Title

Hyper and Hypo-activation Affective Dysregulation Symptoms are Integral in Complex PTSD (CPTSD): Results from a Non-Clinical Israeli Sample

Running Head

PTSD & CPTSD in Non-Clinical Sample

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Abstract

Objectives: The current study sought to further assess the nature of the Affect Dysregulation (AD) cluster of the ICD-11 proposal for Complex PTSD (CPTSD) in a non-clinical sample.

Methods: An online survey sample from Israel (n = 618) completed a disorder-specific measure (ITQ; International Trauma Questionnaire) of PTSD and CPTSD along with the Life Events Checklist and the World Health Organization Well-Being Index.

Results: Estimated prevalence rates of PTSD and CPTSD were 9.2% and 1.0%, respectively. Confirmatory factor analysis results indicated that AD symptoms are better conceived as two correlated dimensions of hyper- and hypo-activation symptoms. Latent class analysis results indicated that CPTSD was clearly distinguishable from PTSD. CPTSD class membership was associated with higher levels of traumatization and poorer psychological wellbeing scores.

Conclusions: Findings support the discriminant validity of the ICD-11 proposals for PTSD and CPTSD in a non-clinical sample using a disorder-specific measure. The results provide further evidence that the final symptom profile for CPTSD in ICD-11 should model the AD cluster using both hyper- and hypo-activation symptoms.

Keywords: PTSD; Complex PTSD; CFA; LCA; psychological wellbeing.

Introduction

Two 'sibling disorders' have been proposed for the 11th version of the *International Classification of Diseases* (ICD-11): Posttraumatic Stress Disorder (PTSD) and Complex PTSD (CPTSD) (Karatzias et al., 2017). The ICD-11 model of PTSD includes six symptoms measuring three core elements (each element is comprised of two symptoms): (1) Re-experiencing of the trauma in the present (Re), (2) avoidance of traumatic reminders (Av), and (3) a persistent sense of threat that is manifested by increased arousal and hypervigilance (Th). The response is characterized by the three core elements. Feeling of fear can of course accompany the symptoms that are covered by the three core elements directly-related to a specific traumatic event or series of events (Maercker et al. 2013). CPTSD is conceptualised as a broader diagnosis recognising that pervasive psychological damage may result from sustained, repeated, and multiple forms of traumatic exposures (e.g., childhood abuse, domestic violence; political imprisonment) (Brewin et al., 2017). The ICD-11 model of CPTSD is comprised of six symptom clusters: three are shared with PTSD and three that are collectively referred to as 'disturbances in self-organization' (DSO): affective dysregulation (AD), negative self-concept (NSC), and disturbed relationships (DR).

One method used to distinguish between these two traumatic syndromes (PTSD vs. CPSD) was employed by latent class analysis. Recent study has showed the difference between the PTSD and CPTSD by looking at symptoms profiles and latent class analysis (Ben-Ezra et al., 2018). In this vein, another important issue has arose when looking at the AD cluster that include different symptoms who present opposite trajectories (Ben-Ezra et al., 2018).

The AD symptoms reflect difficulties with regulating emotions, manifesting in terms of hyper-activation (e.g., heightened emotional reactivity, anger outbursts) or hypo-activation (e.g., feeling emotionally numb or dissociated) of emotional states. Problematic emotion regulation strategies, both hyper- and hypo-activation, are commonly observed consequences of sustained traumatic exposure (Dvir et al., 2014). The unidimensional representation of the AD factor in prior studies was derived from guidelines set forth by the ICD-11 working-group (Maercker et al., 2013; Hyland et al., 2016), with the ultimate intention to represent the AD factor using one hyper-activation symptom and one hypo-activation symptom (Ben-Ezra et al., 2018). There is a need to further test whether these dimensions of AD are meaningfully distinct (reflecting two correlated dimensions) so as to bring empirical evidence to bear on the ICD-11 Working Group's decision to represent AD by hypo- and hyper-action symptoms. In most studies conducted to date, which have modelled the latent structure of CPTSD, the AD component of DSO has been modelled as a unidimensional construct, despite the fact that this dimension has normally comprised symptoms reflecting hyper-activation and hypo-activation (e.g., Karatzias et al., 2016). Recent factor analytic work challenges the notion that AD symptoms, as traditionally measured in CPTSD research, should be regarded as a single latent construct but instead suggests that the AD cluster is better represented as two correlated factors of Hyper- and Hypo-activation (r = .72) (see Figure 1 in Ben-Ezra et al., 2018).

