

**On Complex PTSD Symptoms and Life Outcomes;
An Examination of Complex and Traditional Presentations in a College Sample**

Austin M. Drake

Department of Psychology and Neuroscience, University of Colorado Boulder

Defended March 16th, 2022

Defense Committee

Mark Whisman, PhD

Thesis Advisor, Department of Psychology and Neuroscience

Andrew Grotzinger, PhD

Honors Council Representative, Department of Psychology and Neuroscience

Jason Zietz, PhD

Outside Reader, Department of Information Science

Abstract

Post-traumatic stress disorder (PTSD) is a debilitating condition that results after exposure to traumatic events, affecting millions worldwide. Recently, the International Classification of Diseases 11 (ICD-11) defined a separate disorder, Complex PTSD (CPTSD), as consisting of PTSD symptoms in addition to negative self-concept, affective dysregulation, and disturbances in relationships, which is thought to occur in individuals exposed to chronic, repeated, or inescapable trauma. This study was conducted to examine the correlates of CPTSD symptoms in a nonclinical college student sample ($N = 220$). Results indicated that CPTSD symptoms were significantly and negatively associated with self-esteem, life satisfaction, and avoidant attachment, and positively associated with anxious attachment. Furthermore, symptoms unique to CPTSD were more strongly correlated with these outcomes than classical PTSD symptoms. These findings suggest that the CPTSD symptoms are more strongly associated with certain psychological difficulties relative to classical PTSD symptoms, and provides support for the ICD-11 conceptualization of these disorders of trauma.

On Complex PTSD Symptoms and Life Outcomes;

An Examination of Complex and Traditional Presentations in a College Sample

Post-traumatic stress disorder (PTSD) is a debilitating condition that results after exposure to traumatic events that affects millions of people in the world (Harvard Medical School, 2007). However, the diagnosis of PTSD as described in the current (i.e., 5th) edition of the Diagnostic and Statistical Manual of Mental Disorders (i.e., DSM-5; American Psychiatric Association, 2013), may not fully take into account the more pervasive impacts and struggles that many individuals face after a history of multiple, repeated, or inescapable traumas. The syndrome of these lasting impacts that transcend PTSD have been recently described as Complex Post-Traumatic Stress Disorder (CPTSD), and it is included in the current (i.e., 11th) edition of the World Health Organization's International Statistical Classification of Diseases and Related Health Problems (ICD-11; World Health Organization, 2019). However, little research has been conducted using the ICD-11 criteria for CPTSD, and the etiology, symptoms, and impacts of the disorder have yet to be fully understood, particularly in nonclinical samples. This study aims to supplement the existing research on CPTSD through examining a variety of life outcomes as they relate to the endorsement of CPTSD symptoms in a dimensional analysis of the construct in a nonclinical sample.

History of the Diagnosis

The diagnosis of Complex Post Traumatic Stress Disorder (CPTSD) was first described by Herman (1992) as a "Syndrome in survivors of prolonged and repeated trauma" (p. 378). In contrast to rare, single-event traumas most often associated with a traditional PTSD diagnosis, CPTSD was advanced to describe individuals who had experienced repeated, prolonged, and/or inescapable traumas that had an impact not only on the individual's day-to-day functioning, but

also on their self-organization and identity. Herman asserted that the dominant PTSD diagnosis of the time did not accurately describe the troubles experienced by those “where the victim is in a state of captivity, unable to flee, and under the control of the perpetrator” (p. 377), such as in the case of people who have experienced sexual exploitation or people in concentration camps, in certain religious cults, or even in some family systems. Additionally, as opposed to people with traditional PTSD, people with CPTSD would be expected to have more pervasive and extreme disruptions in somatic, cognitive, affective, behavioral, and relational domains.

Other scholars at the time had described a deficiency in the blanket diagnosis of PTSD, with some noting the heterogeneity of PTSD presentations and the apparent permanent personality changes exhibited by those exposed to long-term trauma (Kolb, 1989). A key population of interest consisted of people subjected to childhood sexual trauma, who on the surface displayed a pattern of “chronic depression complicated by dissociative symptoms, substance abuse, impulsivity, self-mutilation, and suicidality” (p. 312), but who could in fact be considered to have a complex disorder of trauma (Gelinias, 1983). Another scholar of the time described the syndrome of prolonged childhood abuse as consisting of dissociative symptoms, affective or anxiety disturbances, and most uniquely, reenactment and revictimization of the experienced traumas, in which case could lead to a self-retraumatizing cycle (Goodwin, 1988). With these considerations in mind, Herman coined the term “Complex PTSD,” describing concisely the reasoning for a separate diagnosis over the existing “simple” PTSD:

“Clinical observations identify three broad areas of disturbance which transcend simple PTSD. The first is symptomatic: the symptom picture in survivors of prolonged trauma often appears to be more complex, diffuse, and tenacious than in simple PTSD. The second is characterological: survivors of prolonged abuse develop characteristic

personality changes, including deformations of relatedness and identity. The third area involves the survivor's vulnerability to repeated harm, both self-inflicted and at the hands of others” (Herman, 1992, p. 379).

Following publications of Herman’s description of CPTSD, other scholars discussed and corroborated the apparent validity and utility of the proposed diagnosis. One study examined the outcomes of female survivors of childhood sexual abuse compared with those without a history of trauma (Zlotnick et al., 1996). Using the DSM-IV diagnosis of Disorder of Stress Not Otherwise Specified (DESNOS), the researchers found that the victims of childhood sexual abuse displayed a pattern of symptoms (somatization, dissociation, hostility, anxiety, alexithymia, social dysfunction, maladaptive schemas, self-destruction, and adult victimization), very consistent to the proposed CPTSD pattern of symptoms. Similarly, a literature review identified 27 criteria often displayed by those exposed to extreme trauma that were not adequately addressed by the current PTSD diagnosis, and the study authors developed a structured interview to assess these criteria, which followed a similar rationale for the development of the CPTSD diagnosis (Pelcovitz et al., 1997). With relatively widespread agreement that the PTSD diagnosis did not describe this more pervasive syndrome, the idea of “Complex trauma” began to receive more attention and acceptance.

Eight years after it had first been suggested, Ide and Paez (2000) called for the CPTSD diagnosis to be formally accepted and put to use in clinical practice. In their article, they reviewed the existing literature at the time and acknowledged that the diagnosis of CPTSD “transcends current formulations of PTSD in 3 main areas of disturbance: 1) complex symptom presentations, 2) characterological issues, and 3) vulnerability to repeated trauma” (p. 43), consistent with Herman’s conceptualization. During the 2000’s, several authors examined

complex trauma in a variety of populations, finding that the construct was clinically relevant (Cloitre et al., 2009; Cook et al., 2005; Van der Kolk, 2005; Van der Kolk et al., 2005). A complex trauma diagnosis labeled Disorder of Extreme Stress Not Otherwise Specified (DESNOS) had previously been proposed for inclusion in the DSM-IV, but was rejected as a freestanding disorder for lack of sufficient validity research (Luxenberg et al., 2001). A similar disorder labeled Developmental Trauma Disorder (DTD) that focused on children and adolescents was introduced for inclusion in the DSM-5 (Van Der Kolk, 2005), but ultimately it was not included due to a lack of empirical evidence supporting it at the time. Still, scholars continued to publish on complex trauma into the 2010s, and a 2014 study found that different treatment methodologies may be required to treat CPTSD and PTSD most effectively (Lonergan, 2014).

