 = 'No adverse impact' to 4 = 'Extreme impact, little or no functioning'.

The second section of the ITI includes three DSO symptom clusters with two items per cluster: (1) hyper- (heightened emotional reactions) or hypo-activation (emotional numbing or dissociation) as affective dysregulation when confronted with minor stressors (AD); (2) persistent feelings of being a failure or worthless as negative self-concept (NSC); and (3) persistent feelings of being distant from others or having difficulties in maintaining close relationships as disturbances in relationships (DR). The frequency and intensity of each DSO symptom was assessed on a five-point scale from 0 = 'Not at all' to 4 = 'Extremely'. The ITI provides guidelines for the evaluation of the severity of each symptom. The second section also includes functional impairment items on the impact of the DSO symptoms on a person's social functioning, and occupational functioning or other important areas of life. To be included as part of the CPTSD diagnosis, the DSO symptoms need to be identified as having started or gotten worse after exposure to a traumatic event.

For the endorsement of a PTSD diagnosis, at least one PTSD symptom per symptom cluster must be present for no less than several weeks at least at a moderate level (i.e. severity score ≥ 2), and with at least moderate impact on respondents' occupational or social functioning (i.e. severity score ≥ 2). The DSO criterion is endorsed if at least one DSO symptom per symptom cluster is present at least moderately for at least 3 months with at least moderate functional impairment. For endorsement of a CPTSD diagnosis, full PTSD criteria, and all DSO symptom clusters, as well as DSO-related functional impairment must be endorsed. The total ITI score may range from 0 to 24 for each PTSD and DSO part, and from 0 to 48 for the total CPTSD.

Additionally, the ITI includes a validity question that is not included in the total scoring but is relevant for diagnostic procedures. The general validity has to be evaluated by an interviewer on a scale from 'Excellent' (=0) to 'Invalid responses' (=4). In the current study, the validity of the interviews was scored from 'Excellent' (=0) to 'Fair' (=2). The ITI can be administered and scored only by a trained clinician or researcher who has completed the ITI training. The ITI administration typically ranges from 30 to 90 minutes, depending on the complexity of the case. The ITI is currently under evaluation and is only available for researchers engaged in the validation process. The final version of the ITI will be available for researchers and clinicians after validation has been completed.

The Lithuanian version of the ITI was translated from English by EK, MK and OG. It was then back-translated by an independent translator before being approved by the authors of the ITI.

2.2.2. International Trauma Questionnaire (ITQ)

The ITQ is a self-report screening instrument for ICD-11 PTSD and CPTSD (Cloitre et al., 2018) that has been commonly used in trauma research over the last few years (Redican et al., 2021). The structure of the ITQ is similar to that of the ITI. It consists of a brief description of the index traumatic event that is followed by two sections – the evaluation of PTSD and DSO symptoms. The PTSD section includes three symptom clusters consisting of two items: re-experiencing in the present (Re), avoidance (Av), and sense of threat (Th), and functional impairment items associated with these symptoms on occupational, social functioning, and other important areas of life. Respondents are instructed to indicate how much they have been bothered by each of the PTSD symptom in the past month, considering the index traumatic event. The DSO section includes three symptom clusters consisting of two items: affect dysregulation (AD), negative self-concept (NSC), and disturbed relationships (DR) as well as items measuring the impact of the DSO symptoms on occupational, social functioning, and other important areas of life. A set of DSO questions reflect how participants typically feel, think about themselves, and relate to others. All symptoms are evaluated on a five-point scale from 0 = 'Not at all' to 4 = 'Extremely'. Based on the ITQ diagnostic algorithm (Cloitre et al., 2018), probable PTSD is endorsed when at least one symptom from all PTSD symptom clusters and at least one PTSD-related functional impairment item is scored ≥2. Probable CPTSD is endorsed if all the PTSD criteria are met, and at least one symptom in every DSO symptom cluster, as well as at least one DSO-related functional impairment item is scored ≥2.

Multiple studies across many countries, including Lithuania, have demonstrated sufficient factorial validity and good psychometric characteristics of the ITQ (Kazlauskas, Gegieckaite, Hyland, Zelviene, & Cloitre, 2018; Redican et al., 2021). The Cronbach's alpha coefficients of the total ITQ (α = .93), as well as PTSD (α = .86) and DSO (α = .89) symptom clusters in the present study were good.

2.2.3. Life Events Checklist-Revised (LEC-R)

The LEC (Weathers et al., 2013b) revised version was used for trauma exposure assessment. The LEC-R is a 19-item self-report measure listing various potentially traumatic experiences with one item for any other probable traumatic experience. Two additional items of the revised version of the LEC specifically inquire about childhood trauma (Ben-Ezra et al., 2018). Each item is evaluated as 'Happened to me', 'Witnessed it', 'Learned about it', 'Not sure' or 'Doesn't apply'. A traumatic event is endorsed as experienced if it happened to the respondent, or the respondent witnessed or learned about it. The LEC-R was used for screening for eligibility for participation in the study and to evaluate index traumatic event for the ITI and the ITQ assessments. The Lithuanian version of the LEC-R was used in previous studies (Truskauskaite-Kuneviciene et al., 2020).

2.2.4. Patient Health Questionnaire-9 (PHQ-9)

The PHQ-9 is a widely-used nine-item self-report measure for the assessment of depression (Kroenke, Spitzer, & Williams, 2001). Items are based on the DSM-IV diagnostic criteria for depression, with the evaluation on how often each symptom has bothered a person over the last two weeks, on a four-point scale from 0 = 'Not at all' to 3 = 'Nearly every day'. The maximum score for the PHQ-9 is 27, with higher scores representing a more severe risk for depression. In previous studies, the PHQ-9 demonstrated good psychometric properties (Biliunaite et al., 2021; Kroenke, Spitzer, Williams, & Löwe, 2010). In the current study, the Cronbach's alpha of the PHQ-9 was .89.

2.2.5. Generalized Anxiety Disorder-7 (GAD-7)

The GAD-7 is a seven-item self-report questionnaire for the screening of generalized anxiety symptoms (Spitzer, Kroenke, Williams, & Löwe, 2006). Respondents report how often each symptom has bothered them over the last two weeks, on a four-point scale from 0 = 'Not at all' to 3 = 'Nearly every day'. Higher scores represent a higher risk for generalized anxiety. This measure displayed very good psychometric properties in previous research (Biliunaite et al., 2021; Kroenke et al., 2010). In this study, Cronbach's α for the GAD-7 was also good (α = .89).

2.2.6. World Health Organization Well-Being Index (WHO-5)

The WHO-5 is a five-item self-report scale that assesses subjective psychological well-being over the last two weeks (WHO Regional Office Europe, 1998). Each item is evaluated on a six-point scale, ranging from 0 = 'At no time' to 5 = 'All of the time'. The raw WHO-5 score ranging from 0 to 25 is multiplied by 4 so the range of the final WHO-5 index score ranges from 0 to 100, with higher scores indicating better well-being (Topp, Østergaard, Søndergaard, & Bech, 2015). The WHO-5 is widely used in research with adequate validity as a screening tool (Biliunaite et al., 2021; Topp et al., 2015). In the current study, Cronbach's α for the WHO-5 was acceptable (.79).

2.2.7. Difficulties in Emotion Regulation Scale (DERS)

The DERS is a thirty-six-item self-report questionnaire for evaluating clinically relevant difficulties in emotion dysregulation (Gratz & Roemer, 2004). The DERS assesses emotional difficulties, such as non-acceptance of emotional responses, difficulty engaging in goal-directed behaviour, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. Each item is evaluated on a five-point scale, ranging from 1 = 'Almost never' to 5 = 'Almost always'. Higher scores of the overall DERS suggest greater problems with emotion regulation. The DERS showed good psychometric properties in other studies (Gegieckaite & Kazlauskas, 2020; Lee, Witte, Bardeen, Davis, & Weathers, 2016; Šeibokaitė, Endriulaitienė, Sullman, Markšaitytė, & Žardeckaitė-Matulaitienė, 2017). In this study, the Cronbach's alpha coefficient of the DERS was .95.

2.2.8. Experience in Close Relationship Scale – Short Form (ECR-S)

The ECR-S is a 12-item self-report measure used to assess adults' attachment dimensions (Wei, Russell, Mallinckrodt, & Vogel, 2007). The measure consists of two subscales: attachment anxiety and attachment avoidance, which measure anxious and avoidant attachment styles. The ECR-S items are related to how, in general, an individual feels in romantic relationships, with the evaluation for each item on a seven-point scale, ranging from 1 = 'Strongly disagree' to 7 = 'Strongly agree', with four reversed items. Previous studies showed acceptable psychometric properties of the ECR-S (Wei et al., 2007). The Cronbach's alpha coefficients of the ECR-S anxiety (α = .83) and avoidance (α = .71) subscales in the present study were acceptable.

2.2.9. Borderline Pattern Scale (BPS)

The BPS is a 12-item self-report measure for the borderline personality pattern qualifier, newly presented in the ICD-11. The BPS assesses components of borderline personality functioning, such as person's affective instability, maladaptive self-functioning, maladaptive interpersonal functioning, and maladaptive regulation strategies (Oltmanns & Widiger, 2019). Individuals are asked to respond to the items on how they feel or behave on a five-point scale, ranging from 1 = 'Strongly disagree' to 5 = 'Strongly agree'. The BPS displayed good psychometric properties in previous research (Oltmanns & Widiger, 2019). In this study, the Cronbach's alpha coefficient (α = .82) of the scale was also good.

2.2.10. Rosenberg Self-Esteem Scale (RSES)

The RSES is a 10-item self-report measure used to assess a person's subjective worthiness as a human being (Rosenberg, 1965). All items were rated on a four-point scale, ranging from 1 = 'Strongly disagree' to 4 = 'Strongly agree', half of the items are reverse-coded. Higher scores of the RSES indicate higher self-esteem. Internal reliability of the RSES varies from acceptable to excellent across different cultures (Schmitt & Allik, 2005). The Cronbach's alpha coefficient in the current study (α = .88) was good.

2.2.11. Dissociative Symptoms Scale (DSS)

The DSS is a 20-item self-report measure aimed at assessing dissociative symptoms during the last week, such as depersonalization, derealization, gaps in awareness of memory, and dissociative re-experiencing (Carlson et al., 2018). All items were evaluated on a five-point scale, ranging from 'Not at all' (0) to 'More than once a day' (4). Higher scores indicate more intense dissociative symptoms. Previous studies demonstrated good psychometric properties of the DSS scale (Carlson et al., 2018). In the current study, Cronbach's α of the DSS was excellent (α = .93).

3. Data analysis

The analytical strategy for the current study included several steps. First, descriptive statistics, diagnostic rates, and interrater agreement of the International Trauma Interview were calculated. Next, we tested the latent structure of the ITI using confirmatory factor analysis (CFA). Two alternative model solutions, usually demonstrating the best fit for the ITQ data (Redican et al., 2021), were assessed to determine the fit of each model. The single factor model acted as a comparison model (see Figure 1). Furthermore, to test the convergent and discriminant validity of the ITI we conducted a structural equation model (SEM) where the best-fitting ITI factor structure (identified in the previous step) predicted sum scores of the ITQ, PHQ-9, GAD-7, DERS, DSS, BPS, RSES, ECR-S, and WHO-5 (observed variables in the SEM model) while controlling for the association between PTSD and DSO, as well as for the covariates of age and gender. Age and gender were also included in the model as predictors of the ITI factors. Finally, we tested agreement between the clinician-rated ITI and the self-report ITQ.