Refining and redefining the AD cluster, may be one of the keys to further calibrate the symptom indicators for the DSO cluster, as it yet to be finalized (Karatzias et al., 2016; 2017). Splitting the AD cluster will breach the principal of Ockham's razor in terms of parsimony. However, the clinical and scientific accuracy

of constructs precedes the number of constructs that will compose the DSO. Moreover, splitting the AD cluster into hyper and hypo symptom clusters, will help to explore if their relationship is stable across different traumatic events. Furthermore, symptom reduction in the Hyper and Hypo clusters could be strived for without taking a toll on clinical accuracy. This by itself will help to streamline the DSO indicators into a smaller number of 'symptoms' (Ben-Ezra et al., 2018; Shevlin et al., 2017). Taking a broader perspective, replication of previous work amongst a nationally-representative sample of Israeli adults (Ben-Ezra et al., 2018) with a non-clinical sample will contribute to the psychometric value of the CPTSD construct. Early studies following the publication of the ICD-11 proposals for PTSD and CPTSD measured these symptoms using pre-existing scales and ad hoc items in order to capture the ICD-11 symptoms (e.g. Elklit et al., 2014; Knefel & Lueger-Schuster, 2013; Knefel et al., 2015; Perkonigg et al., 2016). In order to standardize the measurement of ICD-11 PTSD/CPTSD symptoms, the *International Trauma Questionnaire* (ITQ: Cloitre, Roberts, Bisson & Brewin, 2015) was developed. This self-report measure was specifically designed to capture the PTSD and DSO symptoms, as per the ICD-11 proposals.

Using a Hebrew version of the ITQ (Cloitre, Roberts, Bisson & Brewin, 2015) amongst a non-clinical sample of trauma-exposed adults in Israel, the current study had four primary aims. First, we estimated the prevalence of PTSD and CPTSD as per ICD-11 guidelines. Second, using confirmatory factor analysis (CFA) we examined whether hyper-activation and hypo-activation symptoms are better conceptualised as distinct dimension of affective dysregulation or if these symptoms are better conceptualized as indicators of a single underlying AD factor. Third, using latent class analysis (LCA), we tested the discriminant validity of ICD-11 PTSD and

CPTSD by determining if there are separate classes of individuals identifiable by symptom profiles consistent with these diagnoses. Finally, we examined the relationship between class membership and number of traumatic exposures and psychological wellbeing.

Methods

Participants and procedures

The study was conducted during January-February, 2017, and aimed at procuring a convenience sample of adult Jewish Israelis. An online survey was used for data collection and was advertised through various means such as social media (mainly Facebook) and smartphone applications (e.g., Whatsapp). The link led to a designated site where participants provided informed consent. The survey was anonymous and no personal information could be identified. The cohort consisted of 618 participants, ranging in age from 18 to 80 years (M = 33.39, SD = 11.95), and included 482 women (78.0%). Most of the participants (n = 452; 73.1%) reported being in a relationship, 311 reported having a full-time job (50.3%) and 214 (34.6%) reported having a part-time job. Regarding education, 474 (76.7%) of the participants reported having a college/university degree or higher.

Measures

Lifetime Traumatic Exposure: The extended *Life Events Checklist for DSM-5* (LEC-5: Weathers et al., 2013) is a 19-item self-report measure designed to screen for potentially traumatic events in a respondent's lifetime. The LEC-5 assesses life time exposure to 18 traumatic events (e.g., Natural disaster, Physical assault, Life threatening illness/injury) and the 19th item, "Any other very stressful event/experience", can be used to describe exposure to a trauma that is not listed. For each item, respondents check whether the event (1) 'Happened to me', (2)

‘Witnessed it happening to somebody else’, (3) ‘Learned about it happening to someone close to me’, (4) ‘Part of my job’, (5) ‘Not sure it applies’, (6) ‘Doesn’t apply to my experience’. Each item was recoded as (1) ‘Happened to me’ and (0) all other responses, except for the items relating to ‘Sudden violent death’ and ‘Sudden accidental death’ that were coded (1) ‘Witnessed it happening to somebody else’ and (0) all other responses. A summed total of all binary responses was calculated to represent the number of different life events that has been experienced and this produced a single ‘Total traumas’ variable with possible scores ranging from 0 to 19. After measuring life-time trauma, the participants answered two questions asking what the most significant traumatic event for them was and when it occurred.

