

Master Thesis

**Psychometric analysis of the Dutch Posttraumatic Stress Disorder Checklist for
DSM-5 (PCL-5) for a sample of bereaved people during the Covid-19 pandemic
who sought treatment**

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Abstract

Introduction: The aim of this study was to examine the psychometric properties of the Dutch Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5) for a sample of people who lost a loved one during the Covid-19 pandemic and sought treatment. This was the first validation study examining the psychometric properties of the Dutch PCL-5 in a treatment-seeking bereaved sample.

Methods: This study used baseline data of an RCT and CT including 116 Dutch adults who completed measures via telephone interviews. Internal consistency, convergent validity, known-groups validity and optimal clinical cut-off scores were examined. Specifically, Cronbach's alpha, Pearson's correlation coefficient, independent t-test and ROC analysis were conducted.

Results: The total scores and subscales of the PCL-5 demonstrated good or acceptable internal consistency ($\alpha = .70 - .90$), only the subscale alteration in arousal and reactivity showed questionable internal consistency ($\alpha = .63$). Support for convergent validity was provided by a strong observed correlation between the totals scores of the PCL-5 and the total scores of measures for prolonged grief and depression. There was no support for known-groups validity with results showing no significant differences depending on any risk group. The optimal cut-off score was set between 53 and 54, which demonstrated poor accuracy.

Conclusion: Overall, the Dutch PCL-5 showed decent psychometric properties for a treatment-seeking bereaved sample. Future research is needed with a more heterogeneous and larger treatment-seeking bereaved sample.

Keywords: PCL-5, psychometric properties, bereavement, Covid-19, treatment-seeking sample

Introduction

The death of a loved one, also called bereavement, can be one of the most traumatic experiences in a person's life, with an estimated one out of ten people experiencing clinically relevant levels of grief as a reaction to the loss (Lundorff et al., 2017). Humans tend to be driven by a need for purpose and meaning in their life with basic assumptions of a safe and predictable world. Overwhelming life events, like the sudden loss of a loved one, have the potential to disrupt or shatter these fundamental beliefs, causing intense distress (Gillies & Neimeyer, 2006; Reitsma et al., 2021). Psychopathologies can develop if this perceived distress exceeds the coping resources of the bereaved person (Stroebe et al., 2005).

Posttraumatic-stress disorder (PTSD), a trauma- and stressor-related psychopathology, is one of these disorders that can be caused through traumatic experiences, such as a sudden, violent or unnatural death of a loved one (American Psychiatric Association, 2013). PTSD can be diagnosed if there was direct or indirect exposure to the traumatic loss and if the person showed signs of the following four symptom clusters (Weathers et al., 2014). First, the cluster B is about the presence of intrusive symptoms. This includes flashbacks, nightmares and emotional or physical reaction to reminders of the trauma. Second, cluster C is called avoidance, which can be either the avoidance of trauma related thoughts and feelings or external and physical reminders. Third, cluster D is about negative alterations in cognitions and mood. After going through a traumatic experience negative thoughts and feelings can increase, such as exaggerated blame, anger and shame. Fourth, cluster E is about alterations in arousal and reactivity, which can show through increased irritability, destructive behaviour, hypervigilance, concentration problems and sleeping issues. For a diagnosis of PTSD all of these symptoms need to persist for at least one month after experiencing a potential traumatic event and be significantly impairing for the person (Weathers et al., 2014). Previous research indicates that PTSD is highly comorbid with other psychopathologies, showing strong

correlations or overlap with, for example, Major Depressive Disorder (MDD) and Prolonged Grief Disorder (PGD). However, they are different enough to measure distinct yet similar concepts (Gros et al., 2012; Komischke-Konnerup et al., 2021; Maercker, & Lalor, 2012).

The death of a loved one due to COVID-19 is a potentially traumatic loss, with research showing more severe grief reactions compared to people bereaved due to natural causes. In fact, a loss due to Covid-19 may have led to similar grief reactions as an unnatural loss (Eisma et al., 2021; Tang & Xiang, 2021). In the Netherlands alone over 16,500 people died during the first year of the pandemic due to COVID-19 (Coronadashboard Rijksoverheid, 2021). Not only were more people suddenly bereaved but due to the corona regulations, natural coping processes were affected as well. Social distancing rules could have impaired grieving in many ways. For one, grieving rituals for loss-oriented coping were mostly not possible (Gillies & Neimeyer, 2006; Reitsma et al., 2021). For example, some people might not have been able to visit the dying or perform proper burials, which could have hampered closure. Second, getting the benefits of social support was difficult during the Covid-19 pandemic (Reitsma et al., 2021; Stroebe et al., 2005; Stylianos & Vachon, 1993). The lockdown regulations may have left many bereaved people with their grief alone and isolated, potentially facilitating the growth of psychopathologies. Due to many uncertainties and risks the corona pandemic also might also have led to an overall increased stress level in the general public (Brooks et al., 2020). The already higher stress levels combined with the stress from traumatic loss may have left people more vulnerable to developing traumatic symptoms (Ingram & Luxton, 2005). Generally, there were no significant differences between grief severity during and before the pandemic, although a recent loss during the pandemic was associated with higher acute grief levels compared to a recent loss before the pandemic (Eisma & Tamminga, 2020). This could be an indication that dealing with loss may be more

difficult during the pandemic than before, as the initial grief reaction can be a strong predictor for future disturbed grief (Boelen & Lenferink, 2020).