CFA and SEM analyses were conducted with the Mplus 8.2 version (Muthén & Muthén, 2017). The robust weighted least squares estimator (WLSMV) based on the polychoric correlation matrix of latent continuous response variables was used in the analyses as it produces correct parameter estimates, standard errors and test statistics for ordinal level indicators in a CFA context (Flora & Curran, 2004). The model fit analyses were evaluated by using the Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA), following the goodness of fit recommendation provided by Kline (2011). Namely, CFI/TLI values higher than .90 indicated an acceptable fit, and values higher than .95 represented a very good fit; RMSEA values below .08 indicated an acceptable fit, and values less than .05 suggested a good fit. To determine significant

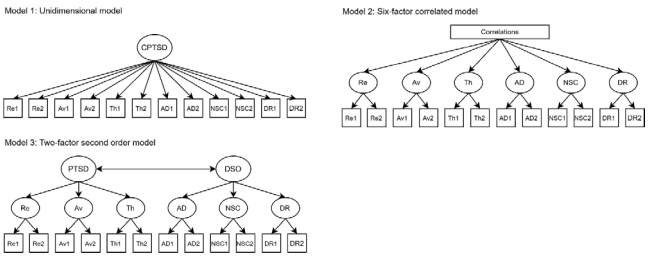

Figure 1. Alternative model solutions of the latent structure of ICD-11 PTSD and CPTSD symptoms. Note. PTSD = Posttraumatic Stress Disorder, DSO = Disturbances in Self-Organization, CPTSD = Complex Posttraumatic Stress Disorder, Re = Re-experiencing, Av = Avoidance, Th = Sense of current threat, AD = Affect dysregulation, NSC = Negative-self-concept, DR = Disturbed relationships.

differences between the alternative CFA models, we assessed changes in the RMSEA as it includes penalties for model complexity; Δ RMSEA ≥ .015 values indicate significant changes in the fit of the compared models (Chen, Curran, Bollen, Kirby, & Paxton, 2008). Overall, the models were judged on the basis of fit statistics, and parsimony, and theoretical consistency.

Krippendorff's alpha (α) test was used to evaluate interrater agreement (Hayes & Krippendorff, 2007). It was examined for videotaped interviews (11% of the sample selected randomly) that were independently double-coded by the second coder. Three main interviewers of the study (OG, MK and AK) conducted the second coding for randomly assigned interviews. Krippendorff's alpha above .80 is recommended (Hayes & Krippendorff, 2007). Also, composite reliability of the ITI factors based on the estimated factor loadings of the best fitting model was calculated; values above .60 represent acceptable internal reliability (Raykov, 1997).

Cohen's kappa (κ) was calculated to measure the diagnostic consistency across the ITI and the ITQ, as well as the endorsement of each symptom cluster. Values from 0 to .20 indicate poor/slight agreement, .21 to .40 – fair agreement, .41 to .60 – moderate agreement, .61 to .80 – substantial agreement, and .81 to 1 – almost perfect or perfect agreement (Landis & Koch, 1977). Furthermore, to assess the degree that the ITI and the ITQ provided consistency in their observed PTSD and DSO subscale scores across subjects we calculated intraclass correlation coefficients (ICC) based on a single rater, consistency and 2-way random-effects model. Guidelines (Koo & Li, 2016) classify ICC of .50 as poor, .50 – .75 as moderate, .75 – .90 as good, and .90 to 1 as excellent. IBM Statistics ver. 26 was used for the interrater agreement, composite reliability, and diagnostic consistency estimations.

4. Results

4.1. Trauma exposure, PTSD, and CPTSD in the sample

The index traumatic event most often experienced as the worst by the participants among the study sample was physical abuse in childhood (n = 21, 20.4%). Other participants reported having experienced sudden violent death of a person close to them (n = 15, 14.6%), sexual abuse in adulthood (n = 15, 14.6%), unwanted sexual experiences in childhood (n = 13, 12.6%), sexual abuse in childhood (n = 12, 11.7%), accident (n = 6, 5.8%), assault (n = 5, 4.9%), physical abuse in adulthood (n = 2, 1.9%), unwanted sexual experiences in adulthood (n = 2, 1.9%) or other traumatic experience (n = 7, 6.8%). 4.9% (n = 5) of the participants reported being affected by multiple childhood traumas.

The analysis of scored ITI interviews showed that 19 (18.4%) participants fulfilled diagnostic criteria for PTSD and 22 (21.4%) for CPTSD. Percentages reflecting endorsement of each ITI symptom can be found in supplementary Table S1. Descriptive statistics for the ITI and other measures are presented in Table 1. The interrater agreement for videotaped interviews (n = 11) was good (Krippendorff's α = .89).

4.2. Factorial validity and composite reliability

The fit statistics for the three alternative models of the ITI are presented in Table 2. Both Model 2 (six-factor correlated model) and Model 3 (two-factor second-order model) met the CFI, TLI and RMSEA criteria. Model 2 and Model 3 (Δ RMSEA = .013) did not differ significantly in terms of fit. Model 3 was chosen as demonstrating the best fit as it is less susceptible to problems of multicollinearity than Model 2 (the first-order model) and more parsimonious as well as most consistent theoretically.

Standardized factor loadings for the best fitting ITI CFA model are presented in Supplementary Table S2. All loadings for the first- and second-order PTSD and DSO factors from Model 3 were positive, ranging from moderate to high and statistically significant. The standardized factor loadings of the first-order Re and AD factors on the second-order PTSD and DSO factors, respectively, were greater than 1.0. However, this can be observed in the case of multicollinearity and does not show that the model is mis-specified (Deegan, 1978). The standardized factor correlation between PTSD and DSO was .71 (p < .001). The estimates of composite reliability derived from the model estimates indicated acceptable levels of internal reliability for both second-order factors: PTSD (.88) and DSO (.92).

4.3. Convergent and discriminant validity

4.3.1. Associations between ITI and other measures

Correlations among study variables are presented in supplementary Table S3. The SEM model (χ^2 (177) = 215.46, p = .026, RMSEA (90% CI) = .046 (.017, .066), CFI/TLI = .976/.960) revealed that younger age was associated with higher levels of PTSD symptoms (β = −.26, p = .014). No significant links were found between PTSD and gender, nor between DSO and gender or age. The associations between the ITI latent factors and other measured mental health indicators are presented in Table 3. The ITI PTSD factor was significantly positively associated with depression, generalized anxiety, symptoms of the borderline personality pattern, dissociative symptoms, and negatively associated with anxiety in relationships. The ITI DSO factor was significantly positively associated with depression, borderline personality pattern symptoms, difficulties in emotion

Table 1. Descriptive statistics of the study variables.

	Total sample (N = 103)	No diagnosis (n = 62)	PTSD (n = 19)	CPTSD (n = 22)
	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)
ITI total	13.22 (8.57)	8.02 (5.39)	16.89 (3.83)	24.73 (5.36)
PTSD	6.53 (4.47)	3.61 (2.63)	10.68 (1.83)	11.18 (3.26)
DSO	6.69 (5.25)	4.40 (4.28)	6.21 (2.86)	13.55 (2.96)
Re-experiencing	1.75 (1.64)	0.66 (0.79)	3.37 (1.01)	3.41 (1.26)
Avoidance	2.61 (1.86)	1.68 (1.62)	3. 95 (1.08)	4.09 (1.31)
Sense of threat	2.17 (1.78)	1.27 (1.43)	3.37 (1.21)	3.68 (1.46)
Affect dysregulation	2.06 (1.41)	1.45 (1.18)	2.47 (1.07)	3.41 (1.18)
Negative self-concept	2.27 (2.19)	1.45 (1.80)	1.89 (1.49)	4.91 (1.60)
Disturbed relationships	2.36 (2.58)	1.50 (2.27)	1.84 (2.09)	5.23 (1.60)
ITQ total	25.63 (10.70)	20.16 (8.60)	32.11 (8.43)	35.45 (7.28)
PTSD	12.63 (6.16)	10.02 (5.27)	16.32 (4.76)	16.82 (5.76)
DSO	13.00 (5.87)	10.15 (4.89)	15.79 (4.78)	18.64 (3.72)
PHQ-9	13.41 (6.73)	10.29 (5.46)	17.11 (5.79)	19.00 (5.51)
GAD-7	11.15 (5.32)	8.79 (4.43)	13.95 (4.34)	15.36 (4.71)
DERS	102.50 (24.60)	92.73 (22.31)	112.68 (20.47)	121.27 (19.72)
DSS	13.50 (13.02)	7.18 (6.40)	19.21 (12.12)	26.41 (16.02)
BPS	34.64 (8.20)	32.08 (7.56)	36.74 (7.36)	40.05 (7.79)
RSES	24.83 (5.91)	26.94 (5.38)	22.74 (5.79)	20.73 (4.71)
ECR-S Anxiety	27.97 (8.70)	27.87 (8.40)	26.37 (9.71)	29.64 (8.76)
ECR-S Avoidance	20.36 (7.16)	19.11 (6.92)	19.63 (6.59)	24.50 (7.04)
WHO-5	33.71 (15.55)	39.10 (14.16)	28.84 (14.02)	22.73 (13.77)

PTSD = Posttraumatic Stress Disorder, CPTSD = Complex Posttraumatic Stress Disorder, DSO = Disturbances in Self-Organization, ITI = International Trauma Interview, ITQ = International Trauma Questionnaire, PHQ-9 = Patient Health Questionnaire-9, GAD-7 = Generalized Anxiety Disorder-7, DERS = Difficulties in Emotion Regulation Scale, DSS = Dissociative Symptoms Scale, BPS = Borderline Pattern Scale, RSES = Rosenberg Self-esteem Scale, ECR-S = Experience in Close Relationships Scale – Short Form, WHO-5 = WHO-5 Well-being Index.

regulation, as well as anxiety and avoidance in relationships. It was also negatively associated with self-esteem and general well-being.

4.3.2. Agreement between the ITI interview and the self-report ITQ

The latent ITI PTSD factor was significantly associated with both ITQ PTSD and DSO symptom scores, although the association with the ITQ PTSD factor was stronger (see Table 3). The ITI DSO factor was significantly associated with the ITQ DSO score. The ICC coefficient between the ITI and ITQ for the PTSD score was .60, for the DSO score the ICC was .66, and for the total score, it was .69, denoting moderate consistency between the self-report ITQ and the ITI interview scores. The results on the consistency between separate PTSD and DSO symptom clusters are presented in Table 4. Agreement of the endorsement of PTSD, DSO and CPTSD criteria based on the ITI and the ITQ was also examined (see Table 4). The Kappa coefficient of agreement for DSO (κ = .38) and CPTSD (κ = .33) criteria was fair. For PTSD criteria, with both, PTSD and CPTSD cases included, the agreement was moderate (κ = .49), but if CPTSD cases were excluded the agreement was poor (κ = –.08). We also checked the agreement between the ITI and ITQ endorsement for separate symptom clusters. For most of the clusters the agreement was fair, but for sense of threat and affect dysregulation it was poor. For the PTSD re-experiencing symptom cluster it was moderate.

Table 2. Model fit statistics for the tested models of the International Trauma Interview (N = 103).

Model	χ^2 (*df*)	*p*	CFI	TLI	RMSEA (90% *CI*)
1	224.49 (54)	<.001	.909	.889	.175 (.152 – .199)
2	33.78 (39)	.706	1.000	1.005	.000 (.000 – .054)
3	**47.79 (47)**	**.441**	**1.000**	**.999**	**.013 (.000 – .066)**

χ^2 = Chi-Square Goodness of Fit statistics, *df* = degrees of freedom, *p* = statistical significance, CFI = Comparative Fit Index, TLI = Tucker–Lewis Index, RMSEA (90% CI) = Root Mean Square Error of Approximation with 90% confidence intervals. Best fitting model is in bold.

5. Discussion

The aim of this study was to explore the psychometric properties of the latest version of the International Trauma Interview (ITI) for the assessment of the ICD-11 PTSD and CPTSD, in a Lithuanian sample. Until recently, the ITI has been the only available diagnostic interview for clinical assessment of the ICD-11 PTSD and CPTSD. A Complex PTSD item set additional to the CAPS (COPISAC) have recently been proposed (Lechner-Meichsner & Steil, 2021) but it has not been empirically evaluated yet. The current study is the first to comprehensively explore the factor structure as well as convergent and discriminant validity of the ITI with a self-report ICD-11 PTSD and CPTSD measure included in the analysis. The ITI has only thus far been evaluated in a Swedish community sample (Bondjers et al., 2019) which showed promising findings for an earlier version of the measure, however, our study extends the findings of the study by providing additional evidence for the validity and clinical utility of the current version of the ITI.

The factorial validity of the ITI in our sample echoed CFA studies of the ITQ, a self-report measure

Table 3. Standardized regression coefficients between PTSD and DSO, and other measured variables.