ICD-11 PTSD and CPTSD: The *International Trauma Questionnaire* (ITQ: Cloitre, Roberts, Bisson, & Brewin, 2015) is a development-stage self-report measure of ICD-11 PTSD and CPTSD symptoms. As the symptom formulations for both disorders have yet to be finalised by the ICD-11 working group for disorders specifically associated with stress, the ITQ currently contains a larger set of symptom indicators than that to be included in the final diagnostic algorithms specified in the ICD-11. The ITQ address the most significant trauma from the LEC-5 list, followed by how long ago this trauma occurred, and whether the person possesses a clear memory of the index trauma. With this traumatic event in mind, respondents are instructed to indicate how much they have been bothered by each symptom in the past month, using a five-point Likert scale ranging from “Not at all” (0) to “Extremely” (4).

There are a total of 12 PTSD symptoms included in the ITQ. Eight symptoms reflect the Re-experiencing (Re) cluster, two of which are used for diagnostic purposes (Re1 *Upsetting dreams*, Re2 *Feeling that the experiencing is happening*

again in the here and now) and six that are currently considered test items. Two symptoms reflect the Avoidance (Av) cluster (Av1 *Internal reminders*, Av2 *External reminders*) and two symptoms reflect the Sense of Threat (Th) cluster (Th1 *Hypervigilance*, Th2 *Exaggerated startle response*). There are also three items that screen for functional impairment associated with these symptoms (ratings of the degree of impairment in (1) relationships and social life, (2) work or ability to work, and (3) other important aspects of life such as parenting, school/college work or other important activities). The internal reliability (Cronbach's alpha) of the six PTSD items used for diagnostic purposes was satisfactory (α = .85), as were the reliabilities for the Re (α = .74), Av (α = .84), and Th (α = .76) clusters.

To assess the DSO symptoms, participants are asked to respond to a set of questions reflecting how they typically feel, think about themselves, and relate to others. The same five-point Likert scale is used for the DSO symptoms. Nine items capture the Affective Dysregulation (AD) cluster, five of which measure hyperactivation (ADhy 1-5) (e.g. *When I am upset, it takes me a long time to calm down*) and four measure hypoactivation (ADho 6-9) (e.g., *I feel numb or emotionally shut down*). Four questions capture the Negative Self-Concept (NSC) cluster (NSC1-NSC4) (e.g., *I often feel ashamed of myself whether it makes sense or not*), and three questions capture the Disturbed Relationships (DR) cluster (DR1-DR3) (e.g., *I feel distant or cut off from people*). As with the PTSD symptoms, there are three items that screen for functional impairment associated with these symptoms. The internal reliability of the 16 DSO items was satisfactory (α = .90), as were the reliability estimates for the ADhy (α = .76), ADho (α = .75), NSC (α = .87), and DR (α = .82) clusters.

A diagnosis of PTSD requires a score of ≥ 2 (“Moderately”) for at least one of two symptoms from the Re, Av, and Th clusters, and endorsement of at least one functional impairment indicator associated with these symptoms. CPTSD diagnosis requires that these PTSD criteria are met, and the following scores for each of the DSO clusters: A score of ≥ 10 for items ADhy1-ADhy5 *or* a score of ≥ 8 for items ADho6-ADho9; a score ≥ 8 for NSC1-NSC4; and a score ≥ 6 for DR1-DR3. Endorsement of at least one indicator of functional impairment associated with these DSO symptoms is also required. The ICD-11’s taxonomic structure means that an individual can only be diagnosed with PTSD *or* CPTSD, not both; CPTSD requires that the criteria for PTSD are met, as well as the DSO criteria and DSO related functional impairment.