The 11th edition of the ICD was published in 2019, and both PTSD and CPTSD were included as separate diagnoses. In a review conducted just prior to release of the ICD-11, Brewin et al. (2017) concluded that the ICD-11 CPTSD diagnosis would detect individuals with significant impairment who would not have received a diagnosis under the DSM-5, and as such, would have significant clinical utility. However, it was also unclear exactly what implications having two separate diagnoses would have for treatment. Some scholars noted that it was not clear if the two diagnoses were qualitatively different or if both simply existed on a continuum of impairment with the same underlying pathology (Brewin et al., 2017; Brewin, 2020; Lehrner, & Yehuda, 2020). Lehrner and Yehuda also noted that the DSM-5 simply expanded the PTSD diagnosis to include more complex presentations, and that the difference in treatment outcomes between those diagnosed with DSM-5 PTSD and comorbid disorders may not differ from those diagnosed with ICD-11 CPTSD. In an attempt to investigate the construct validity of the new

diagnosis, results from one study suggested satisfactory factorial validity for the diagnostic criteria, as well as evidence that PTSD and CPTSD existed as two separate patterns of dysfunction, finding that those exposed to abuse in early development were more likely to meet CPTSD criteria than PTSD criteria (Hyland et al., 2017). Although certainly not conclusive, these findings seemed to indicate that the two diagnoses are qualitatively different. However, CPTSD remained very difficult to quantify and describe succinctly amidst conflicting proposals for how it should be conceptualized in relation to classical PTSD.

ICD-11 and the International Trauma Questionnaire

During the drafting of the ICD-11, Hull, Corrigan, and Curran (2016) recommended that clinicians should assess individuals who had experienced trauma for disturbances in the domains of emotional dysregulation, negative self-concept, and interpersonal disturbances, offering a concise working definition of the difficulties faced in addition to PTSD symptoms in individuals suffering from CPTSD. The ICD-11 definition of CPTSD contains the following description that distinguishes it from traditional PTSD:

“All diagnostic requirements for PTSD are met. In addition, Complex PTSD is characterised by severe and persistent 1) problems in affect regulation; 2) beliefs about oneself as diminished, defeated, or worthless, accompanied by feelings of shame, guilt or failure related to the traumatic event; and 3) difficulties in sustaining relationships and in feeling close to others. These symptoms cause significant impairment in personal, family, social, educational, occupational or other important areas of functioning” (World Health Organization, 2019).

Cloitre et al. (2018) developed an 18-item self-report measure for PTSD and CPTSD based on the definitions for these disorders in the ICD-11. As the ICD-11 does not list specific,

strict diagnostic criteria that must be met for a CPTSD diagnosis like the DSM-5 does for PTSD, instead opting for a narrative approach and placing an emphasis upon clinical judgement, an operationalization of CPTSD was developed in constructing the self-report measure. Influenced by previous work by Berwin et al. (2017), the International Trauma Questionnaire (ITQ) was developed with two primary scales: PTSD symptoms, and Disturbances in Self Organization (DSO). PTSD symptoms include avoidance, a sense of present threat, and re-experiencing in the here-and-now, whereas DSO symptoms include affective dysregulation, negative self-concept, and disturbances in relationships. CPTSD, then, would be assessed by a combination of these two primary constructs (Cloitre et al., 2018).

The ITQ received support from several studies examining its validity and utility, which also strengthened the idea that PTSD and CPTSD were markedly different syndromes. One study investigated an early working version of the questionnaire using a latent class analysis (LCA) and found evidence for distinct profiles of individuals, with one group reporting only PTSD symptoms, another reporting only DSO symptoms, possibly indicating certain personality disorders, and finally, a CPTSD group in which participants endorsed both PTSD and DSO symptoms (Karatzias et al., 2017). The researchers found that the PTSD and CPTSD groups differed in a number of ways, including a wider variety of traumas reported and more functional impairment for the CPTSD group relative to the PTSD group. Looking specifically at DSO symptoms, which are critical for the functioning of the ITQ, Shevlin et al. (2018) reported “The distribution of responses for all DSO indicators met the criteria associated with interpretability, variability, homogeneity, and association with functional impairment” (p. 10), concluding the scale was valid and useful in assessing for complex presentations of trauma. Another study found the ITQ to possess good factorial validity, and that the diagnoses of PTSD and CPTSD

differentially predicted multiple psychological variables, lending support for the discriminant validity of the constructs (Hyland et al., 2017).

Existing Research on Correlates of CPTSD

Some limited research has been done on the outcomes associated with CPTSD since the publication of the ICD-11. Before this, many researchers and clinicians also investigated the outcomes associated with more complex or chronic presentations of DSM-IV PTSD, which may be retroactively examined under the lens of CPTSD.

Self-Esteem

In a study on self-concept and relationship esteem in traumatic and dissociative disorders, it was found that chronic PTSD and Dissociative Identity Disorder with traumatic history both are negatively associated with self-esteem (Dorahy et al., 2015). The study identified that complex PTSD symptoms were most strongly associated with fear of relationships, with smaller associations for self-esteem and relationship esteem, and in general less dysfunction than found in dissociative disorders. By contrast, another study of self-esteem in trauma survivors found a strong association between CPTSD symptoms and decreased emotional self-esteem (Weindl et al., 2018). The researchers examined survivors of institutional childhood maltreatment, and concluded that a negative self-concept was one of the strongest correlates of trauma observed in the participants. Additionally, they found that positive attitudes regarding posttraumatic growth in the survivors were associated with higher levels of emotional self-esteem, whereas more negative attitudes were conversely associated with lower levels. These findings fall in line with disturbances in self-organization being considered as the chief distinguishing factor between CPTSD and PTSD as they relate to psychological outcomes.

A variety of scholars investigated self-esteem as a mediator between trauma exposure and dysfunction in complex trauma survivors. A study conducted on older adults sought to investigate the effects of childhood trauma and determine the degree to which self-esteem played a moderating or mediating role in the lasting impacts of the trauma (Sachs-Ericsson et al., 2010). Firstly, the presence of childhood trauma was found to predict a higher likelihood of internalizing disorders (anxiety and depressive disorders) overall. Secondly, self-esteem was found to moderate the association between the presence of childhood abuse and adverse outcomes in adulthood, such that those with lower self-esteem had a larger negative association between childhood abuse and adverse outcomes as opposed to those with higher self-esteem. There was no direct correlation between childhood abuse and self-esteem, nor was a mediating effect found for self-esteem between abuse and outcomes. This finding was inconsistent with existing literature on younger adults, leading the investigators to conclude that older adults may have more opportunity to separate their experiences with abuse from their own self-concept. For example, one study found a significant negative correlation between emotional abuse and self-esteem in adolescents (Chen & Qin 2020). Consistent with the current understanding and definition of CPTSD, abuse was also associated with social anxiety and loneliness, and both loneliness and self-esteem mediated the effect of emotional abuse on social anxiety. Yet another group examining mediation models concluded that childhood abuse affects self-esteem through attachment, with no significant main effect of abuse on self-esteem discovered (Liu et al., 2018). The widespread disagreement on the nature of the relationship between abuse, trauma, and self-esteem, as well as the heterogeneity in findings in current research, leaves the issue in need of more research.

Life Satisfaction

Satisfaction with life is a construct expected to be lower in persons experiencing a significant level of distress or discomfort, and so would be expected to be lower in those with diagnoses of PTSD. However, in general, little research on life satisfaction has been conducted on persons with more complicated or chronic PTSD presentations. One such study examined the life satisfaction of individuals who had experienced multiple traumatic events several years prior to the study (Anke et al., 2003). Using a retrospective self-report design, the investigators reported that 87% of participants reported a decrease in at least one aspect of life satisfaction compared to before the traumatic events, and significantly fewer participants reported being satisfied with life as a whole after trauma. Specifically, the domains of sexual life, activities of daily living, contact with friends, leisure, vocational and financial situation were significantly decreased after the traumatic events, whereas the domains of family life and partner relationship were unaffected. Additionally, the authors reported that “A sense of coherence and social network quality” seemed to have a buffering effect on the impacts of trauma, with participants strong in these domains reporting more life satisfaction overall.