	ITQ PTSD	ITQ DSO	PHQ-9	GAD-7	DERS	DSS	BPS	RSES	ECR-S Anx.	ECR-S Avoid.	WHO-5
ITI PTSD	.91***	.23*	.30**	.48***	.25	0.70***	.28*	−.20	−.29*	.02	−.14
ITI DSO	−.23	.57***	.48***	.19	.39**	0.05	.36**	−.36**	.42**	.37**	−.53***
Age	.16	−.04	.00	−.07	−.08	−.04	−.08	0.26**	−.27*	.13	.00
Gender	−.13	.01	−.07	.00	.07	−.05	.04	0.07	.04	−.10	.05
R^2	.54***	.56***	.51***	.41***	.38***	.54***	.37***	.36***	.13	.16**	.40***

These are the results of the SEM model exploring associations between the ITI latent factors and other mental health indicators included in the model as observed variables. The associations in the model were adjusted for age and gender.

ITI = International Trauma Interview, PTSD = Posttraumatic Stress Disorder, DSO = Disturbances in Self-Organization, ITQ = International Trauma Questionnaire, PHQ-9 = Patient Health Questionnaire-9, GAD-7 = Generalized Anxiety Disorder-7, DERS = Difficulties in Emotion Regulation Scale, DSS = Dissociative Symptoms Scale, BPS = Borderline Pattern Scale, RSES = Rosenberg Self-esteem Scale, ECR-S = Experience in Close Relationships Scale – Short Form, Anx. = Anxiety, Avoid. = Avoidance, WHO-5 = WHO-5 Well-being Index.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4. Agreement and consistency between the ITI and the ITQ.

Symptom cluster	ITI % endorsing	ITQ % endorsing	κ (95% *CI*)	*p*	ITI Mean (*SD*)	ITQ Mean (*SD*)	ICC (95% *CI*)
Re-experiencing	47.6%	61.2%	.50 (.34, .66)	<.001	1.75 (1.64)	3.17 (2.50)	.59 (.45, .70)
Avoidance	63.1%	75.7%	.35 (.16, .54)	<.001	2.61 (1.86)	4.37 (2.67)	.44 (.27, .58)
Sense of threat	58.3%	91.3%	.10 (−.03, .23)	.113	2.17 (1.78)	5.10 (2.13)	.38 (.20, .53)
Affect dysregulation	58.3%	93.2%	.19 (.06, .31)	.001	2.06 (1.41)	4.10 (1.85)	.54 (.38, .66)
Hyperactivation	52.4%	90.3%	.17 (.05, .29)	.005	1.49 (0.97)	2.69 (0.97)	.45 (.29, 60)
Hypoactivation	17.5%	45.6%	.32 (.17, .47)	<.001	0.57 (0.85)	1.41 (1.41)	.46 (.29, .60)
Negative self-concept	36.9%	68.0%	.29 (.15, .44)	<.001	2.27 (2.19)	4.37 (2.62)	.56 (.41, .68)
Disturbed relationships	41.7%	76.7%	.29 (.15, .42)	<.001	2.36 (2.58)	4.53 (2.52)	.58 (.44, .70)
PTSD (CPTSD cases included)	39.8%	49.5%	.49 (.33, .66)	<.001	6.53 (4.47)	12.63 (6.16)	.60 (.46, .71)
PTSD (CPTSD cases excluded)	18.4%	10.7%	−.08 (−.22, .06)	.397	-	-	-
DSO	28.2%	54.4%	.38 (.23, .53)	<.001	6.69 (5.25)	13.00 (5.87)	.66 (.54, .76)
CPTSD	21.4%	38.8%	.33 (.15, .51)	<.001	13.22 (8.57)	25.63 (10.70)	.69 (.58, .78)

ITI = International Trauma Interview, ITQ = International Trauma Questionnaire, PTSD = Posttraumatic Stress Disorder, CPTSD = Complex Posttraumatic Stress Disorder, DSO = Disturbances in Self-Organization, ICC = Intraclass correlation coefficient.

for the ICD-11 PTSD and DSO. In our study, two PTSD and DSO symptom structure models had the best fit, namely, a model of six correlated first-order factors and a second-order two-factor model of the PTSD and DSO symptoms. We chose the latter model as superior on the grounds of theoretical consistency with the ICD-11 definition for posttraumatic stress disorders, as well as parsimony. Studies investigating the factor structure of the ITQ also showed similar results with both models demonstrating acceptable model fit (Ho et al., 2019; Karatzias et al., 2016; Kazlauskas et al., 2018; Redican et al., 2021). Moreover, the two second-order factor model was found as the best fitting factor structure of the ITI in a Swedish sample (Bondjers et al., 2019) in line with our study. These consistent findings from different studies show that the distinction of the second-order factors of PTSD and DSO is not a requirement, but more theoretically consistent and therefore useful in research and clinical practice.

Based on the scoring of the ITI, the prevalence of PTSD in the current sample was 18.4%, and for CPTSD it was 21.4%. In studies with general population samples, the prevalence rates of ICD-11 PTSD and CPTSD vary from 1.5% to 9.0% for PTSD, and from 0.5% to 7.7% for CPTSD (Ben-Ezra et al., 2018; Cloitre et al., 2019; Hyland et al., 2021; Maercker, Hecker, Augsburger, & Kliem, 2018). In clinical samples, the rates are higher and CPTSD is often a more common condition than PTSD (Hyland et al., 2017; Vallières et al., 2018). Kvedaraite, Gelezelyte, Karatzias, Roberts, and Kazlauskas (2021) found that the prevalence among the participants from outpatient mental health centres in Lithuania was 13.9% for PTSD and 10.0% for CPTSD. Our sample was self-referred, but partly enabled by the mental health service providers. Over 80% of the study participants reported ongoing or previous experience of the use of mental health services, so our study sample is comparable to clinical sample studies. Furthermore, our sample was a trauma-exposed sample as well since we interviewed participants with experience of traumatic events only.

The discriminant and convergent validity of the ITI was overall supported by the findings of our study. We found that the latent PTSD factor was associated with generalized anxiety, depression, dissociative symptoms, and symptoms of borderline personality pattern. The latent DSO factor was linked with depression, worse general well-being, symptoms of borderline personality pattern, difficulties in emotion regulation, lower self-esteem, and problems with anxiety and avoidance in romantic relationships. Associations with the depression and borderline personality pattern symptoms were stronger for the DSO factor, in comparison to the PTSD factor.

Previous studies reported associations of anxiety symptoms with both PTSD and CPTSD (Facer-Irwin, Karatzias, Bird, Blackwood, & MacManus, 2021; Hyland et al., 2021). As PTSD is often viewed

as a fear-based disorder (Bisson, 2013), strong associations between posttraumatic stress symptoms and general anxiety are to be expected. Studies with the ITQ also show the relationship of depressive symptoms with both PTSD and CPTSD, with stronger associations with CPTSD (Hyland et al., 2021). We also found a negative association between the DSO symptoms and general well-being. Other studies also found that individuals with CPTSD tend to have a higher psychiatric burden and lower levels of psychological well-being compared to those with PTSD and those with no trauma-related diagnosis (Cloitre et al., 2018; Karatzias, Hyland, Ben-Ezra, & Shevlin, 2018). One would anticipate that DSO symptoms would be more strongly associated with enduring changes in self-organization (Bondjers et al., 2019). Associations of the DSO factor with difficulties in emotion regulation, lower self-esteem, and problems in relationships with romantic partners in the current study confirm the validity of the ITI as being able to detect problems in self-organization described in the ICD-11.

The distinction between CPTSD and borderline personality disorder (BPD) has been much debated over the last years (Karatzias & Levendosky, 2019). Research shows that PTSD, CPTSD, and BPD are distinct but potentially comorbid syndromes (Ford & Courtois, 2021; Frost, Hyland, Shevlin, & Murphy, 2020). In the current study, we found borderline pattern symptoms to be related to both PTSD and DSO, although the association between borderline symptoms and the DSO factor was stronger. Additionally, contrary to what had been hypothesized, the analysis showed that dissociative symptoms were significantly related to the PTSD factor but not to the DSO factor. This was despite observations that CPTSD is often accompanied by dissociative experiences such as voice-hearing (Brewin, 2020). Some studies also show that people with CPTSD have higher levels of dissociative experiences compared to those with PTSD and those with no trauma-related diagnosis (Hyland, Shevlin, Fyvie, Cloitre, & Karatzias, 2020). Bondjers et al. (2019) found that the ITI DSO, but not the PTSD factor was associated with dissociative experiences.

Other research shows that dissociation can be related to symptoms of both PTSD and DSO. For example, some studies found that the CPTSD symptom clusters of re-experiencing, affective dysregulation, and disturbed relationships were independently associated with dissociative experiences (Hyland et al., 2020). In the ITI, the symptom cluster of affective dysregulation can be either endorsed if a person had been experiencing affective hyperactivation or deactivation, or both. In our sample the hyperactivation symptom was endorsed by 52% of cases, and deactivation by only 18% of the sample. Also, since the participants were self-referred, our sample did not include many severe clinical cases of CPTSD. This may provide some explanation for the non-significant relation between DSO symptoms and dissociation.

This was the first study evaluating the agreement between the clinician-administered ITI and the self-report ITQ. We found moderate consistency between the self-report ITQ and the ITI interview scores for the PTSD, DSO, and CPTSD. Agreement on endorsement of PTSD criteria (with both PTSD and CPTSD cases included) was moderate, and for the DSO and CPTSD criteria it was fair. Moderate diagnostic consistency across the ITQ and the ICD-11 PTSD interview derived from the CAPS-5 using the ITI scoring approach was found in a previous study (Hansen, Vægter, Cloitre, & Andersen, 2021).

However, in our study, if only PTSD cases were analysed, the diagnostic agreement between the ITI and the ITQ was poor. Diagnostic interviews are considered the gold standard for PTSD assessments as they are based on the clinical judgement of a trained interviewer who understands the conceptual basis of the symptoms (Siqveland et al., 2017). However, self-report measures ensure more simple and fast administration; consequently, they are used more frequently. The ITQ provides both dimensional and diagnostic scoring algorithms which have their advantages and limitations (Redican et al., 2021). Our analysis revealed that each symptom cluster was endorsed more often when measured by the ITQ. As the ITQ is a screening instrument, it is more likely to detect people at risk who would not meet the criteria following a thorough clinical assessment (Siqveland et al., 2017). In line with the current analysis, studies with the PTSD Checklist for DSM-5 (PCL-5) and the clinician-administered PTSD Scale for DSM-5 (CAPS-5) also showed some degree of diagnostic discordance with clinician ratings yielding lower estimates of PTSD than self-report measures (Bovin et al., 2016; Marmar et al., 2015). There might be multiple reasons for the discrepancies between the results provided by self-report vs clinician-administered assessment. For example, in one study feedback from the study participants regarding their attributions for discrepant symptoms between the PCL-5 and the CAPS-5 were analysed (Kramer, 2019). The most commonly reported reasons for discrepancies were found to be time-frame reminders, comprehension of symptoms, trauma-related attribution errors, increased awareness, and general errors (e.g. not paying attention, forgetting a relevant experience, not reading or hearing the entire question, etc.) while self-reporting. On the other hand, participants might feel less social stigma while filling in self-report measures (Marmar et al., 2015). For now, the ITI and the ITQ use very similar diagnostic algorithms, but with empirical data from future studies with larger samples available, different algorithms or cut-off scores for the ITQ might

be found to be more accurate at detecting people at risk for posttraumatic disorders. This may also vary for different populations, as the studies with the PCL-5 and the CAPS-5 had already demonstrated (Bovin et al., 2016; Geier, Hunt, Nelson, Brasel, & deRoon-Cassini, 2019; Morrison, Su, Keck, & Beidel, 2021).

There are several limitations of the study that have to be taken into consideration. Firstly, a relatively small predominantly young female sample participated in the study. Since our sample was self-referred, it is possible that individuals with severe or extreme symptoms of PTSD or DSO were not included in the study. Also, most of the study variables, except for the ITI, were measured with self-report instruments. Clinical interviews could provide a more accurate evaluation of other mental health indicators. The study was also conducted during the COVID-19 pandemic, and online data collection was used, which could have affected the findings. Furthermore, only the Lithuanian version of the ITI was used in the study and may not be generalizable to the ITI in other languages. To sum up, research in different countries and larger samples with participants of different sociodemographic characteristics and various severity of posttraumatic symptoms is needed for further investigation of the validity of the ITI.