Psychological Wellbeing: Psychological wellbeing was assessed using the 5-item *World Health Organization Well-Being Index* (WHO-5). The WHO-5 is a widely used, internationally-validated measure of positive mental health. A recent review of 213 international studies supported the reliability and validity of the scale scores (WHO, 1998; Topp, Østergaard, Søndergaard, & Bech, 2014). Respondents are asked to indicate how they have been feeling over the past two weeks to each positively-phrased statement along a six-point Likert scale ranging from “At no time” (0) to “All of the time” (5). Scores range from 0 to 25 with higher scores reflecting greater psychological wellbeing. Scores ≤ 13 are indicative of poor wellbeing and the possible presence of a psychiatric disorder (Awata et al., 2007). The reliability of the WHO-5 among the current sample was satisfactory (α = .91).

Statistical Analysis

The analytical plan for the current study included several steps, and only participants endorsing at least one LEC-5 item were included in the analyses (n = 521; 84.3%). In step 1, CFA procedures were used to compare models of CPTSD that treated the AD symptoms as uni- and bi-dimensional. Four models were tested: Model 1 was a correlated six-factor model (re-experiencing, avoidance, sense of threat, affective dysregulation, negative self-concept, and disturbed relationships). Model 2 was a higher-order variant of Model 1 in which a second-order PTSD factor explained the covariation between re-experiencing, avoidance, and sense of threat, and a second order DSO factor explained the covariation between affective dysregulation, negative self-concept, and disturbed relationships. Model 3 was similar to Model 1 but split the affective dysregulation factor into 'hyperactivation' and 'hypoactivation'. Model 4 was similar to Model 2 in that that it was a second-order model but this model again included the dimensions of 'hyperactivation' and 'hypoactivation'. These models were tested using weighted least squares mean- and variance-adjusted estimation, which provides accurate parameter estimates, standard errors, and test-statistics for ordinal indicators (Flora & Curran, 2004).

In Step 2, an LCA was performed to determine the appropriate number of classes based on the probability of meeting the diagnostic criteria for each of the PTSD and DSO symptom clusters as indicated by the findings of the CFA in Step 1. Six latent class models were assessed (1 through 6 classes) to determine optimal fit. The robust maximum likelihood estimator (Yuan & Bentler, 2000) was used, and models were estimated using all available information. To avoid solutions based on local maxima, 500 random sets of starting values were used initially, followed by 50 final stage optimizations. The relative fit of the models was compared by using three information theory based fit statistics: The Akaike Information Criterion (AIC; Akaike,

1987), the Bayesian Information Criterion (BIC; Schwarz, 1978) and the sample size adjusted Bayesian Information Criterion (ssaBIC; Sclove, 1987). The class solution that possesses the lowest value can be judged the best model. Evidence from simulation studies have indicated that the BIC was the best information criterion for identifying the correct number of classes (Nylund et al., 2007). In addition, the Lo-Mendell-Rubin adjusted likelihood ratio test (LMR-A; Lo et al., 2001) was used to compare models with increasing numbers of latent classes. When a non-significant value ($p > .05$) occurs, this suggests that the model with one less class should be accepted. These analyses were conducted using Mplus 7.11 (Muthén & Muthén, 2013).

In step 3, following the selection of the best fitting LCA model, a series of chi-square tests were conducted to assess the relationship between class membership and each of the LEC-5 traumatic life-events. Additionally, one-way between groups analysis of variance (ANOVA) tests, with post-hoc pairwise comparisons using a Scheffe correction, were carried out to examine differences between latent classes on total traumatic exposure and psychological wellbeing.

Results

Descriptive statistics

Most participants (n = 521; 84.3%) endorsed at least one item from the LEC-5 and for this group the mean number of traumas endorsed was 3.02 (SD = 1.88; *Mdn* = 3; Range 1-10). The most common 'worst traumas' were 'Unexpected death someone close to you' (n = 90, 17.3%), 'Transport accident' (n = 89, 17.1%), 'Other' (n = 48, 9.2%), 'Childhood sexual abuse or molestation' (n = 46, 8.8%), 'Life-threatening illness' (n = 44, 8.4%), 'Other unwanted or uncomfortable sexual

experience' (n = 34, 6.5%), and 'Combat or exposure to a war-zone in the military or as a civilian' (n = 33, 6.3%). All other traumas had a frequency of less than 4%.