Several studies have examined the impacts of more discreet, specific traumatic events on life satisfaction that have relevance to the discussion of CPTSD. A national survey and review of 47,869 individuals exposed to childhood sexual abuse examined a number of demographic and descriptive factors with regard to life satisfaction (Whitelock et al., 2013). Results indicated that life satisfaction in sexual abuse survivors was negatively associated with age and positively associated with education level and socioeconomic status. Female participants tended to have higher life satisfaction after sexual abuse than male participants, and participants in intimate relationships also had higher life satisfaction than those who were not. The specific context of the abuse did not have a notable effect on the severity of lasting impacts, but lesser severity of

abuse and fewer additional traumatic experiences were positively associated with life satisfaction, supporting the notion that the length of exposure and severity of trauma are the most important distinguishing etiological factors between PTSD and CPTSD, as opposed to varying according to the specific trauma experienced. In another large-scale study of 1811 older adults, researchers investigated the associations between various traumatic events and life satisfaction and whether these differed as a function of demographic characteristics and individual differences (Lamoureux-Lamarche & Vasiliadis, 2017). Results indicated significant gender differences in the type of traumatic events that were most strongly associated with a diagnosed disorder of trauma and a decrease in life satisfaction. Exposure to violence, a traumatic accident, and sexual violence were shown to be associated with a diagnosis only in women, with no types of trauma exclusively associated with a diagnosis in men. A life-threatening disease was associated with a reduced life satisfaction only in men, whereas exposure to violence was associated with lower life satisfaction only in women. However, this study did not contain any examination of the severity or length of exposure to these traumatic events, making its application to the concept of CPTSD difficult.

Only one study was found in which researchers evaluated the life satisfaction of those identified to be specifically suffering from complex trauma. In a study of 53 individuals living with HIV in South Africa, the authors used a thematic analysis, which is relatively unique in the study of CPTSD (Ngwenya et al., 2021). People continuously exposed to adverse events fared worse on measures of life satisfaction when compared to unaffected populations. A majority of the participants also reported feeling that there was “nothing to do in their communities and no way out of their adverse situations”, suggesting a level of hopelessness and inescapability consistent with the current understanding of how CPTSD develops. Another study

investigated the association between childhood abuse and life satisfaction of college students in China. The investigators found that “General belief in a just world, personal belief in a just world, and self-esteem played an independent mediating effect respectively between childhood abuse and life satisfaction” (Tian, Liu, & Li, 2017, p. 312). In general, the authors concluded that childhood abuse had a negative impact on participants’ subjective well-being.

Attachment

Adult attachment is typically conceptualized as a person’s framework around relationships in their adult life that was modeled after the type of relationships they had with their caregivers at a very young age, such that a disrupted attachment between a child and their primary caregiver may lead to relational difficulties later in life (Hazan & Shaver, 1994). Attachment has been studied under a variety of contexts, and is currently understood to be best conceptualized along two axes: anxiety and avoidance (Brennan et al., 1998; Fraley et al., 2000). As such, attachment would be expected to be disrupted in CPTSD, which is largely defined by disturbances in self-concept and relations to others. Furthermore, it has been proposed by some that unhealthy or disrupted attachment in childhood may be one of the key factors behind the development of CPTSD for many individuals, particularly in cases of childhood maltreatment (Farina et al., 2019). This idea also meshes well with the current understanding that social support can mediate the effects of trauma on well-being (Flannery, 1990). In a case study involving a trauma clinic in Scotland, an attachment-based model of treatment was found to be very effective for persons suffering from complex trauma disorders, supporting the claim that attachment may underpin the struggles of CPTSD sufferers (Fyvie et al., 2019). Indeed, many children diagnosed with attachment disorders may have been exposed to traumatic events in

childhood that could lead to a CPTSD diagnosis in adolescence and adulthood (John et al., 2019).

Since the publication of the ICD-11, some research has been done on the association between CPTSD symptoms as defined therein and attachment. In a study of trauma-exposed individuals in the United Kingdom, researchers found that negative trauma-related cognitions about the self were most strongly associated with a diagnosis of CPTSD, followed by attachment anxiety, and then expressive suppression (Karatzias et al., 2018). In a more recent study of a trauma exposed clinical sample, investigators found that secure attachment and fearful attachment (a pattern of both high anxiety and high avoidance) were significantly associated with DSO symptoms as measured by the ITQ but not with PTSD symptoms (Karatzias et al., 2021). They also found that a dismissing (avoidant) attachment style was significantly associated with both PTSD and DSO symptoms. However, preoccupied (anxious) attachment was not significantly associated with either PTSD or DSO symptoms, thereby not being found to relate to CPTSD as a whole.

Academic Performance

The relationship between trauma and academic performance in students is an area of research that has yet to be examined using the ICD-11 CPTSD framework. Prior research has indicated negative outcomes in academics for individuals exposed to childhood trauma, such as one study that administered an anonymous survey to African American college students (Aruguete & Edman, 2019). The study found that number of traumatic experiences was negatively associated with GPA on average. It was also found that male students reported more traumatic experiences than female students, though females were more likely than males to report a sexual assault. Another broader study of college students enrolled in seven different

institutions in Brazil found that students who presented with PTSD had lower academic performance on average when compared to their peers (Pereira et al., 2018). The authors noted that drop-out rates were also higher for students presenting with PTSD, and that students in higher-populated areas were more likely to report a greater number of traumatic experiences. By contrast, one study was not able to replicate the finding of a negative association between trauma exposure and academic performance using a sample of first-year college students, instead only finding an association between childhood trauma and substance abuse later in life (Arnekrans et al., 2018). Overall, results from prior studies seem to indicate a possible relationship between traumatic experiences and academic performance, which may be affected or moderated by other factors such as race, gender, and socioeconomic status.

Current Study

The current study was conducted to address several questions raised by previous research while also contributing to the greater body of research surrounding CPTSD. The sample for the study consisted of college students, a population that has been studied with respect to trauma in general, but that has been underrepresented in CPTSD research. The primary aim of the study was to examine the association between PTSD and DSO symptoms and measures of self-esteem, satisfaction with life, and attachment, along with participant's academic performance via self-reported GPA. Based on the findings of previous research, it was hypothesized that both PTSD and DSO symptoms would be negatively associated with self-esteem, satisfaction with life, and academic performance and positively associated with anxious and avoidant attachment. It was also hypothesized that compared to the associations between PTSD symptoms and outcomes, DSO symptoms would be more strongly associated with all outcomes. Finally, it was hypothesized that both PTSD and DSO symptoms would be uniquely associated with all

outcomes, thereby supporting the specificity of the association between both measures and each outcome.

Methods

Participants

Participants consisted of 220 undergraduate college students enrolled in a general psychology course at the University of Colorado Boulder. Participants received course credit for participating in the study through the SONA participant pool utilized by CU Boulder. Participants were given the option to complete an alternative assignment for credit if they did not wish to participate in research. Of the initial 220 participants recruited, 2 were excluded from data analysis due to incomplete responses, and another 1 did not give informed consent or participate, leaving a final sample of 217. No blatantly patterned responses were identified in the data.

Participants were aged from 18 to 30 years old, with a mean age of 19.03 years ($SD = 1.33$). Of the total sample, 63.80% of participants identified as female, 34.39% as male, and 1.81% as nonbinary/other. Regarding race and ethnicity, 81.20% identified as White, 8.55% as Asian, 2.14% as Black or African American, 1.28% as American Indian or Alaska Native, 0.85% as Native Hawaiian or Pacific Islander, and 5.98% as other; 17.12% of participants considered themselves to be of Hispanic or Latino/a origin.

Materials

Trauma

The International Trauma Questionnaire (ITQ; Cloitre et al., 2018) was administered to assess for trauma exposure and for the presence and severity of ICD-11 CPTSD symptoms. The ITQ contains a prompt asking participants to identify the experience that troubles them the most,

along with an estimate of how long ago the event occurred. The questionnaire then contains two 6-item subscales assessing PTSD and DSO symptoms. Participants are asked to rate how strongly they agree with or how often they experience a series of statements using a 0-4 Likert-type scale (0=Not at all, 2=Moderately, 4=Extremely). Both subscales are scored identically, by summing the responses to each item. A higher score on each subscale indicates more endorsement of that particular symptom cluster. An example of one of the statements given for the PTSD subscale is “Being ‘super-alert’, watchful, or on guard” and an example of one of the statements given for the DSO subscale is “I feel numb or emotionally shut down.” Along with each subscale, participants are given 3 more statements scored in the same manner that are directed at functional impairment, which are necessary for diagnostic scoring of the measure. An example of one of these statements is “Affected your relationships or social life?”