Notwithstanding its limitations, this is one of the first studies exploring the validity of the ITI, a diagnostic tool for the clinical assessment of the ICD-11 PTSD and CPTSD. Since the ICD-11 is planned to officially come into effect in 2022 (World Health Organization, 2018b), it is crucial to have valid instruments readily available for the thorough clinical assessment of a new diagnostic category of complex PTSD as soon as possible. Such diagnostic tool is highly needed in everyday clinical practice and research. Our study demonstrated that the ITI is a reliable and valid tool for assessing and diagnosing ICD-11 PTSD and CPTSD. Moreover, the interviews in the study were conducted via videoconferencing, which confirms that the ITI can be conducted online if required, for example, during the pandemic, or it can also be offered to the patients as an alternative for an in-person interview.

Disclosure statement

Neil Roberts, Marylene Cloitre, Jonathan Bisson and Chris Brewin are co-authors of the ITI. The remaining co-authors of the current publication have no conflict of interest to disclose.

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Data availability

The detailed sociodemographic information of the dataset does not fully protect the anonymity of the respondents. For this reason, the entire dataset cannot be made publicly available. However, excerpts of the data on a higher aggregation level can be provided upon justified request by the first author, OG.

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IV.

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Borderline Personality Disorder and Emotion Dysregulation

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The mediating role of complex posttraumatic stress and borderline pattern symptoms on the association between sexual abuse and suicide risk

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Abstract

Background: The 11th revision of the International Classification of Diseases (ICD-11) includes a new diagnosis of complex posttraumatic stress disorder (CPTSD). There has been very little research investigating associations between CPTSD symptoms and suicide risk following sexual abuse. This and questions concerning similarities and differences between CPTSD and borderline personality disorder (BPD), led to the current study that aimed to explore indirect associations between sexual abuse and suicide risk through the symptoms of CPTSD and borderline traits.

Methods: The study sample comprised 103 adults with a history of traumatic experiences (M_{age} = 32.64, SD_{age} = 9.36; 83.5% female). In total, 26.3% of the participants reported experiencing sexual abuse during their lifetime. The clinician-administered International Trauma Interview (ITI) was used for the assessment of ICD-11 CPTSD symptoms. Self-report measures were used for the evaluation of borderline pattern (BP) symptoms and suicide risk. Mediation analyses were performed to evaluate the mediating effects of CPTSD and BP symptoms for the association between sexual trauma and suicide risk.

Results: In a parallel mediation model, CPTSD and BP symptoms mediated the association between sexual abuse and suicide risk, following adjustment for the covariates of age, gender, and whether the traumatic experience occurred in childhood or adulthood. Around 73% of participants who met diagnostic criteria for CPTSD reported previous suicide attempt(s).

Conclusions: Suicide risk assessment and intervention should be an important part of the management of victims of sexual abuse with CPTSD and BP symptoms.

Keywords: complex posttraumatic stress disorder, borderline, suicide risk, suicidal behavior, sexual abuse

Background

The 11th revision of the International Classification of Diseases (ICD-11) contains significant changes in the diagnostics of posttraumatic stress. In addition to posttraumatic stress disorder (PTSD), a new sibling disorder of complex posttraumatic stress disorder (CPTSD) has been included [1]. ICD-11 PTSD encompasses three symptom clusters: re-experiencing, avoidance, and

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persistent perception of the heightened current threat. CPTSD is diagnosed when, in addition to all PTSD symptoms, a person experiences clinically significant levels of disturbances in self-organization (DSO), namely difficulties with affect regulation, negative self-concept, and disturbed relationships [1]. Both PTSD and CPTSD may develop following exposure to an event or series of traumatic events and cause significant functional impairment. A person can be diagnosed with either PTSD or CPTSD, but not both.

There was also a significant change in the diagnostics of personality disorders in the ICD-11 [2]. Instead of categorical description, a personality disorder is conceptualized along a general dimension of severity (mild, moderate, severe) and a five-domain dimensional trait model [1]. However, the ICD-11 revision also includes a specification of borderline pattern (BP) specifier, retaining close consistency with the DSM-5 criteria for borderline personality disorder (BPD) [3].

The proposal of the new CPTSD diagnosis raised questions about its overlap with borderline personality disorder [4]. Despite the debate, differences between CPTSD and BPD have been noted descriptively as well as demonstrated empirically [5]. Emotional lability and dyscontrol, unstable, fragmented sense of self, and unstable relationships are characteristic of BPD. Whereas, difficulties in self-calming or/and emotional numbing when faced with stressors, stable, persistent sense of worthlessness, and stable avoidance and detachment from relationships are specific to CPTSD [5]. The results of a study using network analysis revealed that CPTSD represented related symptoms, but BPD symptom network was rather sparse and weakly connected to CPTSD symptoms [6]. Another research using latent class analysis approach has demonstrated that CPTSD symptoms are distinguishable from BPD symptoms [7]. However, other analyses in various samples have also shown some overlap between symptom profiles of CPTSD and BPD [8, 9]. Here it is important to note that most of the studies following the official diagnostic guidelines of the ICD-11 CPTSD have used self-report measures to assess the symptoms. Participants might find it challenging to evaluate their DSO symptoms accurately, based on simply worded self-report items, and differentiate them from BPD symptoms, as understanding such nuances requires clinical judgment. More in-depth clinical assessment could provide more accurate results, and the overlap between the CPTSD and BPD might actually not be that high.

Another proposed difference between CPTSD and BPD is related to suicidal behavior. Previous studies demonstrated increased odds of self-harm, suicide ideation, and attempts in BPD patients [10]. It is claimed that in CPTSD, suicide risk is lower, and self-harm behavior is less frequent [11]. Some research showed that suicidal and self-injurious behaviors were central to BPD but not CPTSD [12]. In another study, after conducting latent class analysis, it was found that almost half of the individuals in the BPD class endorsed self-harm or suicidal behaviors, while this percentage was much lower in the PTSD and CPTSD groups [7]. Although there is evidence that PTSD is a risk factor for suicide ideation, suicide attempts, and deaths by suicide [13–15], there is a significant lack of studies exploring associations between a new diagnostic category of complex posttraumatic stress and suicide risk.

Sexual abuse is a risk factor for the development of both complex PTSD and borderline personality disorder. Meta-analyses showed that sexual abuse was associated with five times greater odds of receiving a BPD diagnosis among young people [10]. Childhood sexual abuse specifically increases the risk for the development of BPD [16]. In one study, CPTSD diagnosis, in comparison to PTSD diagnosis, was associated with experiencing adult sexual assault and other unwanted sexual experiences [17]. These findings were in line with another study, which reported 8% PTSD and 43% CPTSD prevalence among treatment-seeking adult victims of childhood sexual abuse [18]. Another study also found significant associations between childhood sexual abuse and increased risk for heightened PTSD, DSO, and BPD symptoms [8].

Moreover, there is evidence of a relationship between sexual abuse and suicide risk among people with BPD. For example, in one study, it was observed that people with BPD who experienced prolonged childhood sexual abuse attempted suicide more often and demonstrated higher severity of non-suicidal self-injury than people with BPD with no prolonged child sexual abuse [19]. In addition, suicidal BPD patients report experiencing significantly more events related to sexual abuse than non-suicidal patients with BPD [20].

In summary, there is a growing body of evidence on the associations between sexual trauma and symptoms of borderline pattern (BP) and CPTSD, as well as suicide risk. Although theoretical understanding alongside a few studies provide us with some information on suicide risk being higher among individuals with BPD, in comparison to those with CPTSD, the empirical evidence is still very limited. As CPTSD is a new diagnosis, there is still very little research on the links between CPTSD and suicidality. Furthermore, to our knowledge, no studies have investigated these links using a clinician-administered interview for diagnosing ICD-11 CPTSD so far. For the development of specific effective interventions, it is important to understand better the mechanisms that lead to higher suicide risk after experiencing sexual abuse. Therefore, the aim of the current study was to explore the

mediating role of CPTSD and BP symptoms for the association between sexual abuse and suicide risk.

Methods

Participants and procedures

Participants were invited to take part in the study via social communication platforms and mental healthcare professionals across all regions of Lithuania. Inclusion criteria for this study were: (1) ≥18-years-old, (2) experienced at least one traumatic event during lifetime, (3) ≥3 months passed since the last experienced traumatic event, and (4) being able to communicate effectively in Lithuanian language. Data collection was divided into two parts: (1) filling in the self-report measures in a survey and (2) participating in a diagnostic interview with a clinical psychologist or supervised Master's in Clinical Psychology student. All interviewers were professionally trained in how to administer and evaluate the International Trauma Interview (ITI). Data were collected from October 2020 to June 2021. Due to the COVID-19 (severe acute respiratory syndrome coronavirus 2, SARS-CoV-2) pandemic restrictions, the survey was taken using a secure online survey platform, and interviews were conducted via a videoconferencing platform. A more detailed description of the study procedure was reported previously [21].

The study sample comprised 103 adults, with age range from 18 to 54 years ($M_{age} = 32.64$, $SD_{age} = 9.36$), 83.5% were female. Most participants were Lithuanian (91.3%) and living in an urban area (94.2%). More than half (60.2%) of the sample had a university degree, 17.5% had a non-university higher education degree, and 19.4% had graduated from secondary education. Half of the participants (49.5%) were employed, 14.6% were studying, 15.5% were working and studying simultaneously, and one-fifth of participants (20.4%) were neither working nor studying.

Measures

Posttraumatic and Complex Posttraumatic Stress Symptoms

The International Trauma Interview (ITI) [22] is a semi-structured diagnostic interview based on the ICD-11 PTSD and CPTSD symptom criteria. The ITI is comprised of a description of the index traumatic event(s) and PTSD and DSO symptom assessment sections.

The PTSD symptom assessment section contains the evaluation of the frequency and intensity of the following symptoms: (1) re-experiencing, (2) avoidance, and (3) sense of heightened current threat. Two items have to be evaluated in-depth for each symptom cluster. The severity of each symptom is rated by the interviewer on a five-point scale from absent (= 0) to extreme (= 4).

The DSO symptom assessment section is comprised of the evaluation of (1) affective dysregulation (hyper- or hypoactivation), (2) negative self-concept, and (3) disturbances in relationships. DSO symptoms have to be considered to be trauma related to contribute to diagnosis. The severity of each symptom is evaluated on a five-point scale from not at all (= 0) to extremely (= 4). The PTSD and DSO sections are followed by questions about functional impairment in the persons' social life, work, or any other important area in life.

A symptom is confirmed as clinically significant if at least one of the two items measuring the symptom is evaluated as ≥2. PTSD can be diagnosed if at least one symptom in each symptom cluster and functional impairment related to the PTSD symptoms are evaluated as ≥2. CPTSD is confirmed if all PTSD diagnostic criteria are met, and at least one symptom in each DSO symptom cluster and functional impairment related to the DSO symptoms are evaluated as ≥2. The ITI requires trauma related DSO symptoms to have been present for at least three months for the diagnosis of the CPTSD. If the index trauma was recent but the individual has pre-existing trauma related DSO symptoms this would qualify.

In the current study, the intensity of the symptoms was evaluated by summing up the scores of each item from the PTSD and DSO symptom clusters. Scores for PTSD and DSO subscales may range from 0 to 24, giving a possible total ITI score range from 0 to 48. The psychometric properties of the Lithuanian version of ITI have previously been found to be robust [21]. In the current analysis, the Cronbach's alpha coefficients of overall ITI ($\alpha = .87$), as well as of separate PTSD ($\alpha = .81$) and DSO ($\alpha = .84$) sections, were good.

Symptoms of Borderline Pattern

The Borderline Pattern Scale (BPS) [3] was used to measure borderline personality pattern based on its description in the ICD-11. The BPS comprises four subscales, each with three items. The scale measures affective instability, maladaptive self-functioning, maladaptive interpersonal functioning, and maladaptive regulation strategies. Participants are asked to rate each item on a five-point scale from 'strongly disagree' (= 1) to 'strongly agree' (= 5). The score of the BPS is calculated by summing all the scores of the scale (ranging from 12 to 60), with a higher score indicating more severe symptoms. The Cronbach's alpha coefficient of the total BPS in this sample was good ($\alpha = .82$).