For the total sample, the prevalence of PTSD was 9.2% (n = 57), and the rate was significantly higher for females (10.6%) than males (4.4%: χ^2 (1) = 4.82, p = .028). The prevalence of CPTSD was 1.0% (n = 6) and all cases were female. The percentages of the sample meeting the PTSD symptom cluster criteria (Re = 24.1%, Av = 33.2%, and Th = 42.4%) were higher than for the DSO symptom cluster criteria (ADhy = 14.2%, ADho = 5.7%, NSC = 10.4%, and DR = 9.9%).

CFA Results

The CFA results for Models 1-4 are reported in table 1. All indices of model fit improved for Models 3 and 4, compared to Models 1 and 2. These findings indicate that the separation of the AD symptoms into two dimensions of Hyperactivation and Hypoactivation is superior to a single dimension of AD. Models 3 and 4 were equivalent indicating that first-order and second-order delineations between the PTSD and DSO symptomatology are equally representative of the sample data. Inspection of the model parameters for the correlated seven-factor model of CPTSD (Model 3) indicated that all items loaded onto their respective latent factors robustly and significantly (all p's < .001). Factor correlations ranged from .42 (Threat and Disturbed Relationships) to .82 (Re-experiencing and Avoidance). The correlation between the Hyperactivation and Hypoactivation factors was .61.

Table 1 here

LCA Results

The LCA results support the ICD-11 proposals that there are separate classes reflecting the distinction between PTSD and CPTSD (see Figure 1). The fit statistics

indicated that a three-class solution as the BIC value was lowest for this model, and the LRT became non-significant for the four-class solution (see Table 2).

Table 2 about here

Class 1 was the smallest (9.4%, n = 49) and was characterised by high probabilities of meeting the diagnostic criteria for each of the PTSD and DSO symptom clusters: This class was labelled the “CPTSD class”. Class 2 (29.6%, n = 154) was characterised by high probabilities of meeting the diagnostic criteria for the three PTSD symptom clusters, and low probabilities of meeting the diagnostic criteria for the four DSO symptom clusters. This class was labelled the “PTSD class”. Class 3 (61.0%, n = 318) was characterised by low probabilities of meeting the diagnostic criteria for the PTSD and DSO symptom clusters. This class was labelled the “baseline class”. A profile plot of the three-class solution is shown in Figure 1.

Figure 1 about here

Trauma exposure, psychological wellbeing, and class membership

A series of chi-square tests were conducted between the LEC-5 trauma variables and class membership (see Table 3). There was a significant relationship between childhood physical abuse, physical assault, childhood sexual abuse or molestation, sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm), other unwanted or uncomfortable sexual experience, combat or exposure to a war-zone, severe human suffering, and any other very stressful event or experience with CPTSD. For all analyses the CPTSD class had higher levels of trauma exposure than the PTSD and baseline classes.

Table 3 about here

A one-way between groups ANOVA was conducted with class membership as the independent variable and the summed score of the LEC-5 as the dependent

variable. There was a significant main effect ($F (2, 518) = 19.66$, $p < .05$) and all post-hoc comparisons using the Scheffe test were statistically significant ($p < .05$). The mean LEC-5 total score for the CPTSD group ($M = 4.42$, $SD = 2.31$) was higher than the PTSD group ($M = 3.20$, $SD = 1.74$), which in turn was higher than the baseline group ($M = 2.72$, $SD = 1.77$). Results indicate that multiple traumatisation is more strongly associated with CPTSD than PTSD.

To test for differences in psychological wellbeing scores across the different classes, a one-way between groups ANOVA was conducted with class membership as the independent variable and WHO-5 scores as the dependent variable. There was a significant main effect ($F (2, 518) = 35.67$, $p < .05$) and all post-hoc comparisons using the Scheffe test were statistically significant ($p < .05$). The mean for the CPTSD group ($M = 9.61$, $SD = 4.68$) was lower than the PTSD group ($M = 13.99$, $SD = 4.93$) which in turn was lower than the baseline group ($M = 15.90$, $SD = 5.09$). Results indicate that CPTSD class membership is associated with poorer psychological wellbeing compared to PTSD class membership. Furthermore, the mean score on the WHO-5 for the CPTSD class was indicative of psychiatric morbidity (Awata et al., 2007).