Self-Esteem

The Rosenberg Self Esteem Scale (RSES; Rosenberg, 1965) was used to measure self-esteem. It is a 10-item scale measuring global self-worth and believed to be unidimensional. Participants are asked to rate how strongly they identify with a series of statements using a 4-point Likert scale (Strongly disagree; Disagree; Agree; Strongly agree). Responses are summed to create a single measure of participant self-esteem, such that higher scores indicate better self-esteem. An example of one of the statements is “I feel that I have a number of good qualities.”

Life Satisfaction

The Satisfaction with Life Scale (Diener et al., 1985) is a 5-item scale measuring general life satisfaction. Participants were instructed to rate how strongly they agreed with 5 statements using a 7-point Likert scale (7 - Strongly agree; 6 - Agree; 5 - Slightly agree; 4 - Neither agree nor disagree; 3 - Slightly disagree; 2 - Disagree; 1 - Strongly disagree). Individual responses

were summed to obtain a measurement of life satisfaction, with higher scores indicating more satisfaction with life. An example of one of the statements is “In most ways my life is close to my ideal.”

Adult Attachment

The Experiences in Close Relationships-Revised (ECR-R) Questionnaire (Fraley et al., 2000) was used to assess adult attachment. The questionnaire consists of 36 items scored on a 7-point Likert scale (Strongly disagree; Strongly agree), and asked participants to rate how strongly they agreed with a series of statements. An example of one of the statements is “My desire to be very close sometimes scares people away.” The questionnaire is scored by summing items into two subscales: one measuring attachment-related anxiety, and the other measuring attachment-related avoidance. A higher score on either scale indicated more anxiety or avoidance.

Procedure

Participants completed all questionnaires online through a survey created on Qualtrics through the University of Colorado Boulder. Participants were first asked for their consent to participate, then presented with a series of demographic questions, followed by a prompt to report their GPA and then the four questionnaires described above. The survey took 25 minutes to complete on average. After completing the survey, participants were debriefed with a summary of the study aims. The study was approved by the Institutional Review Board at the University of Colorado Boulder.

Data Analysis

Data was analyzed using IBM SPSS version 28.0.0.0. Pearson correlations were calculated to examine the bivariate associations between PTSD symptoms, DSO symptoms, and outcomes (self-esteem, life satisfaction, attachment, GPA). To evaluate the degree to which DSO

symptoms were more strongly associated than PTSD symptoms with each of the outcome measures, tests of dependent correlations were computed using Steiger's (1980) formulas and Lee and Preacher's (2013) online calculator. To evaluate the specificity of the associations between DSO and PTSD symptoms and each outcome, a series of multiple linear regression analyses was computed in which each outcome was regressed on both PTSD and DSO scores; separate analyses were conducted for each outcome. In addition, participant's brief descriptions of their traumatic events were categorized into a priori categories and used for further exploratory post-hoc analyses based on the type of event and the self-reported presence or absence of any trauma.

Results

The means and standard deviations for all measures are displayed by Table 1. To determine if the severity of PTSD or DSO symptoms varied by gender, independent-samples *t*-tests were calculated. A higher level of PTSD symptoms were reported by women ($M = 17.46$, $SD = 5.84$) compared to men ($M = 14.53$, $SD = 5.67$), $t(214) = 3.53$, $p < .001$. Similarly, a higher level of DSO symptoms were reported by women ($M = 16.03$, $SD = 6.03$) compared to men ($M = 13.54$, $SD = 5.58$), $t(214) = 2.95$, $p = .002$.

Pearson correlations were computed between PTSD and DSO scores and each outcome to test the hypothesis that participants' PTSD scores and DSO scores would both be significantly associated with all outcomes. Results from these analyses are presented in Table 2. As can be seen in this table, results indicated that PTSD and DSO scores were both significantly and negatively associated with self-esteem, life satisfaction, and avoidant attachment, and significantly and positively associated with anxious attachment. Neither PTSD nor DSO scores were found to be associated with GPA.

Tests of the significance of the difference between dependent correlations comparing the correlations between PTSD scores versus DSO scores for each outcome indicated the strength of the correlations between PTSD versus DSO scores were significantly different for self-esteem ($z = -5.22, p < .001$), life satisfaction ($z = -4.19, p < .001$), and anxious attachment ($z = 1.98, p < .05$). Specifically, DSO scores were more strongly correlated with self-esteem, life satisfaction, and anxious attachment than were PTSD scores. In comparison, there was no difference in the strength of the correlations between PTSD versus DSO scores for avoidant attachment and GPA.

Results from the regression analyses testing the specificity of the association between PTSD and DSO symptoms and each outcome are presented in Table 3. Together, PTSD and DSO accounted for 36% of the variance in self-esteem, 28% of the variance in life satisfaction, 10% of the variance in anxious attachment, 7% of the variance in avoidant attachment, and less than .01% of the variance in GPA. For each outcome other than GPA, DSO scores were significantly associated with the outcome whereas PTSD scores were not; neither DSO score nor PTSD scores were uniquely associated with GPA. This pattern of results suggests that for each of the outcomes other than GPA, the addition of PTSD scores did not significantly improve the accuracy of a model containing only DSO score as a predictor. As such, DSO scores were uniquely associated with these outcomes whereas PTSD scores were not.

To address the possibility that the association between self-concept as measured by the ITQ and self-esteem as measured by the Rosenberg Self-esteem Scale may have been due, in part, to item overlap, a sensitivity analysis was conducted. Scores on the DSO scale were recalculated after removing items C3 and C4, which measure negative self-concept, and bivariate correlations were calculated with the modified scale. Compared to the correlation between the full DSO scale and self-esteem ($r = -.60$), the correlation between the modified DSO scale and

self-esteem ($r = -.36$) was smaller in magnitude, $z = 4.41$, $p < .001$. The association between the modified DSO scale and self-esteem did not significantly differ from the correlation between the PTSD scale and self-esteem, $z = -.85$, $p = .40$.

As a part of the ITQ, participants gave a brief description of the event that troubled them most. The percentages of events that were reported are presented in Table 4. As can be seen in this table, 34.1% of the participants reported either no significantly troubling event or day-to-day experiences, and another 5.5% gave descriptions that were blank or too vague to categorize. The most common experiences reported were death of a loved one and sexual assault.

Discussion

This study was designed to examine the associations between PTSD and DSO symptoms and several commonly-studied outcomes in a non-clinical student sample. Specifically, the study examined the associations between PTSD and DSO symptoms and self-esteem, life satisfaction, attachment, and academic performance to gain insight into the possible impacts of a more complex presentation of trauma relative to a more traditional assessment of trauma. The specific associations between both PTSD symptoms and DSO symptoms with the outcomes were evaluated. More broadly, this study was positioned to contribute to the larger body of research surrounding CPTSD and complex trauma.

It was hypothesized that participants who scored higher on complex trauma (PTSD and/or DSO) symptoms would have worse outcomes on average. Results partially support this hypothesis, as negative associations were observed between both PTSD symptom and DSO symptoms and self-esteem and life satisfaction, and a positive association was observed between the predictors and anxious attachment. However, a negative association was observed between the predictors and avoidant attachment, in contrast to the hypothesis. The fourth outcome,

academic performance as measured by GPA, was not significantly associated with either PTSD or DSO symptoms, which is also incongruent with the hypothesis.