Suicide Risk

The Suicidal Behaviors Questionnaire-Revised (SBQ-R) [23] is a brief self-report measure used to evaluate four dimensions of suicidality. The first dimension is lifetime

suicide ideation, and suicide attempts evaluated using a four-point scale, from 'never' (= 1) to 'I have attempted to kill myself' (= 4). The second dimension is the frequency of suicide ideation evaluated using a five-point scale from 'never' (= 1) to 'very often' (= 5). The third dimension is the threat of suicidal behavior evaluated by how often a person communicated about it to other people, using a three-point scale, from 'no' (= 1) to 'yes, more than once' (= 3). The last dimension includes the likelihood of suicidal behavior in the future, evaluated on a seven-point scale from 'never' (= 0) to 'very likely' (= 6). The final score of the SBQ-R is calculated by summing all items (ranging from 3 to 18). A higher score indicates more severe suicide risk. SBQ-R was used previously in studies in Lithuania [24]. The Cronbach's alpha coefficient of the total SBQ-R scale in the current study was good ($\alpha = .81$).

Data Analysis

An independent-samples t-test, chi-square test for independence (post hoc testing was carried out after choosing the Bonferroni-corrected p-value: .05/3=.017), and bivariate correlations were conducted for the descriptive analyses. Next, we performed mediation analyses [25] with PROCESS macro v4.0 [26] in SPSS v 26. In the current study, to analyze to what extent each variable mediates the effect between sexual trauma (no experience of sexual abuse=0, experience of sexual abuse=1) and suicide risk (total score), conditional on the presence of the remaining mediators, all variables of interest were simultaneously included in a single parallel mediation model. In the parallel multiple mediator model the mediators were allowed to correlate but not causally influence another mediator in the model [27]. We firstly tested a parallel mediation model with the total scores of complex posttraumatic stress and borderline pattern symptoms included as mediators. Then, in the second model, the mediating role of the total scores of posttraumatic stress, disturbances in self-organization, and borderline pattern symptoms were tested. For the investigation of indirect effects, we selected the percentile method for bootstrapping with 10,000 bootstrap samples and 95% confidence interval [25, 27]. Age, gender (male=0, female=1), and trauma exposure in adulthood (=0) vs. childhood (=1) were included as covariates in the parallel mediation models. We obtained standardized coefficients for all continuous variables. Following the recommendations of Hayes [27], partially standardized regression coefficients were obtained for dichotomous predictors. As the variable of sexual trauma is dichotomous, the total, direct, and indirect effects are also presented in a partially standardized form.

Results

Descriptive statistics

Participants reported various index traumatic event(s) during the interview. The most often reported traumatic experience was physical abuse in childhood (20.4%; *N*=21). Participants also experienced sexual abuse in childhood (11.7%; *N*=12), unwanted sexual experiences in childhood (12.6%; *N*=13), sexual abuse in adulthood (14.6%; *N*=15), sudden violent death of a close person (14.6%; *N*=15), physical assault (4.9%; *N*=5); traffic accident (5.8%; *N*=6), and other traumatic experiences (15.4%; *N*=16). In total, 26.3% of the participants reported experiencing sexual abuse during their lifetime.

Means, standard deviations, and correlations of the study variables are presented in Table 1. The severity of suicide risk was significantly correlated with CPTSD and BP symptoms. Participants with the experience of sexual trauma had higher levels of suicide risk than the remaining sample (*M*=10.6, *SD*=3.79; *M*=8.32, *SD*=4.38; $t(101)=-2.36$, $p=.020$). Among participants with experience of sexual abuse, 63.0% (*N*=17) reported previous suicide attempts. The proportion was almost twice as high (χ^2 (1, *N*=103) = 7.46, $p=.006$) as in the remaining sample, where 32.9% (*N*=25) participants reported attempting suicide. Participants with sexual trauma were also more likely to meet the requirements for the diagnosis of PTSD (40.7% (*N*=11) vs. 14.5% (*N*=11); χ^2 (1, *N*=103) = 8.18, $p=.004$) as well as CPTSD (33.3% (*N*=9) vs. 13.2% (*N*=10); χ^2 (1, *N*=103) = 5.39, $p=.020$) than the remaining sample. A higher percentage of participants with CPTSD reported a history of suicide attempts (no PTSD and no CPTSD: 27.4% (*N*=17), PTSD: 47.4% (*N*=9), CPTSD: 72.7% (*N*=16); χ^2 (2, *N*=103) = 14.22, $p=.001$). The proportions of suicide attempts between the groups of no diagnosis and CPTSD diagnosis differed significantly (χ^2 (1, *N*=84) = 13.98, $p<.001$).

Table 1 Means, standard deviations, and correlations among study variables

Variable	*M (SD)*	1	2	3	4
1. SBQ-R	8.9 (4.33)				
2. PTSD symptoms	6.53 (4.47)	.42***			
3. DSO symptoms	6.69 (5.25)	.37***	.55***		
4. CPTSD symptoms	13.22 (8.57)	.45***	.86***	.90***	
5. BPS	34.64 (8.20)	.52***	.49***	.50***	.56***

Note. SBQ-R Suicidal Behaviors Questionnaire-Revised, *PTSD* Posttraumatic Stress Disorder, *DSO* Disturbances in Self-Organization, *CPTSD* Complex posttraumatic stress disorder, *BPS* Borderline Pattern Scale.

*** $p < .001$.

Parallel mediation analyses

Testing CPTSD and BP Symptoms as Mediators

Firstly, the total sum scores of CPTSD and borderline pattern symptoms were simultaneously included as mediators of the relationship between experiencing sexual trauma and SBQ-R scores. The direct and total effects, as well as the path coefficients for the parallel mediation analysis, are shown in Fig. 1. Over one-third (38.31%) of the total variance in suicide risk was accounted for by sexual abuse, both proposed mediators and covariates ($F[6, 96] = 9.93$, $p<.001$). The bootstrapping estimate revealed that indirect effects through the severity of complex posttraumatic stress (indirect = 0.19, 95% CI [0.008–0.440]) and borderline pattern symptoms (indirect = 0.20, 95% CI [0.054–0.395]) were statistically significant. Pairwise comparisons between the specific indirect effects revealed that they are not statistically different from each other (β = -0.01, 95% CI [-0.321–0.300]). When accounting for the effects of both mediators, paths, and covariates in the model, sexual trauma was no longer a significant predictor of suicide risk.

Regarding the covariates in the model, more severe suicide ideation was associated with younger age (β = -0.24, p = .004) and childhood trauma was associated with higher BP ($\beta = 0.20$, $p = .048$) symptom scores. The remaining relations were not statistically significant.

Testing PTSD, DSO, and BP Symptoms as Mediators

Next, we wanted to test the parallel mediation model with PTSD and DSO symptom scores included separately. This time the sum scores of PTSD, DSO, and BP symptoms were included as mediators (see Fig. 2). Similarly, as in the previous model, 38.36% of the total variance in suicide risk was accounted for by sexual abuse, proposed mediators, and covariates ($F[7, 95] = 8.44$, p <.001). In the current model, only BP symptoms were significantly associated with suicide risk. Relations with PTSD and DSO symptoms were no longer significant. The bootstrapping estimate revealed a significant indirect effect of sexual trauma, through the severity of borderline pattern symptoms, on suicide risk (indirect = 0.20, 95% CI [0.054–0.396]). Indirect effects through PTSD (indirect = 0.08, 95% CI [-0.134–0.301]) and DSO (indirect = 0.10, 95% CI [-0.046–0.280]) symptoms were not significant. When accounting for the effects of all three mediators, paths, and covariates in the model, sexual trauma was no longer a significant predictor of suicidal risk.

Regarding the covariates in this model, more severe PTSD symptom scores ($\beta = -0.19$, $p = .036$) and suicide risk ($\beta = -0.25$, $p = .005$) were associated with younger age. Childhood trauma was associated with higher DSO ($\beta = 0.22$, $p = .028$) and BP ($\beta = 0.20$, $p = .048$) symptom scores. The remaining associations were not statistically significant.

Discussion

The main aim of the current study was to investigate the mediating role of complex posttraumatic stress disorder (CPTSD) and borderline pattern (BP) symptoms for the association between sexual abuse and suicide risk. In a parallel mediation model, both CPTSD and BP symptoms mediated the association between sexual trauma and suicide risk, following adjustment for the covariates of age, gender, and whether the traumatic experience occurred in childhood or adulthood. When PTSD and DSO symptoms were included in the model separately, only the borderline pattern symptoms remained a significant mediator. We also found that a large proportion, nearly 73%, of participants with CPTSD reported previous suicide attempt(s).

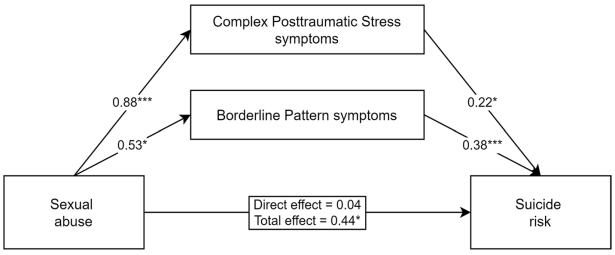

Fig. 1 Parallel mediation model demonstrating the simultaneous effects of complex posttraumatic stress and borderline pattern symptoms on the relationship between sexual abuse and suicide risk severity. Adjusted for the covariates of age, gender, and timing of the traumatic experience (childhood vs. adulthood). Partially standardized coefficients for all paths from sexual abuse to mediators and outcome variable, and standardized coefficients for all paths from mediators to outcome variable are reported. * $p < .05$, ** $p < .01$, *** $p < .001$

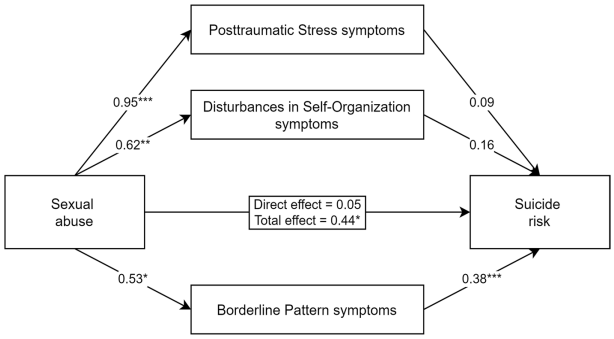

Fig. 2 Parallel mediation model demonstrating the simultaneous effects of posttraumatic stress, disturbances in self-organization, and borderline pattern symptoms on the relationship between sexual abuse and suicide risk severity. Adjusted for the covariates of age, gender, and timing of the traumatic experience (childhood vs. adulthood). Partially standardized coefficients for all paths from sexual abuse to mediators and outcome variable, and standardized coefficients for all paths from mediators to outcome variable are reported. * $p < .05$, ** $p < .01$, *** $p < .001$

The results of the current study are in line with previous research demonstrating the associations between sexual trauma, suicide risk, and borderline personality disorder [10, 19, 20]. However, in this study, we found that not only a borderline personality pattern but also complex posttraumatic stress symptoms were significant mediators of the association between sexual abuse and suicide risk. Some previous studies showed that suicidal behaviors were more characteristic of BPD than CPTSD [7, 12]. However, our study reveals that for the victims of sexual abuse, the pathway to more severe suicide risk might also be formed through CPTSD symptoms. Our study also suggests that all complex PTSD symptoms are important for this mechanism. When PTSD and DSO symptoms were included in the model separately, the indirect effects were not significant anymore. This suggests that it is the combination of PTSD and DSO symptoms, rather than separate clusters of symptoms, which mediates the pathway from sexual trauma to suicide risk. In the current study, we also found very high rates of previous suicide attempts among participants with CPTSD. Other studies have shown that people with complex PTSD have a higher psychiatric burden than those with PTSD and those with no trauma-related diagnosis [28, 29]. We already have evidence that PTSD is a risk factor for suicide ideation, suicide attempts, and deaths by suicide [13–15], but more complex consequences of traumatic experiences might lead to an even greater suicide risk. Further research is needed to understand these associations better.