Discussion

This study reports on the prevalence of ICD-11 PTSD and CPTSD within a non-clinical sample of the Israeli adult population using a Hebrew translation of the ITQ. Additionally, the current study sought to advance the existing literature by providing evidence of the discriminant validity of ICD-11 PTSD and CPTSD within a non-clinical general population sample. Consistent with previous findings in Israel (Ben-Ezra et al., 2018), the CFA findings supported the distinct nature of hyper- and

hypo-activation symptoms. Furthermore, the LCA results indicated that hyper- and hypo-activation symptoms along with NSC and DR symptoms had a clearly higher probability of distinguishing CPTSD from PTSD and baseline classes.

These finding support prior arguments that the ICD-11 working group should represent the AD cluster using items that reflect hyper-activation and hypo-activation symptoms (Shevlin et al., 2018).

Estimated lifetime prevalence rates of PTSD and CPTSD among the current sample were 9.2% and 1.0%, respectively. The combined prevalence rate of ICD-11 PTSD and CPTSD (10.2%) in the current study is very close to those identified in a previous study using a nationally representative sample of the Israeli population: 9.0% for PTSD and 2.6% fort CPTSD (Ben-Ezra et al., 2018). However, this comparison of prevalence should be taken with caution as the two samples differed in sampling methods (representative vs. convenience). The current results indicate that ICD-11 PTSD is more common in the general population of Israel, as compared to CPTSD. This is consistent with findings from a nationally representative sample of young adults in Denmark (Hyland et al., 2017b). The higher prevalence of PTSD, relative to CPTSD, among community samples is in contrast to what has been observed among clinical samples (see for example, Hyland et al., 2017a; Hyland et al., 2017c; Karatzias et al., 2016; Nickerson et al., 2016).

Females were significantly more likely than males to be diagnosed with PTSD and CPTSD than males. Previous studies with clinical (Karatzias et al., 2016; Karatzias et al., 2017) and community (Hyland et al., 2017b) samples have indicated that females are approximately twice as likely as males to meet diagnostic status for ICD-11 PTSD and CPTSD; findings that are consistent with the wider trauma literature (Christiansen & Elklit, 2012; Palic et al., 2016). Current results indicate that,

among the general adult Israeli population, a meaningful gender difference exists for PTSD and CPTSD with females more likely to meet diagnostic criteria for both disorders.

In line with a previous study in Israel (Ben-Ezra et al., 2018), a CPTSD diagnosis can be meaningfully distinguished from a PTSD diagnosis on the basis of polytraumatisation and psychological wellbeing. However, further work is required on the differential predictors of CPTSD in culturally distinct community samples. Assessing cultural features in cross-cultural studies will provide further insight to the role of specific sociocultural factors in the development of PTSD and CPTSD. Furthermore, prospective studies will enable researchers to identify variables that longitudinally predict the development of these disorders. At present, it is unknown whether any cultural differences exist in the phenomenology and presentations of CPTSD.

The results from the LCA indicated that a three-class solution representing a baseline (non-symptomatic) class, a PTSD class, and a CPTSD class was the best fitting model. These results are similar to multiple general population and clinical studies (see Brewin et al., 2017 for a review) that have used latent class/profile analysis and have generally found a distinction between symptom endorsement profiles that are representative of PTSD and CPTSD.

This study has replicated the findings of Ben-Ezra et al. (2018) that hyper- and hypo-activation symptoms are relatively independent; and the correlation between these symptom clusters was lower than many other factor correlations such as re-experiencing and avoidance. This finding is important as it has implications for the selection of the final symptom list for CPTSD in ICD-11. The finalization of the symptom list is currently on-going and recent findings indicate that the AD cluster is

best represented using at least one symptom indicator from the hyperactivation cluster, and at least one symptom indicator from the hypoactivation cluster. Finally, it is important to highlight that the hyper-activation and hypo-activation symptoms were clearly distinguishable across the PTSD, CPTSD, and baseline classes.