It was also hypothesized that DSO symptoms would be more strongly associated with each outcome than PTSD symptoms. In support of this hypothesis, DSO symptoms were found to be more strongly associated with each of the outcomes, other than avoidant attachment and GPA, than PTSD symptoms were. These results suggest that DSO symptoms of affective dysregulation, negative self-concept, and disturbances in relationships may be more strongly associated with the outcomes than PTSD symptoms of avoidance, a sense of present threat, and re-experiencing in the here-and-now. This finding indicates that DSO symptoms appear more relevant to the chosen outcomes than PTSD symptoms, and have stronger associations than classical PTSD symptoms in this domain. This finding is important to consider when discussing the ways in which complex trauma presentations may transcend classical trauma presentations.

Finally, it was hypothesized that both PTSD and DSO symptoms would be differentially correlated with each outcome, such that each symptom cluster would be able to predict more variation in outcomes than their shared association with the other symptom cluster. Results from the linear regression analyses indicated that DSO symptoms were uniquely associated with each of the outcomes other than GPA whereas PTSD symptoms were not uniquely associated with any of the outcomes. As such, results did not provide support for the study hypothesis that both PTSD and DSO symptoms would be uniquely associated with each outcome. This finding is particularly noteworthy when considering the extent to which CPTSD qualitatively differs from PTSD, or whether it exists as a more severe presentation on the same spectrum as a PTSD diagnosis. The lack of support for the hypothesis that both PTSD and DSO components contribute separately to predicting the outcomes may reflect several possibilities, including that

severity of PTSD symptoms in the present sample was too low to find evidence of unique associations (i.e., due to a restriction in range of PTSD scores), that CPTSD may be thought to have a larger quantitative difference over PTSD than a qualitative one, or that the chosen outcomes of self-esteem, life satisfaction, and attachment are not uniquely associated with a classical traumatic exposure, but are rather uniquely associated with the emotional impairment seen with DSO. If the latter explanation is to be the case, then it is possible that conversely, other outcomes may only be uniquely associated with PTSD symptoms. Future research is needed to evaluate the specificity of PTSD and DSO symptoms with other outcomes.

The finding that PTSD and DSO symptoms were negatively associated with self-esteem is consistent with previous research on CPTSD (Chen & Qin 2020; Weindl et al., 2018). Prior studies of childhood abuse or maltreatment did not find main effects for such experiences on self-esteem in adulthood, but did find more complicated relationships involving self-esteem as a moderator of the association between childhood abuse and psychological impairment (Sachs-Ericsson et al., 2010; Lie et al., 2018). The current study did not evaluate the possibility of any such relationships due to the sample size. The association between DSO score and self-esteem was of particular interest, as DSO predicted 36% of the variance in self-esteem. As negative self-concept was one of the first lasting characteristics of CPTSD to be described, it stands to reason that a strong association would be observed. The removal of negative self-concept scale items from the ITQ resulted in the modified DSO scale no longer differing from the PTSD scale in its ability to predict self-esteem. This suggests convergence between NSC as measured by the ITQ and self-esteem as assessed by the Rosenberg self-esteem scale. This finding also indicates that low levels of self-esteem are encompassed by the DSO symptom cluster as defined by the ITQ, as opposed to being predicted by it. Since DSO symptoms remain to be significantly associated

with life satisfaction, anxious attachment, and avoidant attachment, it is possible that self-esteem may also be independently associated with these outcomes.

Significant negative associations were found between PTSD and DSO symptoms and life satisfaction, which is consistent with most previous research of trauma and life satisfaction (Anke et al., 2003; Tian, Liu, & Li, 2017; Whitelock et al., 2013). One prior study found significant gender differences in life satisfaction after trauma, such that the gender of the participant predicted what types of traumatic event were most likely to be associated with lower life satisfaction in adulthood (Lamoureux-Lamarche & Vasiliadis, 2017). A larger sample, perhaps restricted to trauma-exposed individuals, would likely be required to replicate the previous finding using the ITQ.

The current study found both PTSD and DSO symptoms to be positively associated with anxious attachment and negatively associated with avoidant attachment. Mirroring the findings of Karatzias et al. (2018), anxious attachment was found to be positively associated with PTSD and DSO symptoms. However, there is a discrepancy between the current study and the findings of Karatzias et al. (2021). Their study found that fearful attachment, defined as possessing both high anxiety and avoidance, was positively associated with DSO symptoms but not PTSD symptoms, which was not tested by the current study. Karatzias and colleagues also found that avoidance was positively associated with both PTSD and DSO symptoms, whereas the present study found an opposite effect, that both PTSD and DSO symptoms were negatively associated with avoidance. Finally, Karatzias and colleagues found no significant association between either predictor and anxious attachment, contradicting the 2018 study and the current study, which found that PTSD and DSO symptoms were positively correlated with anxious attachment. One possible explanation for the observed difference could be due to the usage of different measures

for assessing attachment. The prior study used a 4-item questionnaire that asked participants to rate how strongly they felt a description of each category of attachment described them, while the current study used a 36-item measure that provided continuous measures of anxiety and avoidance. As was also noted by the previous authors, avoidant attachment has been inconsistently correlated to PTSD in the past, and the addition of DSO to contemporary models may lead to more accurate conclusions as time passes and more studies are conducted (Karatzias et al., 2021). The authors postulated that the absence of a relationship between PTSD and DSO and anxious attachment could be due to trauma-exposed individuals becoming less emotionally available as they age in order to protect themselves from further abuse. It is possible that, due to the current sample of college students, this phenomenon was not observed because the younger participants in the current study may be more likely to be experimenting and gaining more experience in close relationships.

The present study did not find an association between either PTSD or DSO symptoms and academic performance as measured by self-reported GPA, which is not consistent with prior research (Aruguete & Edman, 2019; Pereira et al., 2018). This could be due to several reasons. Firstly, because the sample in the current study were undergraduates enrolled in a general psychology course, it is possible that the self-reported GPA of many participants was based only on one semester of classes. Another factor to consider is the relatively small range of scores reported; with a mean of 3.51 and a standard deviation of 0.42, this restriction could have reduced the study's ability to find a significant association. However, consistent with the current study, one other study found no association between trauma exposure and academic performance (Arnekrans et al., 2018).

In addition to directly testing the study hypotheses, several other exploratory analyses were conducted to better understand complex trauma in college students. The finding that compared to males, females reported more PTSD and DSO symptoms on average is consistent with previous research on the prevalence of PTSD in men and women (Harvard Medical School, 2007). Future research is needed to better understand the nature of these gender differences. For example, these differences may reflect true differences, or they may reflect women's greater willingness to disclose traumatic and troubling experiences on an online questionnaire.

Limitations

The present study used a series of online, self-report measures to collect correlational data. As such, there are several limitations that should be considered in interpreting the study findings. Firstly, it is important to note that no claims of causality can be made on the basis of this research alone due to its cross-sectional design. Another limitation of this study is its reliance on self-report measures for all variables, which may be influenced by response styles such as social desirability or patterned responses. With particular note to trauma research, there is a possibility that some participants did not feel comfortable thinking about or answering questions relating to their trauma, and conversely, other participants may have felt more comfortable to do so based on the private, online format of the study. Another key limitation of this study stems from the use of a nonclinical sample as opposed to a clinical sample of trauma-exposed individuals. Although the use of a nonclinical sample allowed for evaluating the CPTSD model in a new context, it also required that CPTSD be measured not on the basis of diagnostic criteria but instead with a dimensional approach as the result of a lower base rate of PTSD in the general population. This limitation requires that the results be discussed in terms of symptoms as opposed to diagnoses.

This study was limited to a sample of college students enrolled at the University of Colorado Boulder, which places some limits on its generalizability. The sample had a relatively limited age range which consisted of young adults and there are a variety of changes and events during this age range that could limit generalizability to other age groups. The socioeconomic statuses of the participants were also restricted in that they only consist of individuals who were able to attend university classes. In addition, because the participants were enrolled in a general psychology course and many were pursuing psychology degrees, they also may have had more exposure to the concepts measured by this study and preexisting beliefs or attitudes regarding each. The sample was also predominantly White, and the findings may not generalize to ethnic or racial minority groups.