In the current study, we used a semi-structured clinician-administered interview for the assessment of the ICD-11 complex posttraumatic stress disorder symptoms. To our knowledge, this is the first study measuring the associations between sexual trauma, suicide risk, and complex posttraumatic stress with an in-depth interview constituted according to the ICD-11 CPTSD definition. Diagnostic interviews are based on the judgment of a trained clinician having knowledge of the assessed phenomenon, and are considered the gold standard for PTSD assessment [30]. To our knowledge, the ITI is the only clinician assessed measure for ICD-11 PTSD and CPTSD that has been evaluated psychometrically [22].

Some limitations of the study have to be taken into consideration. First of all, the sample size was relatively small. This could have affected the insignificant results of the second mediation model analysis via different PTSD and DSO symptom pathways. A larger sample could enable the analysis with more statistical power and generalizability. Furthermore, the sample was predominantly female. As a result, the findings are primarily applicable to women. Moreover, the sample was self-referred and not representative of the general population or clinical samples. Also, borderline pattern symptoms were evaluated using a self-report measure. Structured clinical interviews could ensure a more in-depth and accurate clinical assessment of BPD symptoms [30]. Furthermore, this was a cross-sectional study which is limited in determining causation. Longitudinal studies could enable more accurate causal analyses. Also, in the current study, we adjusted the analysis for the covariate of the timing of the sexual abuse (childhood vs. adulthood). However, it would be useful to separately evaluate the pathways from sexual abuse in childhood and later in life to suicide risk.

For example, the results of the current analyses showed that childhood trauma was significantly associated with higher borderline pattern and disturbances in self-organization symptom scores. It might be important to additionally evaluate the role of other traumatic experiences in a person's life, too. Therefore, conducting similar studies using in-depth assessment tools in different larger samples is highly recommended.

Conclusions

This is the first study exploring the mechanisms of the pathways between sexual abuse and suicide risk through the symptoms of complex posttraumatic stress and borderline personality pattern, using a valid semi-structured tool for the clinical assessment of CPTSD. The results of the study suggest that when providing interventions for the victims of sexual abuse, suicide risk has to be assessed and managed for individuals with CPTSD as well as with BP symptoms. Although the results of the current study should be seen in the light of the aforementioned limitations, we hope it encourages future investigation of suicide risk and complex posttraumatic stress disorder among samples with sexual abuse and other traumatic experiences.

Abbreviations

BP: Borderline pattern; CPTSD: Complex posttraumatic stress disorder; DSO: Disturbances in self-organization; ICD-11: International Classification of Diseases, 11th revision; ITI: International Trauma Interview; PTSD: Posttraumatic stress disorder.

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Not applicable.

Authors' contributions

Authors OG, and EK designed the study. Authors OG, MK, AK, and EK recruited the participants and collected the data. Authors OG, MK, and AK conducted data analyses. Author OG prepared the first draft of the manuscript. Authors MK, AK, NR, JB, and EK reviewed the manuscript. All authors approved the final version of the manuscript.

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Availability of data and materials

The dataset of the current study is available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

This study was approved by the Vilnius University Psychological Research Ethics Committee (16.01.2020, No. 33). All participants provided informed consent at the beginning of the online survey. After the participation, all participants were provided with individual feedback regarding their mental health and contact information of mental health services. Participants did not get any financial reward for their participation.

Consent for publication

Not applicable.

Competing interests

The co-authors of the current publication have no conflict of interest to disclose.

Author details

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Publisher's Note

CONFERENCE PRESENTATIONS

International presentations

Kvedaraite, M., Gelezelyte, O., Kairyte, A., Roberts, N., & Kazlauskas, E. (2022, July). *Social and Trauma-related Risk Factors Associated with Complex Posttraumatic Stress Disorder in the Lithuanian General Population Sample.* The 17th European Congress of Psychology, Ljubljana, Slovenia.

Kvedaraite, M., Gelezelyte, O., & Kazlauskas, E. (2021, July). *Trauma disclosure and social support as mediating factors for the onset of PTSD and CPTSD.* The 32th International Congress of Psychology, Prague, Chech Republic.

Kvedaraite, M. (2020, September). *Assessment of complex PTSD in Lithuania.* International Annual Meeting for PhD students on Psychotrauma (I-AM-PhD) online symposium, The Netherlands.

Kvedaraite, M., Kazlauskas, E. (2019, June). *Prevalence of trauma and posttraumatic stress disorder among women in Lithuania.* 16th Conference of the European Society of Traumatic Stress Studies, Rotterdam, The Netherlands.

National presentations

Kvedaraitė, M., Geležėlytė, O., & Kazlauskas, E. (2022, April). *Associations Between Posttraumatic Stress, Complex Posttraumatic Stress and Different Traumatic Experiences.* Lithuanian Congress of Psychology, Kaunas, Lithuania.

Kvedaraitė, M., Geležėlytė, O., & Kazlauskas, E. (2021, April). *Assessment of ICD-11 PTSD and CPTSD in Lithuania: The psychometric properties of the International Trauma Questionnaire (ITQ) in a clinical sample.* Lithuanian Congress of Psychology, Lithuania.

Kvedaraitė, M., Zelviene, P., Kazlauskas, E. (2019, May). *Violence against woman: posttraumatic stress risk factors.* Lithuanian Congress of Psychology, Vilnius, Lithuania.

SUMMARY IN LITHUANIAN

KOMPLEKSINIS POTRAUMINIS STRESAS: ĮVERTINIMAS IR RIZIKOS VEIKSNIAI

Mokslinės publikacijos, kurių pagrindu parengta disertacija:

1. Kvedaraite, M., Gelezelyte, O., Kairyte, A., Roberts, N.P., & Kazlauskas, E. (2021). Trauma exposure and factors associated with ICD-11 PTSD and complex PTSD in the Lithuanian general population. *International Journal of Social Psychiatry*, 1-10 https://doi.org/10.1177/00207640211057720

2. Kvedaraite, M., Gelezelyte, O., Karatzias, T., Roberts, N., & Kazlauskas, E. (2021). Mediating role of avoidance of trauma disclosure and social disapproval in ICD-11 post-traumatic stress disorder and complex post-traumatic stress disorder: Cross-sectional study in a Lithuanian clinical sample. *BJPsych Open, 7*(6), 1-7, E217. https://doi.org/10.1192/bjo.2021.1055

3. Gelezelyte, O., Roberts, N.P., Kvedaraite, M., Bisson, J.I., Brewin, C.R., Cloitre, M., Kairyte, A., Karatzias, T., Shevlin, M., & Kazlauskas, E. (2022). Validation of the International Trauma Interview (ITI) for the clinical assessment of ICD-11 Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD) in a Lithuanian sample. *European Journal of Psychotraumatology*, *13*(1), https://doi.org/10.1080/20008198.2022.2037905

4. Gelezelyte, O., Kvedaraite, M., Kairyte, A., Roberts, N., Bisson, J., & Kazlauskas, E. (2022). The mediating role of complex posttraumatic stress and borderline pattern symptoms on the association between sexual abuse and suicide risk. *Borderline Personality Disorder and Emotion Dysregulation. 9*(1), 1-8. https://doi.org/10.1186/s40479-022-00183-z

ĮVADAS

Šioje disertacijoje yra pristatomi kompleksinio potrauminio streso (kompleksinio PTSS) įvertinimo instrumentų validumo duomenys bei kompleksinio PTSS rizikos veiksnių analizė. Disertacija remiasi naujausiu kompleksinio PTSS apibrėžimu, pateiktu Tarptautinės ligų klasifikacijos 11-ame leidime (TLK-11). Kompleksinis potrauminis stresas yra apibrėžiamas kaip sutrikimas, galintis pasireikšti po trauminio įvykio ir pasižymintis šiomis simptomų grupėmis: pasikartojančiu trauminės patirties išgyvenimu dabartyje, vengimu, nuolatiniu padidėjusios grėsmės jausmu, emocijų reguliacijos sunkumais, neigiamu savęs vaizdu, sunkumais palaikant artimus santykius su kitais.

Disertacijoje trumpai apžvelgiama kompleksinio PTSS apibrėžimo istorija ir aptariami su naujai TLK-11 apibrėžta diagnoze susiję sunkumai, tokie kaip kompleksinio PTSS rizikos įvertinimo problema ir naujų instrumentų, kurie leistų psichikos sveikatos specialistams diferencijuoti kompleksinį PTSS nuo kitų psichikos sveikatos sutrikimų, poreikis. Disertacijoje yra aptariami savistatos ir klinikinio interviu instrumentai kompleksiniam PTSS įvertinti; kaip labiausiai empiriškai ištyrinėti instrumentai išskirti savistatos Tarptautinis traumos klausimynas (ITQ) ir klinikinis Tarptautinis traumos interviu (ITI). Disertacijoje pabrėžiama, jog vis dar reikalingi tyrimai, kuriais būtų analizuojamas šių instrumentų validumas ir patikimumas, ypač skirtingose populiacijose.

Dar vienas svarbus šios disertacijos aspektas – kompleksinio PTSS rizikos veiksnių analizė. Disertacijoje yra aptariama, kad kompleksinio PTSS rizikos veiksnių tyrimai yra itin svarbūs, nes jie galėtų padėti greičiau ir efektyviau atpažinti asmenis, kurie susiduria su didesne kompleksinio PTSS rizika. Geresnis šių rizikos veiksnių supratimas leistų patobulinti esamus įvertinimo instrumentus, taip pat suteiktų žinių apie prevencijos, ankstyvosios intervencijos ir psichologinės pagalbos tobulinimą. Disertacijoje yra aptariami su trauma susiję rizikos veiksniai, išskiriant traumos tipą kaip vieną iš galimų reikšmingų faktorių, susijusių su kompleksinio PTSS rizika. Disertacijoje taip pat aptariami nevienareikšmiai tyrimų rezultatai, susiję su lyties ir amžiaus ryšiu su kompleksiniu PTSS, ir pateikiami galimi tokių skirtingų rezultatų aiškinimai. Be to, disertacijoje analizuojami socialiniai rizikos veiksniai, tokie kaip socialinis palaikymas iš šeimos ir draugų bei vengimas atsiskleisti apie trauminę patirtį. Disertacijoje yra pristatomas teorinis Kaskadinis kompleksinio PTSS modelis, apjungiantis disertacijoje pristatytus rizikos veiksnius.

Disertacijos mokslinis naujumas

Nors tyrimų, kuriais nagrinėjami pagrindiniai naujai apibrėžto kompleksinio potrauminio streso sutrikimo mechanizmai ir rizikos veiksniai, daugėja, vis dėl to, vis dar stebimas žinių trūkumas, kurį ir siekiama atliepti šia disertacija. Vienas iš pagrindinių iššūkių, su kuriuo yra susiduriama, tai kompleksinio PTSS įvertinimas. Dauguma instrumentų, naudojamų kompleksiniam PTSS diagnozuoti, remiasi savistatos duomenimis, todėl kyla abejonių dėl jų tikslumo ir tinkamumo klinikiniame kontekste. Be to, nors PTSS ir kompleksinio PTSS rizikai nustatyti naudojami TLK-11 paremti įvertinimo instrumentai su ekspertų grupės sukurtais algoritmais, trūksta empirinio šių algoritmų pagrindimo ir tyrimų, nurodančių, ar tą patį algoritmą galima taikyti skirtingose grupėse, pvz., atsižvelgiant į lyties, amžiaus ar kultūros skirtumus. Norint prisidėti prie aptariamos kompleksinio PTSS tyrimų srities, šioje disertacijoje siekta įvertinti savistatos instrumento (Tarptautinio traumos klausimyno) ir klinikinio interviu (Tarptautinio traumos interviu) lietuviškų versijų psichometrines savybes bendros populiacijos ir klinikinėje imtyse. Taip pat yra itin svarbu kuo geriau suprasti rizikos veiksnius, kurie galėtų padėti efektyviau diferencijuoti kompleksinį PTSS nuo kitų su trauma susijusių sutrikimų. Šioje disertacijoje buvo tirtos skirtingos imtys ir įvairūs su trauma susiję bei socialiniai rizikos veiksniai, siekiant suprasti, ar konkretūs veiksniai, tokie kaip traumos tipas, atsiskleidimas apie trauminę patirtį ar socialinė parama, yra stipriau susiję su kompleksiniu PTSS nei PTSS ir ar šie rezultatai yra vienodi skirtingose imtyse. Tokie tyrimai yra itin svarbūs, nes jie padėtų greičiau ir tiksliau atpažinti asmenis su padidinta kompleksinio PTSS rizika ir pasirinkti tikslingesnes intervencines priemones.