Several limitations can be observed in the present study. The non-probability sample of the Israeli general adult population means that the results may not be generalizable to other nations due to the unique cultural and political context of Israel. We used internet sampling with higher likelihood to yield lower response rates than phone surveys. Additionally, the use of a self-report method of symptom endorsement, as opposed to a clinician-administered diagnostic interview may too have over-estimated diagnostic rates. Moreover, one should take into account the low number of participants meeting the criteria for CPTSD (N=6) in which all were women.

Overall, the aim of the study was to determine the latent structure of PTSD and CPTSD and the AD cluster within the existing ICD-11 CPTSD symptom profile with findings supporting the argument that the current list of AD symptoms, as represented in the development-stage version of the ITQ, is better represented by the hyper-activation and hypo-activation symptoms as compared to a single dimension of AD. However, further research is required on the calibration of the AD cluster in clinical samples and other cultures is order to establish the clinical validity of these findings.

Conflict of Interest: The Authors declare no conflict of interest or otherwise.

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Table 1. Model fit statistics for the alternative models of the ITQ.

Models	χ^2	*df*	P	CFI	TLI	RMSEA (90% CI)
1	1128	194	.000	.931	.918	.096 (.091 - .102)
2	1070	202	.000	.936	.927	.091 (.086 - .096)
3	768	203	.000	.957	.948	.077 (.071 - .083)
4	807	201	.000	.956	.949	.076 (.071 - .082)

Note: Estimator = WLSMV; n = 521; $\chi 2$ **=** Chi-square Goodness of Fit statistic; *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.

Table 2. LCA fit statistics based on probabilities of meeting diagnostic criteria for each PTSD and DSO symptom clusters.

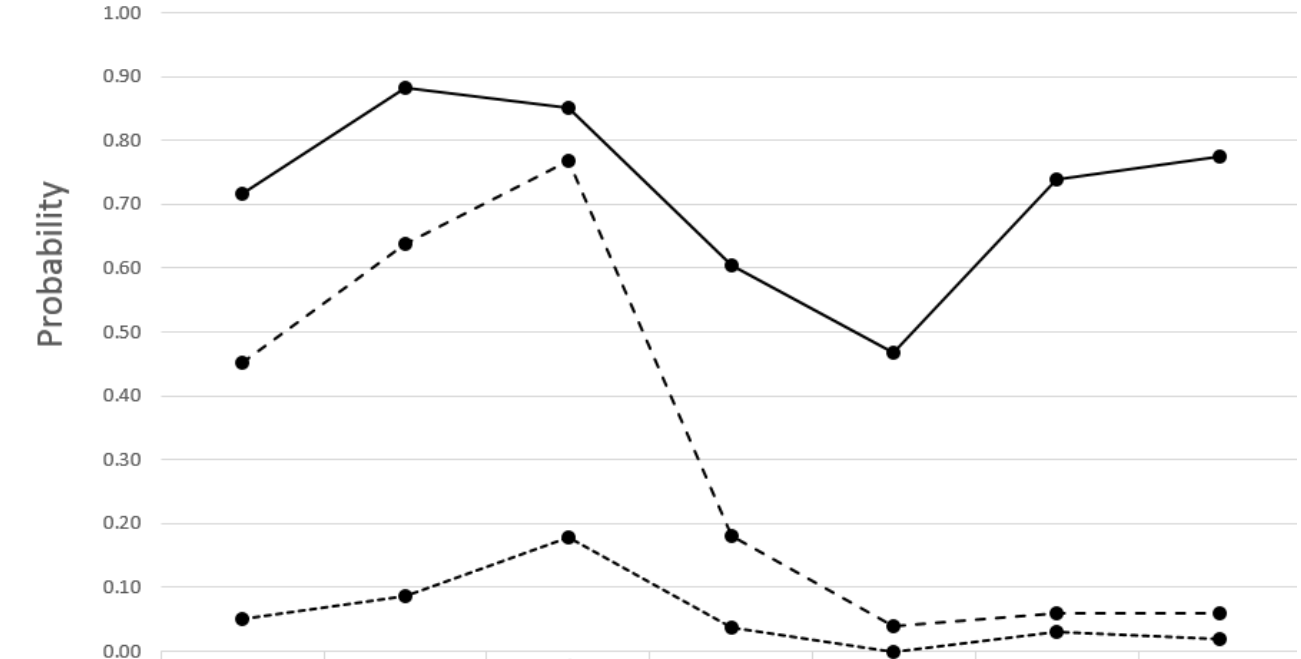
Classes	Logliklihood	AIC	BIC	ssaBIC	LRT (p)
1	-1685.844	3385.688	3415.478	3393.258	
2	-1480.457	2990.913	3054.750	3007.136	402.727 .000
3	-1442.581	2931.162	3029.045	2956.038	74.267 .003
4	-1432.026	2926.052	3057.981	2959.580	20.696 .301
5	-1423.948	2925.895	3091.869	2968.075	15.841 .032
6	-1417.848	2929.695	3129.715	2980.527	11.961 .110