Lastly, it must be noted that the present study was entirely conducted during the COVID-19 pandemic. Research has demonstrated negative mental health outcomes in a variety of domains during the global pandemic and its related quarantine periods and public health guidelines (Dumas et al., 2020; Munasinghe et al., 2020; Sneed et al., 2020). It is possible that the context of this study affected its results and conclusions with respect to psychological outcome variables.

Implications for Future Research

The findings of this study provide support for the classification of CPTSD as a separate disorder from classical PTSD by demonstrating associations between Disturbances in Self Organization and various psychological outcomes that go beyond what PTSD symptoms were able to predict alone. Namely, the present study found DSO symptoms to be negatively associated with self-esteem, life satisfaction, and avoidant attachment, and positively associated with anxious attachment. These findings are consistent with the ICD-11 conceptualization of

CPTSD's DSO symptom cluster as consisting of negative self-concept, affective dysregulation, and disturbances in relationships, though the specific nature of the relationship between CPTSD and attachment remains unclear and warrants further research. The finding that self-esteem was strongly negatively associated with DSO symptoms reflects that the impacts of CPTSD may be longer lasting and more disruptive to individual's identity than classical PTSD. The negative correlation between DSO symptoms and life satisfaction may also suggest more comprehensive and pervasive struggles on average than is seen in classical PTSD. A positive association between CPTSD symptoms and anxious attachment indicates that individuals who displayed more symptoms tended to view their relationships in a heavily-invested or preoccupied manner, fearing being underappreciated or abandoned by their partners, which may be expected of people who have had traumatic experiences inside of romantic or parental relationships. It may also be a result of displaying disturbances in self organization, which may be thought to cause one to place more emphasis on others in the absence of internal reassurance in identity. Regarding avoidant attachment, the association between CPTSD symptoms and avoidance has been noted by others to be inconsistent throughout previous research.

The findings of the current study, along with previous research on CPTSD, reflect that treatment for CPTSD may be most beneficial when it involves addressing the negative self-concept, affective dysregulation, and relational difficulties that accompany the disorder. Some clinical trials have been conducted comparing the effectiveness of various treatment approaches for CPTSD. One study concluded that cognitive-behavioral therapies were efficacious in the treatment of PTSD, and in particular, Cognitive-Processing Therapy (CPT) demonstrated strong results (Resick et al, 2003). This finding was corroborated by Bohus et al. (2020), who found similar results for CPT, but also found that Dialectical Behavioral Therapy had a small but

significant advantage. Another study found promising results for a mindfulness-based intervention, with particular efficacy in reducing DSO symptoms (Dumarkaite et al, 2021). Finally, in a review authored by Karatzias and Cloitre (2019), a modular treatment approach was evaluated, and it was concluded that such an approach, adapted to the specific domains of dysfunction for each individual, could be the most cost-effective and easily administrable treatment for CPTSD. An approach that incorporates both trauma-focused therapy with cognitive-behavioral therapies that aim to address DSO symptoms may be the preferred solution.

When designing future research on the correlates of CPTSD, the inclusion of more varied samples would increase the generalizability of the findings, and possibly provide insight into how the associations between CPTSD and outcomes may differ by group. The current study was among the first attempts to evaluate the correlates of the ITQ in a nonclinical sample, but more research is needed to conclusively make any claims regarding the correlates of CPTSD symptoms in a general population. A research question that has not yet been conclusively answered is the relationship between complex trauma and attachment. Some researchers have placed a high theoretical importance on the relevance of this construct for complex PTSD, whereas research has not consistently found a relationship between complex trauma and attachment. A study with a focus on attachment and controls for other confounds would help shed light on this issue. Previous research has attempted to quantify whether the outcomes examined in the present study are a part of moderating or mediating relationships in regard to trauma exposure and other outcomes. However, no such relationships have been conclusively found, and many studies conducted with this aim vary from one another considerably. Another aspect of CPTSD that has had little research is on the awareness of the disorder and its characteristics. A study aimed at evaluating awareness of the construct by the general population,

patients, and practitioners may be helpful when considering how best to reach and treat those struggling with the disorder.

The findings of the present study supplement the existing literature on the new CPTSD construct, and reflect that the conceptualization of the disorder is consistent with findings in both clinical and nonclinical settings. The current findings suggest a stronger association between DSO symptoms and a subset of outcomes than between PTSD symptoms and said outcomes, which may indicate that DSO symptoms should be targeted as a part of a successful treatment. It also demonstrated that DSO symptoms appear to be relevant to a college student population, and that they are associated with outcomes in absence of a full CPTSD diagnosis. Further research is required to better conceptualize the ways in which CPTSD differs from classical PTSD in etiology, symptoms, and lasting impacts, and inform the most efficacious treatment methodologies in the future. The present study was conducted in order to further these goals, and suggest future areas of research to gain a more comprehensive picture of CPTSD and its related constructs. In the meantime, it is suggested that awareness of the recent classification of complex trauma be promoted to provide support to individuals worldwide.

References

- Anke, A. G. W., & Fugl-Meyer, A. (2003). Life satisfaction several years after severe multiple trauma: A retrospective investigation. *Clinical Rehabilitation, 17*(4), 431-442.
<https://doi.org/10.1191/0269215503cr629oa>
- Arnekrans, A. K., Calmes, S. A., Laux, J. M., Roseman, C. P., Piazza, N. J., Reynolds, J. L., Harmening, D., & Scott, H. L. (2018). College students' experiences of childhood developmental traumatic stress: Resilience, first-year academic performance, and substance use. *Journal of College Counseling, 21*(1), 2-14.
<http://doi.org/10.1002/jocc.12083>
- Aruguete, M. S., & Edman, J. L. (2019). Trauma exposure and academic performance in African American college students. *North American Journal of Psychology, 21*(3), 573-582.
<https://psycnet.apa.org/record/2019-75301-007>
- Bohus, M., Kleindienst, N., Hahn, C., Müller-Engelmann, M., Ludäscher, P., Steil, R., Fydrich, T., Kuehner, C., Resick, P. A., Stiglmayr, C., Schmahl, C., & Priebe, K. (2020). Dialectical behavior therapy for posttraumatic stress disorder (DBT-PTSD) compared with cognitive processing therapy (CPT) in complex presentations of PTSD in women survivors of childhood abuse: A randomized clinical trial. *JAMA Psychiatry, 77*(12), 1235-1245. <http://doi.org/10.1001/jamapsychiatry.2020.2148>
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson, & W. S. Rholes (Eds.), *Attachment theory and close relationships; attachment theory and close relationships* (pp. 46-76, Chapter X, 438 Pages) *The Guilford Press*, New York, NY.

Brewin, C. R. (2020). Complex post-traumatic stress disorder: A new diagnosis in ICD-11.

BJPsych Advances, 26(3), 145-152. <https://doi.org/10.1192/bja.2019.48>

Brewin, C. R., Cloitre, M., Hyland, P., Shevlin, M., Maercker, A., Bryant, R. A., Humayun, A., Jones, L. M., Kagee, A., Rousseau, C., Somasundaram, D., Suzuki, Y., Wessely, S., van Ommeren, M., & Reed, G. M. (2017). A review of current evidence regarding the ICD-11 proposals for diagnosing PTSD and complex PTSD. *Clinical psychology review*, 58(1), 1–15. <https://doi.org/10.1016/j.cpr.2017.09.001>

Chen, C., & Qin, J. (2020). Emotional abuse and adolescents' social anxiety: The roles of self-esteem and loneliness. *Journal of Family Violence*, 35(5), 497-507.

<https://doi.org/10.1007/s10896-019-00099-3>

Cloitre, M., Shevlin M., Brewin, C.R., Bisson, J.I., Roberts, N.P., Maercker, A., Karatzias, T., Hyland, P. (in press). The International Trauma Questionnaire: Development of a self-report measure of ICD-11 PTSD and Complex PTSD. *Acta Psychiatrica Scandinavica*.