Disertacijos mokslinis naujumas stebimas keliais aspektais. Pirma, disertacijoje pristatomi tyrimai remiasi naujai į TLK-11 įtraukta kompleksinio potrauminio streso sutrikimo diagnoze. Antra, disertacijoje analizuojamos įvairių tiriamųjų grupių duomenys, įskaitant bendrąją populiaciją, asmenis iš pirminės psichikos sveikatos priežiūros sistemos ir traumos paveiktus pagalbos ieškančius asmenis. Tai leidžia visapusiškiau suprasti kompleksinio PTSS simptomų paplitimą ir galimus rizikos veiksnius įvairiose imtyse. Trečia, disertacijoje naudojamas Tarptautinis traumos interviu – naujas struktūruotas klinikinis interviu, skirtas kompleksinio potrauminio streso sutrikimui įvertinti.

Disertacijos tikslas ir uždaviniai

Šios disertacijos tikslas – geriau suprasti TLK-11 kompleksinio potrauminio streso sutrikimo įvertinimą, paplitimą ir rizikos veiksnius. Ši ddisertacija pagrįsta keturiais moksliniais straipsniais, kurių pagrindu keliami šie uždaviniai:

1. įvertinti PTSS ir kompleksinio PTSS įvertinimo instrumentų psichometrines savybes ir diagnostinį suderinamumą;
2. įvertinti, kaip su trauma susiję rizikos veiksniai, tokie kaip traumos tipas ir jos patyrimo laikas, gali padėti diferencijuoti PTSS ir kompleksinį PTSS;
3. įvertinti, kaip demografinės charakteristikos, tokios kaip lytis ir amžius, yra susijusios su kompleksinio PTSS rizika;
4. įvertinti socialinių rizikos veiksnių, tokių kaip atsiskleidimas apie traumą ir socialinė parama, vaidmenį formuojantis kompleksinio PTSS simptomams.

METODIKA

Ši disertacija yra paremta trijų empirinių tyrimų, atliktų Vilniaus universiteto Psichologijos instituto Psichotraumatologijos centre, duomenimis, publikuotais keturiuose moksliniuose straipsniuose. Šios disertacijos autorė reikšmingai prisidėjo prie visų empirinių tyrimų: prie dviejų tyrimų prisidėdama prie duomenų rinkimo, jų analizės ir yra dviejų publikuotų straipsnių (I ir II publikacijos), parengtų remiantis šių tyrimų rezultatais, pirmoji autorė, o prie trečiojo tyrimo prisidėdama prie jo planavimo, dalyvių atrankos, duomenų rinkimo, duomenų analizės, publikacijų rašymo ir yra dviejų publikuotų straipsnių (III ir IV publikacijos), parengtų remiantis šio tyrimo rezultatais, bendraautorė.

Tyrimo dalyviai

I publikacija. Tyrimo dalyviai buvo bendros populiacijos asmenys iš įvairių Lietuvos regionų. Įtraukimo į tyrimą kriterijai buvo: (1) ⩾18 metų amžiaus; (2) lietuvių kalbos supratimas. Iš viso, taikant kvotinę atranką pagal nacionalinio gyventojų surašymo duomenis, dalyvauti tyrime buvo pakviesti 1 146 suaugusieji, iš kurių 77,2 proc. visiškai užpildė klausimynus.

Iš viso į I publikacijos analizę buvo įtraukti 885 dalyvių duomenys, iš kurių 561 (63,4%) buvo moterys, amžiaus vidurkis - 37,96 (*SD* = 14,67), nuo 18 iki 85 metų. Dauguma tyrimo dalyvių buvo iš didmiesčio (*n* = 712, 80,5%) ir dirbo (*n* = 673, 76,0%), maždaug pusė dalyvių (*n* = 396, 44,7%) turėjo aukštąjį išsilavinimą.

II publikacija. Tyrimo imtį sudarė asmenys iš klinikinės imties, apklausiant klientus ir pacientus pirminės psichikos sveikatos priežiūros įstaigose visoje Lietuvoje, pavyzdžiui, privačioje psichologo praktikoje, pirminės psichikos sveikatos centruose, ligoninėse ir ambulatorinėse psichikos sveikatos klinikose. Įtraukimo kriterijai buvo šie: (1) ≥ 18 metų amžius; (2) patirta bent viena trauminė patirtis per gyvenimą; (3) pilnai užpildytas tyrimo klausimynas; (4) tyrimo metu gydomasi arba siekiama gydytis dėl patiriamų psichikos sveikatos problemų. Iš viso 348 suaugusieji davė raštišką informuotą sutikimą dalyvauti tyrime. 68 dalyvių duomenys nebuvo įtraukti į atliktą analizę, nes jie nenurodė ankstesnės traumos patirties (*n* = 29) arba neužpildė PTSS ar kompleksinio PTSS įvertinimo instrumentų (*n* = 39).

Galutinę II publikacijos imtį sudarė 280 dalyvių; 217 (77,5%) buvo moterys, kurių amžiaus vidurkis – 39,48 metų (*SD* = 13,35), nuo 18-84 metų. Dauguma dalyvių (79,3%, *n* = 222) gyveno mieste, maždaug du trečdaliai (63,9%, *n* = 179) dirbo, maždaug trečdalis (37,9%, *n* = 106) turėjo aukštąjį išsilavinimą.

III publikacija ir IV publikacija. Tyrimo imtį sudarė bent vieną traumą patyrę ir psichologinės pagalbos ieškantys asmenys. Įtraukimo į tyrimą kriterijai buvo šie: (1) ≥ 18 metų amžius, (2) bent vieno trauminio įvykio per gyvenimą patirtis, (3) po trauminės patirties praėję ne mažiau kaip trys mėnesiai, (4) pakankamos lietuvių kalbos žinios suprasti tyrimo medžiagą. Iš viso dalyvauti šiame tyrime užsiregistravo 192 dalyviai. Tačiau 89 dalyviai buvo pašalinti iš tyrimo dėl toliau nurodytų priežasčių: 1) nurodytas blogiausias trauminis įvykis neatitiko TLK-11 PTSS / kompleksinio PTSS traumuojančio įvykio kriterijaus (29,7%) ir 2) dalyviai atsisakė dalyvauti arba su jais nepavyko susisiekti prieš arba po tyrimo klausimyno užpildymo (16,7%).

Galutinę imtį, įtrauktą į III ir IV publikacijų duomenų analizę, sudarė 103 dalyviai, kurių amžiaus vidurkis – 32,64 metų (*SD* = 9,36), nuo 18 iki 54 metų. Dauguma jų buvo moterys (83,5%), gyvenančios mieste (94,2%) ir turinčios aukštąjį išsilavinimą (77,7%). Beveik pusė jų dirbo (49,5%), 15,5% studijavo ir dirbo ne visą darbo dieną, o 14,6% buvo studentai. Maždaug pusė dalyvių turėjo ilgalaikius santykius (45,6%). Beveik pusė imties dalyvių buvo gavę psichologo ar psichiatro psichikos sveikatos priežiūros paslaugas (47,6%), daugiau nei trečdalis lankėsi pas psichikos sveikatos priežiūros specialistą prieš >12 mėnesių (33,0%), o 19,4% niekada nebuvo gavę psichikos sveikatos priežiūros paslaugų.

Tyrimo eiga

I publikacijos tyrimo eiga. Tyrimą atliko 63 apmokyti tyrėjai, iš kurių 53 buvo psichologai ir 10 supervizuojamų psichologijos studentų. Su tyrimo dalyviais buvo susisiekiama kreipiantis į įvairius bendruomenės centrus, darbovietes ir kt. visoje Lietuvoje. Gavus informuotą asmens sutikimą dalyvauti tyrime, dalyvių buvo paprašyta užpildyti klausimynus. Duomenų rinkimo metu tyrėjai buvo pasirengę atsakyti į iškilusius klausimus. Dalyviai buvo informuoti, kad bet kada gali pasitraukti iš tyrimo.

II publikacijos tyrimo eiga. Tyrimą atliko 20 klinikinių psichologų ir trys supervizuojami klinikinės psichologijos magistrantūros studijų

programos studentai. Tyrimas atliktas privačiose psichologų praktikose, pirminės psichikos sveikatos centruose, ligoninėse ir ambulatorinėse psichikos sveikatos klinikose visoje Lietuvoje. Gavus informuotą asmens sutikimą dalyvauti tyrime, dalyvių buvo paprašyta užpildyti klausimynus. Duomenų rinkimo metu tyrėjai buvo pasirengę atsakyti į dalyvių klausimus. Dalyviai buvo informuoti, kad bet kada gali pasitraukti iš tyrimo.

III ir IV publikacijų tyrimo eiga. Tyrimo dalyvių atranka buvo vykdoma naudojantis socialinės komunikacijos platformomis (pvz., Facebook, universiteto tinklalapis); informacija apie tyrimą taip pat buvo dalijamasi su psichikos sveikatos specialistais visoje Lietuvoje. Pirmiausia, visi suinteresuoti asmenys turėjo užpildyti trumpą internetinę registracijos formą. Jei asmenys atitiko įtraukimo kriterijus, jie buvo toliau pakviesti užpildyti internetinį tyrimo klausimyną naudojantis saugia apklausų platforma. Visi dalyviai, prieš pildant tyrimo klausimyną, suteikė informuotą sutikimą dalyvauti tyrime. Dalyviui užpildžius internetinį klausimyną, buvo paskirtas struktūruoto interviu laikas. Interviu atliko šešių klinikinių psichologų komanda ir supervizuojamas klinikinės psichologijos studijų programos magistrantė. Visi tyrėjai buvo apmokyti administruoti ir vertinti Tarptautinį traumos interviu (ITI). Viso tyrimo metu tyrėjai turėjo galimybę supervizuotis su vienu iš ITI autoriumi dėl iškylančių klausimų ir sudėtingesnių atvejų kodavimo aspektų. Siekiant užtikrinti tikslų ITI interviu administravimą ir rezultatų vertinimą, buvo organizuojami reguliarūs komandos susitikimai bendriesiems ITI kodavimo klausimams aptarti. Prieš atliekant interviu, tyrėjai negalėjo susipažinti su internetinių klausimynų rezultatais, siekiant užtikrinti interviu nešališkumą. Dėl apribojimų, susijusių su COVID-19 pandemija, visi interviu buvo atliekami naudojant vaizdo komunikacijos priemones. Pokalbiai su sutikimą davusiais dalyviais (98% visos imties) buvo įrašyti.

Tyrimo instrumentai

Trauminės patirties istorija buvo įvertinta naudojant Revizuotą Gyvenimo įvykių sąrašą (The Revised Life Events Checklist, LEC-R; Ben-Ezra et al., 2018; Weathers et al., 2013). Potrauminio streso ir kompleksinio potrauminio streso rizika buvo įvertinta naudojant Tarptautinį traumos klausimyną (The International Trauma Questionnaire, ITQ; Cloitre et al., 2018), bei Tarptautinį traumos interviu (The International Trauma Interview, ITI; Roberts et al., 2019). Psichologinės sveikatos rodikliai buvo įvertinti naudojant šiuos instrumentus: depresijos požymiams – Paciento sveikatos

klausimynas (The Patient Health Questionnaire-9, PHQ-9; Kroenke et al., 2001), nerimo požymiams – Generalizuoto nerimo sutrikimo skalė (The Generalized Anxiety Disorder Scale-7, GAD-7; Spitzer et al., 2006), psichologinei gerovei – Pasaulio sveikatos organizacijos psichologinės gerovės klausimynas (The World Health Organization Well-being Index, WHO-5; Topp et al., 2015), ribinės asmenybės bruožams – Ribinių asmenybės bruožų skalė (The Borderline Pattern Scale, BPS; Oltmanns & Widiger, 2019), disociacijos simptomams – Disociacijos simptomų skalę (The Dissociative Symptoms Scale, DSS; Carlson et al., 2018), suicidiškam elgesiui – Revizuotas suicidiško elgesio klausimynas (The Suicidal Behaviors Questionnaire-Revised, SBQ-R; Osman et al., 2001), emocijų reguliacijos sunkumams – Emocijų reguliacijos sunkumų skalė (The Difficulties in Emotion Regulation Scale, DERS; Gratz & Roemer, 2004). Socialiniai faktoriai buvo įvertinti naudojant šiuos instrumentus: atsiskleidimui apie traumą – Traumos atsiskleidimo klausimynas (The Disclosure of Trauma Questionnaire, DTQ-12; Müller & Maercker, 2006), socialiniam pripažinimui iš šeimos ir draugų – Socialinio pripažinimo klausimynas (the Social Acknowledgment Questionnaire, SAQ; Maercker & Müller, 2004), artimų santykių patyrimui – Artymų santykių patyrimo skalė (The Experience in Close Relationship Scale – Short Form,, ECR-S; Wei et al., 2007), savivertei – Rosenberg savivertės skalė (The Rosenberg Self-Esteem Scale, RSES; Rosenberg, 1965).