Table 3. Chi-square tests between LEC variables and class membership.

Life-event	CPTSD n=49	PTSD n=154	Baseline n=318	χ^2 (df) p
Natural disaster (for example, flood, hurricane, tornado, earthquake)	8 (16.3%)	12 (7.8%)	34 (10.7%)	3.01 (2) .22
Fire or explosion	9 (18.4%)	16 (10.4%)	50 (15.7%)	3.10 (2) .21
Transportation accident (for example, car accident, boat accident, train wreck, plane crash)	20 (40.8%)	87 (56.5%)	180 (56.6%)	4.50 (2) .10
Serious accident at work, home, or during recreational activity	8 (16.3%)	26 (16.9%)	32 (10.1%)	5.01 (2) .08
Exposure to toxic substance (for example, dangerous chemicals, radiation)	3 (6.1%)	12 (7.8%)	23 (7.2%)	.20 (2) .92
Childhood physical abuse	16 (32.7%)	16 (10.4%)	16 (5.0%)	39.10 (2) .00
Physical assault (for example, being attacked, hit, slapped, kicked, beaten up)	26 (53.1%)	55 (35.7%)	83 (26.1%)	16.12 (2) .00
Assault with a weapon (for example, being shot, stabbed, threatened with a knife, gun, bomb)	6 (12.2%)	13 (8.4%)	36 (11.3%)	1.10 (2) .58
Childhood sexual abuse or molestation	17 (34.7%)	44 (28.6%)	47 (14.8%)	18.42 (2) .00
Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)	15 (30.6%)	23 (14.9%)	20 (6.3%)	28.60 (2) .00
Other unwanted or uncomfortable sexual experience	31 (63.3%)	72 (46.8%)	103 (32.4%)	21.70 (2) .00

Combat or exposure to a war-zone (in the military or as a civilian)	22 (44.9%)	50 (32.5%)	143 (45.0%)	7.00 (2) .03
Captivity (for example, being kidnapped, abducted, held hostage, prisoner of war)	0 (0.0%)	1 (.6%)	1 (.3%)	.51 (2) .77
Life-threatening illness or injury	8 (16.3%)	15 (9.7%)	32 (10.1%)	1.91 (2) .38
Severe human suffering	13 (26.5%)	16 (10.4%)	10 (3.2%)	36.20 (2) .00
Sudden violent death (for example, homicide, suicide)	4 (8.2%)	11 (7.1%)	13 (4.1%)	2.73 (2) .25
Sudden accidental death	11 (22.4%)	25 (16.2%)	43 (13.5%)	2.82 (2) .24
Serious injury, harm, or death you caused to someone else	2 (4.1%)	8 (5.2%)	8 (2.5%)	2.30 (2) .31
Any other very stressful event or experience	26 (53.1%)	78 (50.6%)	101 (31.8%)	19.80 (2) .00

Figure 1. Latent class profile plot.



	Re	Av	Th	AD_Hy	AD_Ho	NSC	DR
CPTSD	0.72	0.88	0.85	0.60	0.47	0.74	0.78
PTSD	0.45	0.64	0.77	0.18	0.04	0.06	0.06
Baseline	0.05	0.09	0.18	0.04	0.00	0.03	0.02