<https://doi.org/10.1111/acps.12956>

Cloitre, M., Stolbach, B. C., Herman, J. L., van der Kolk, B., Pynoos, R., Wang, J., & Petkova, E. (2009). A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress*, 22(5), 399-

408. <https://doi.org/10.1002/jts.20444>

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., . . . van der Kolk, B. (2005). Complex trauma in children and adolescents. *Psychiatric Annals*, 35(5), 390-398.

<https://doi.org/10.3928/00485713-20050501-05>

- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71.
https://doi.org/10.1207/s15327752jpa4901_13
- Dorahy, M. J., Middleton, W., Seager, L., McGurrin, P., Williams, M., & Chambers, R. (2015). Dissociation, shame, complex PTSD, child maltreatment and intimate relationship self-concept in dissociative disorder, chronic PTSD and mixed psychiatric groups. *Journal of Affective Disorders*, 172, 195-203. <https://doi.org/10.1016/j.jad.2014.10.008>
- Dumas, T. M., Ellis, W., & Litt, D. M. (2020). What does adolescent substance use look like during the COVID-19 pandemic? Examining changes in frequency, social contexts, and pandemic-related predictors. *Journal of Adolescent Health*, 67(3), 354-361.
<https://doi.org/10.1016/j.jadohealth.2020.06.018>
- Dumarkaite, A., Truskauskaite-Kuneviciene, I., Andersson, G., Mingaudaite, J., & Kazlauskas, E. (2021). Effects of mindfulness-based internet intervention on ICD-11 posttraumatic stress disorder and complex posttraumatic stress disorder symptoms: A pilot randomized controlled trial. *Mindfulness*, 12(11), 2754-2766. <https://doi.org/10.1007/s12671-021-01739-w>
- Farina, B., Liotti, M., & Imperatori, C. (2019). The role of attachment trauma and disintegrative pathogenic processes in the traumatic-dissociative dimension. *Frontiers in Psychology*, 10(1), 18. <https://doi.org/10.3389/fpsyg.2019.00933>
- Flannery, R.B. (1990). Social support and psychological trauma: A methodological review. *Journal of Traumatic Stress*, 3(1), 593-611. <https://doi.org/10.1002/jts.2490030409>

- Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78(2), 350–365. <https://doi.org/10.1037/0022-3514.78.2.350>
- Fyvie, C., Easton, P., Moreton, G., McKeever, J., & Karatzias, T. (2019). The rivers centre in scotland: An attachment-based service model for people with complex posttraumatic stress disorder. *Journal of Traumatic Stress*, 32(6), 864-869. <https://doi.org/10.1002/jts.22458>
- Gelinas, D. J. (1983) The Persisting Negative Effects of Incest. *Psychiatry*, 46(4), 312-332, <https://doi.org/10.1080/00332747.1983.11024207>
- Goodwin, J. (1988). Evaluation and treatment of incest victims and their families: A problem oriented approach. *Modern Perspectives in Psycho-Social pathology*. New-York, Brunner/Mazel.
- Harvard Medical School (2007). *National Comorbidity Survey (NCS)*. <https://www.hcp.med.harvard.edu/ncs/index.php>
- Hazan, C., and Shaver, P.R. (1994). Attachment as an organizational framework for research on close relationships. *Psychological Inquiry*, 5(1), 1–22. https://doi.org/10.1207/s15327965pli0501_1
- Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress*, 5(3), 377-391. <https://doi.org/10.1002/jts.2490050305>
- Hull, A. M., Corrigan, F. M., & Curran, S. A. (2016). Identifying patients with complex PTSD. *The Practitioner*, 260(1795), 31-37.

Ide, N., & Paez, A. (2000). Complex PTSD: A review of current issues. *International Journal of Emergency Mental Health*, 2(1), 43-51.

John, S. G., Brandt, T. W., Secrist, M. E., Mesman, G. R., Sigel, B. A., & Kramer, T. L. (2019). Empirically-guided assessment of complex trauma for children in foster care: A focus on appropriate diagnosis of attachment concerns. *Psychological Services*, 16(1), 120-133.
<https://doi.org/10.1037/ser0000263>

Karatzias, T., & Cloitre, M. (2019). Treating adults with complex posttraumatic stress disorder using a modular approach to treatment: Rationale, evidence, and directions for future research. *Journal of Traumatic Stress*, 32(6), 870-876. <http://doi.org/10.1002/jts.22457>

Karatzias T., Shevlin M., Fyvie C., Hyland P., Efthymiadou E., Wilson D.,...Cloitre M. (2017). Evidence of distinct profiles of posttraumatic stress disorder (PTSD) and complex posttraumatic stress disorder (CPTSD) based on the new ICD-11 trauma questionnaire (ICD-TQ). *Journal of Affective Disorders*, 207, 181-187.
<https://doi.org/10.1016/j.jad.2016.09.032>

Karatzias, T., Hyland, P., Bradley, A., Fyvie, C., Logan, K., Easton, P., . . . Shevlin, M. (2019). Is self-compassion a worthwhile therapeutic target for ICD-11 complex PTSD (CPTSD)? *Behavioural and Cognitive Psychotherapy*, 47(3), 257-269.
<https://doi.org/10.1017/S1352465818000577>

Karatzias, T., Shevlin, M., Ford, J. D., Fyvie, C., Grandison, G., Hyland, P., & Cloitre, M. (2021). Childhood trauma, attachment orientation, and complex ptsd (cptsd) symptoms in a clinical sample: Implications for treatment. *Development and Psychopathology*,
<https://doi.org/10.1017/S0954579420001509>

Karatzias, T., Shevlin, M., Hyland, P., Ben-Ezra, M., Cloitre, M., Owkzarek, M., & McElroy, E. (2020). The network structure of ICD-11 complex post-traumatic stress disorder across

different traumatic life events. *World Psychiatry, 19*(3), 400-401.

<https://doi.org/10.1002/wps.20795>

Karatzias, T., Shevlin, M., Hyland, P., Brewin, C. R., Cloitre, M., Bradley, A., . . . Roberts, N. P.

(2018). The role of negative cognitions, emotion regulation strategies, and attachment style in complex post-traumatic stress disorder: Implications for new and existing therapies. *British Journal of Clinical Psychology, 57*(2), 177-185.

<https://doi.org/10.1111/bjc.12172>

Kolb, L. C. (1989). Heterogeneity of PTSD. *American Journal of Psychiatry, 146*(6), 811-a-812.

<https://doi.org/10.1176/ajp.146.6.811-a>

Lamoureux-Lamarche, C., & Vasiliadis, H. (2017). Lifetime traumatic events, health-related quality of life, and satisfaction with life in older adults. *Quality of Life Research: An*

International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation, 26(10), 2683-2692. <https://doi.org/10.1007/s11136-017-1593-6>

Lee, I. A., & Preacher, K. J. (2013). Calculation for the test of the difference between two dependent correlations with one variable in common [Computer software]. Available

from <http://quantpsy.org>

Lehrner, A., & Yehuda, R. (2020). PTSD diagnoses and treatments: Closing the gap between ICD-11 and DSM-5. *BJPsych Advances, 26*(3), 153-155.