Duomenų analizė

Potencialiai traumuojančių įvykių, potrauminio streso sutrikimo ir kompleksinio potrauminio streso sutrikimo paplitimas buvo įvertintas naudojant aprašomąją statistiką.

ITQ ir ITI struktūra buvo tikrinama taikant patvirtinamąją faktorinę analizę (CFA). Matavimų invariantiškumo (konfigūracijos, metrikos ir skalės) testais buvo tikrinama, ar ITQ tinkamas naudoti tarp moterų ir vyrų bei skirtingose amžiaus grupėse. ITI konvergentinis ir diskriminantinis validumas buvo tikrinamas taikant struktūrinių lygčių modeliavimo (SEM) metodą. Krippendorffo alfa (α) testas buvo naudojamas vertinant tyrėjų tarpusavio sutarimą. Coheno kappa (κ) buvo apskaičiuota siekiant įvertinti ITI ir ITQ diagnostinį suderinamumą, taip pat kiekvienos simptomų grupės patvirtinimą.

Su trauma susiję ir socialiniai PTSS ir kompleksinio PTSS rizikos veiksniai buvo vertinami taikant daugialypę logistinę regresiją. Socialinių

veiksnių mediacinis vaidmuo traumos poveikio ir PTSS bei kompleksinio PTSS ryšiui buvo patikrintas taikant struktūrinių lygčių modeliavimo (SEM) metodą.

Tyrimų etika

Visiems tyrimams, prieš juos įgyvendinant, buvo gauti VU Psichologinių tyrimų atitikties mokslinių tyrimų etikai komiteto leidimai (2016/04/05 Nr.8 (I ir II publikacija) ir 2020/01/16 Nr.33 (III ir IV publikacija)). Visi tyrimo dalyviai suteikė informuotą rašytinį sutikimą dalyvauti tyrimuose. Visi dalyviai buvo informuoti apie tyrimo tikslus ir gavo informaciją apie psichologinės pagalbos galimybes. Tyrėjai taip pat buvo apmokyti, kaip elgtis, jei tyrimo metu dalyviai patirtų stiprių emocinių reakcijų.

REZULTATAI

Traumos, PTSS ir kompleksinio PTSS paplitimas

Lietuvos bendrosios populiacijos imtyje 81,4 proc. dalyvių nurodė per gyvenimą patyrę bent vieną potencialiai traumuojantį įvykį. Dalyviai nurodė patyrę vidutiniškai 3,41 (*SD* = 2,17) traumuojančių įvykių, nuo nulio iki 18. Dažniausi trauminiai įvykiai bendrosios populiacijos imtyje buvo autoavarija (42,6%), fizinis smurtas (40,0 %) ir staigi netikėta artimo žmogaus mirtis (28,7%) (I publikacija). Klinikinės imties dalyviai nurodė per gyvenimą patyrę vidutiniškai 5,77 (SD = 2,97) trauminių įvykių. Labiausiai paplitusi trauminė patirtis buvo staigi netikėta artimo žmogaus mirtis (72,1%), sunki psichologinė kančia (67,9%) ir autoavarija (60,7%) (II publikacija). Trauminis įvykis, kurį dalyviai dažniausiai nurodė kaip blogiausią, buvo fizinis smurtas vaikystėje (20,4%). Dalyviai taip pat kaip labiausiai traumuojančius išgyvenimus nurodė staigią smurtinę artimo žmogaus mirtį (14,6%), seksualinę prievartą suaugus (14,6%), kitą nepageidaujamą seksualinę patirtį vaikystėje (12,6%), seksualinę prievartą vaikystėje (11,7%) (IV publikacija).

Bendrosios populiacijos imtyje 5,8% dalyvių pateko į PTSS rizikos grupę, o 1,8% – į kompleksinio PTSS rizikos grupę (I publikacija). Klinikinėje imtyje 13,9% dalyvių pateko į PTSS rizikos grupę, o 10,0% – į kompleksinio PTSS rizikos grupę (II publikacija). Traumą patyrusių dalyvių imtyje 18,4% dalyvių atitiko diagnostinius PTSS kriterijus ir 21,4% – kompleksinio PTSS kriterijus (III ir IV publikacijos).

ITQ ir ITI instrumentų validumas

ITQ ir ITI psichometrinės savybės tiriamosiose imtyse buvo geros. CFA rezultatai patvirtino, kad tiek ITQ, tiek ITI geriausiai tinka koreliuotas dviejų latentinių faktorių modelis, kuriame PTSS latentinis faktorius paaiškina kovariaciją tarp pakartotinio išgyvenimo, vengimo ir grėsmės jausmo dabartyje faktorių, o sutrikusios asmenybės organizacijos latentinis faktorius paaiškina kovariaciją tarp sutrikusios emocijų reguliacijos, neigiamo savęs vaizdo ir sutrikusių santykių faktorių (I, II ir III publikacijos). Pilnas amžiaus matavimo invariantiškumas ir dalinis skalės lyties matavimo invariantiškumas buvo nustatytas leidžiant, kad vieno ITQ skalės teiginio (DR2 „Sutrikę santykiai – artimumo jausmas su kitais“) dydžiai varijuotų tarp lyčių (I publikacija). ITI vaizdo įrašuose užfiksuotų interviu (n = 11) tyrėjų tarpusavio sutarimas buvo geras (*Krippendorfo* α = .89). Ryšiai su įvairiais psichikos

sveikatos rodikliais patvirtino ITI konvergentinį ir diskriminantinį validumą. Tačiau struktūruoto interviu ITI ir savistatos klausimyno ITQ diagnostinis suderinamumas įvairiose simptomų grupėse buvo prastas arba vidutinis; prastas suderinamumas stebėtas grėsmės jausmo dabartyje ir sutrikusios emocijų reguliacijos simptomų grupių atveju (III publikacija).

PTSS ir kompleksinio PTSS rizikos veiksniai

Su trauma susiję rizikos veiksniai. Logistinės regresinės analizės rezultatai atskleidė, kad kumuliacinis traumos poveikis per visą gyvenimą buvo reikšmingas tiek PTSS, tiek kompleksinio PTSS rizikos prognostinis veiksnys, o neseniai įvykęs (<12 mėn.) trauminis įvykis reikšmingai prognozavo PTSS riziką, bet ne kompleksinio PTSS riziką (I ir II publikacija).

Demografiniai rizikos veiksniai. Amžius nebuvo išskirtas kaip reikšmingas rizikos veiksnys, tačiau buvo nustatytas reikšmingas lyties ryšys tiek su TLK-11 apibrėžtu PTSS, tiek kompleksiniu PTSS: moterų PTSS ir kompleksinio PTSS rizika buvo didesnė nei vyrų bendros populiacijos imtyje, bet ne klinikinėje imtyje (I ir II publikacijos).

Socialiniai rizikos veiksniai. Aukštesnę PTSS riziką patiriantys dalyviai nurodė stipresnį vengimą kalbėti apie savo traumines patirtis ir stipresnes neigiamas emocines reakcijas kalbant apie šias patirtis nei asmenys nepatiriantys PTSS rizikos. Asmenys su aukštesne kompleksinio PTSS rizika nurodė patiriantys stipresnį šeimos ir draugų socialinį nepritarimą, didesnį vengimą kalbėti apie traumines patirtis ir stipresnes neigiamas emocines reakcijas nei dalyviai, nepatiriantys PTSS rizikos ar patiriantys tik PTSS riziką (I ir II publikacija). Traumos poveikis buvo reikšmingai tiesiogiai susijęs su kompleksiniu PTSS, bet ne su PTSS, kai kaip mediatorius buvo įtrauktas socialinis draugų ir šeimos nepritarimas ir vengimas atsiskleisti apie trauminę patirtį (II publikacija). Taip pat nustatyta, kad kompleksinis PTSS buvo itin stipriai susijęs su bandymu nusižudyti – 73 proc. tyrimo dalyvių su aukšta kompleksinio PTSS rizika pranešė apie ankstesnius bandymus nusižudyti. Seksualinę traumą patyrusių dalyvių savižudybės rizika buvo didesnė nei likusios imties (IV publikacija).

IŠVADOS

1. Tarptautinio traumos klausimyno ir Tarptautinio traumos interviu, skirtų potrauminio streso sutrikimo (PTSS) ir kompleksinio potrauminio streso sutrikimo (kompleksinio KPTSS) simptomams įvertinti, lietuviškų versijų analizė parodė geras šių instrumentų psichometrines savybes ir validumą. Atkreiptinas dėmesys, jog savistatos ir klinikinio interviu diagnostinis suderinamumas tarp skirtingų simptomų grupių buvo silpnas arba vidutinis.
2. Fizinis smurtas vaikystėje padėjo diferencijuoti tarp PTSS ir kompleksino PTSS rizikos klinikinėje imtyje ir buvo stipriau susijęs su kompleksinio PTSS rizika. Kiti tirti trauminiai įvykiai buvo susiję tiek su PTSS, tiek su kompleksinio PTSS rizika. Per visą gyvenimą patirtų trauminių įvykių skaičius nediferencijavo tarp PTSS ir kompleksinio PTSS rizikos.
3. Amžius nebuvo susijęs su kompleksinio PTSS rizika. Lyties ir kompleksinio PTSS ryšys tirtose imtyse buvo nevienareikšmiškas: bendrosios populiacijos imtyje moterys patyrė stipresnę kompleksinio PTSS riziką, bet klinikinėje imtyje skirtumų tarp lyčių nebuvo rasta.
4. Kompleksinis PTSS, palyginus su PTSS, buvo susijęs su stipriau suvokiamu šeimos ir draugų socialiniu nepritarimu, stipresniu vengimu kalbėti apie trauminę patirtį ir intensyvesnėmis neigiamomis emocinėmis reakcijomis, tokiomis kaip, gėda ir bejėgiškumas.

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Monika Kvedaraitė prepared her doctoral dissertation in 2019-2023 at the Center for Psychotraumatology, Institute of Psychology, Vilnius University. Her research interests include clinical psychology and the assessment and treatment of stress-related disorders. The dissertation results were published in international scientific peer-reviewed journals and presented at national and international conferences. During her PhD studies, Monika Kvedaraitė co-authored more than ten scientific publications in the field of psychotraumatology. She enhanced her research competencies at the University of Cambridge (UK), Cardiff University (UK), Inter-University center Dubrovnik (Croatia). She got several awards and grants for her research results as a PhD student.

NOTES

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Fragmentas iš Vilniaus jėzuitų kolegijos rektoriaus Jakubo Vujeko (1541–1597) didžiausios apimties ir reikšmingiausio XVI a. lietuvių kalbos rašto paminklo, pamokslų rinkinio *Postilla catholicka* (Vilnius, 1599), Mikalojaus Daukšos (tarp 1527 ir 1538–1613) vertimo iš lenkų į lietuvių kalbą.

VU biblioteka, Lr 1618

Fragment from the Lithuanian edition of *Postilla catholicka* (Vilnius, 1599), a collection of sermons written by the Rector of Vilnius Jesuit College Jakub Vujek (1541–1597) and the most significant and largest example of 16th c. Lithuanian writing, translated from the Polish by Mikalojus Daukša (1527/1538–1613).

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