<https://doi.org/10.1192/bja.2020.10>

Liu, C., Chen, X., Song, P., Lu, A., Wang, L., Zhang, X., . . . Zheng, D. (2018). Relationship between childhood emotional abuse and self-esteem: A dual mediation model of

- attachment. *Social Behavior and Personality: An International Journal*, 46(5), 793-800.
<https://doi.org/10.2224/sbp.6655>
- Lonergan, M. (2014). Cognitive behavioral therapy for PTSD: The role of complex PTSD on treatment outcome. *Journal of Aggression, Maltreatment & Trauma*, 23(5), 494-512.
<https://doi.org/10.1080/10926771.2014.904467>
- Longo, L., Cecora, V., Rossi, R., Niolu, C., Siracusano, A., & Di Lorenzo, G. (2019). Dissociative symptoms in complex post-traumatic stress disorder and in post-traumatic stress disorder. *Journal of Psychopathology*, 25(4), 212-219.
- Luxenberg, T., Spinazzola, J., & Van der Kolk, B. (2001). Complex Trauma and Disorders of Extreme Stress (DESNOS) Diagnosis, Part One: Assessment. *Directions in Psychiatry*, 21(22).
- Møller, L., Augsburger, M., Elklit, A., Søgaard, U., & Simonsen, E. (2020). Traumatic experiences, ICD-11 PTSD, ICD-11 complex PTSD, and the overlap with ICD-10 diagnoses. *Acta Psychiatrica Scandinavica*, 141(5), 421-431.
<https://doi.org/10.1111/acps.13161>
- Munasinghe, S., Sperandei, S., Freebairn, L., Conroy, E., Jani, H., Marjanovic, S., & Page, A. (2020). The impact of physical distancing policies during the COVID-19 pandemic on health and well-being among Australian adolescents. *Journal of Adolescent Health*, 67(5), 653-661. <http://doi.org/10.1016/j.jadohealth.2020.08.008>
- Ngwenya, N., Barnett, T., Groenewald, C., & Seeley, J. (2021). Complex trauma and its relation to hope and hopelessness among young people in kwazulu-natal, south africa. *Vulnerable Children and Youth Studies*, <https://doi.org/10.1080/17450128.2020.1865593>

- Pelcovitz, D., van der Kolk, B., Roth, S., Mandel, F., Kaplan, S., & Resick, P. (1997). Development of a criteria set and a structured interview for disorders of extreme stress (SIDES). *Journal of Traumatic Stress, 10*(1), 3-16.
<https://doi.org/10.1023/A:1024800212070>
- Pereira, J. L., Guedes-Carneiro, G., Netto, L. R., Cavalcanti-Ribeiro, P., Lira, S., Nogueira, J. F., Teles, C. A., Koenen, K. C., Sampaio, A. S., & Quarantini, L. C. (2018). Types of trauma, posttraumatic stress disorder, and academic performance in a population of university students. *Journal of Nervous and Mental Disease, 206*(7), 507-512.
<https://doi.org/10.1097/NMD.0000000000000842>
- Resick, P. A., Nishith, P., & Griffin, M. G. (2003). How well does cognitive-behavioral therapy treat symptoms of complex PTSD? An examination of child sexual abuse survivors within a clinical trial. *CNS Spectrums, 8*(5), 351-355.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2970926/>
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rosenberg, M. (1979). *Conceiving the Self*. New York: Basic Books.
- Sachs-Ericsson, N., Gayman, M. D., Kendall-Tackett, K., Lloyd, D. A., Medley, A., Collins, N., . . . Sawyer, K. (2010). The long-term impact of childhood abuse on internalizing disorders among older adults: The moderating role of self-esteem. *Aging & Mental Health, 14*(4), 489-501. <https://doi.org/10.1080/13607860903191382>
- Sneed, R. S., Key, K., Bailey, S., & Johnson-Lawrence, V. (2020). Social and psychological consequences of the COVID-19 pandemic in African-American communities: Lessons

- from Michigan. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(5), 446-448. <http://doi.org/10.1037/tra0000881>
- Shevlin, M., Hyland, P., Roberts, N. P., Bisson, J. I., Brewin C.R. & Cloitre M. (2018). A psychometric assessment of Disturbances in Self-Organization symptom indicators for ICD-11 Complex PTSD using the International Trauma Questionnaire, *European Journal of Psychotraumatology*, 9(1), <https://doi.org/10.1080/20008198.2017.1419749>
- Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin*, 87(1), 245-251. <https://doi.org/10.1037/0033-2909.87.2.245>
- Tian, Z., Liu, A., & Li, J. (2017). Mediating effect of belief in a just world and self-esteem on relationship between childhood abuse and subjective well-being in college student. *Chinese Mental Health Journal*, 31(4), 312-318.
- Van der Kolk, B.,A., Roth, S., Pelcovitz, D., Sunday, S., & Spinazzola, J. (2005). Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *Journal of Traumatic Stress*, 18(5), 389-399. <https://doi.org/10.1002/jts.20047>
- Van der Kolk, Bessel A. (2005). Developmental trauma disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric Annals*, 35(5), 401-408. <https://doi.org/10.3928/00485713-20050501-06>
- Weindl, D., & Lueger-Schuster, B. (2018). Coming to terms with oneself: A mixed methods approach to perceived self-esteem of adult survivors of childhood maltreatment in foster care settings. *BMC Psychology*, 6(1), 12. <https://doi.org/10.1186/s40359-018-0259-7>
- Whitelock, C. F., Lamb, M. E., & Rentfrow, P. J. (2013). Overcoming trauma: Psychological and demographic characteristics of child sexual abuse survivors in adulthood. *Clinical Psychological Science*, 1(4), 351-362. <https://doi.org/10.1177/2167702613480136>

World Health Organization. (2018). "6B41:Complex post traumatic stress disorder" International classification of diseases for mortality and morbidity statistics (11th Revision).

Zlotnick, C., Zakriski, A. L., Shea, M. T., & Costello, E. (1996). The long-term sequelae of sexual abuse: Support for a complex posttraumatic stress disorder. *Journal of Traumatic Stress, 9*(2), 195-205. <https://doi.org/10.1002/jts.2490090204>

Table 1*Descriptive Statistics for Study Measures*

Variable	Minimum	Maximum	Mean	<i>SD</i>
PTSD Symptoms	6	30	16.50	5.96
DSO Symptoms	6	30	15.21	6.00
Self-Esteem	12	40	27.89	5.70
Life Satisfaction	5	35	22.04	6.56
Anxious Attachment	2.06	5.39	4.04	0.47
Avoidant Attachment	2.50	4.67	3.77	0.37
GPA	1.51	4.00	3.51	0.42

Note. PTSD = Post traumatic stress disorder, DSO = Disturbances in Self Organization.

Table 2*Pearson Correlations Evaluating Bivariate Associations Between Symptoms and Outcome**Variables*

	PTSD	DSO	Self- Esteem	Life Satisfaction	Anxious Attachment	Avoidant Attachment	GPA
PTSD	--	.48***	-.30***	-.28***	.19**	-.21**	<.01
DSO	.48***	--	-.60***	-.54***	.32***	-.25***	-.03

Note. PTSD = Post traumatic stress disorder, DSO = Disturbances in Self Organization.

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

Table 3*Results from Multiple Regression Analyses Predicting Outcomes from Both PTSD and DSO**Symptoms*

Outcome and Predictor	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Self-Esteem					
Intercept	36.715	1.011		36.326	<.001
PTSD	-.011	.059	-.012	-.193	.847
DSO	-.568	.059	-.597	-9.617	<.001
Life Satisfaction					
Intercept	31.288	1.231		25.426	<.001
PTSD	-.034	.072	-.031	-.473	.637
DSO	-.571	.072	-.521	-7.940	<.001
Anxious Attachment					
Intercept	3.626	.098		36.889	<.001
PTSD	.004	.006	.048	.653	.514
DSO	.023	.006	.301	4.086	<.001
Avoidant Attachment					
Intercept	4.066	.079		51.244	<.001
PTSD	-.007	.005	-.120	-1.602	.111
DSO	-.012	.005	-.188	-2.504	.013
GPA					
Intercept	3.524	.092		38.225	<.001
PTSD	.002	.005	.026	3.28	.743
DSO	-.003	.005	-.043	-.551	.582

Note. PTSD = Post traumatic stress disorder, DSO = Disturbances in Self Organization

Table 4*Categorization of Experiences Reported*

Experience	Count	%
Other/no troubling experience	74	34.1%
Death of a loved one	27	12.4%
Sexual assault	22	10.1%
Mental health situation	16	7.4%
Injury or health concern	15	6.9%
Parental conflict or abuse	14	6.5%
Witness to traumatic event	14	6.5%
Blank/too vague to categorize	12	5.5%
Childhood maltreatment/abuse	10	4.6%
Relationship abuse	8	3.7%
Other dangerous situation	5	2.3%

Note. $N = 217$. Categories are sorted by frequency.