Not all bereaved people develop PTSD but some individuals are more at risk to develop PTSD than others. Gender is one possible risk factor with women being more likely to develop PTSD than men (Murphy et al., 2003). Another risk factor is the kinship with the deceased. People who had a closer relationship with the deceased, like a spouse or parent, have a higher probability to experience PTSD symptoms after the loss (Van Denderen et al., 2016). Moreover, education seems to be an important risk factor. Research indicates that lower education can lead to a raised risk of developing PTSD symptoms (Greene et al., 2016). The kind of loss is an important risk factor as well, with people who experienced a more violent or unnatural loss, such as an accident, being more at risk (Djelantik, et al., 2017). Last, a more recent loss is also associated with a higher risk of developing PTSD symptoms (Van Denderen et al., 2016).

Good and reliable screening methods for PTSD are essential to assess symptoms correctly and apply interventions as fast as possible. Early identification of PTSD symptoms is necessary, as prior research indicates a high effectiveness of early applied interventions (Litz et al., 2014). Furthermore, it is important for research purposes, as it allows comparability to research results across countries. The most widely used questionnaire to screen for PTSD severity across various trauma types and populations is the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL – 5) (Bovin et al., 2016). The PCL-5 is a self-report measure including 20-items covering the PTSD symptoms of the DSM-5 (American Psychiatric Association, 2013; Bovin et al., 2016). The PCL-5 is widely used and researched, showing excellent psychometric properties in numerous different studies (Ashbaugh et al., 2016; Bovin et al., 2016; Krüger-Gottschalk et al., 2017; Weathers et al., 1993). Krüger-Gottschalk et al. (2017), for example, found high internal consistency and test-retest reliability

for a clinical sample of trauma-exposed German individuals. They also found high correlation with the total severity score of the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5), which is the gold standard structured clinical interview (Krüger-Gottschalk et al., 2017; Weathers, et al., 2018). Additionally, the French and English translation of the PCL-5 demonstrated excellent internal consistency on both the total scores and subscales (Ashbaugh et al., 2016). The psychometric properties of the PCL-5 for the Dutch population are mostly unknown. Until now, only Van Praag et al. (2020) performed a validation study of the PCL-5 with a Dutch sample including people who had a traumatic brain injury. The results of this study showed similar results to other studies performed in different countries (Van Praag et al., 2020).

The present study aimed to fill the gap of research on the psychometric properties of the Dutch translation of the PCL-5. Our sample included people who sought professional treatment after losing a loved one during the Covid-19 pandemic. Based on previous research it was expected that the PCL-5 would show at least acceptable internal consistency for both the total scores and the subscales (Ashbaugh et al., 2016; Bovin et al., 2016; Krüger-Gottschalk et al., 2017; Weathers et al., 1993). Furthermore, with respect to convergent validity it was expected that the PCL-5 would strongly correlate with measures for PGD and MDD (Gros et al., 2012; Komischke-Konnerup et al., 2021; Maercker, & Lalor, 2012). Next, it was expected that the PCL-5 scores would be able to discriminate between groups with known difference in risk of developing PTSD symptoms. First, it was expected that women would show higher levels of PTSD than men (Murphy et al., 2003). Second, kinship was expected to have an influence on the severity levels of PTSD with parents and spouses showing higher PTSD levels (Van Denderen et al., 2016). Third, it was expected that lower education would be associated with higher levels of PTSD (Greene et al., 2016). Forth, it was expected that people who experienced a violent, unnatural, or COVID-19 loss would report

higher levels of PTSD than those who experienced a natural loss (Djelantik, et al., 2017; Eisma et al., 2021; Tang & Xiang, 2021). Fifth, it was expected that people who experienced a loss more recently would report higher levels of PTSD (Van Denderen et al., 2016). The last goal of this study was to establish the optimal cut-off score for the PCL-5 to determine if people meet the criteria for clinically relevant levels of PTSD or not. Comparable results to previous studies were expected with a cut-off scores between 31 and 33 (Bovin et al., 2016; Krüger-Gottschalk et al., 2017; Weathers et al., 2013).

Method

Participants

The dataset of Reitsma et al.'s (2021) study was used to evaluate the psychometric properties of the PCL-5. The study was split up into two parts, a randomized controlled trial and a controlled trial, examining the effectiveness of unguided online cognitive behavioural therapy (CBT). The study included 116 Dutch-speaking adults, who lost someone at least three months earlier during the COVID-19 pandemic and sought treatment. Additionally, the experience of clinically relevant levels of PTSD, PGD and/or MDD was prerequisite. This was determined through a telephone interview performed by a trained psychologist. Furthermore, the participants needed to be proficient in the Dutch language, have access to the internet for the online-treatment and should not have shown signs of psychotic disorders and high suicide risk.

The majority of participants were recruited through various media channels, like the internet, television and newspaper. A minority of people learned about the study from family, friends or other acquaintances. All participants gave consent before participation and the study was approved by Medical Ethic Committee at the University Medical Center Utrecht (UMCU) in the Netherlands (Reitsma et al., 2021).

Procedure

Data were collected between October 2020 and fall 2021. Before each part of the study a telephone interview was conducted to gather pre-treatment data and screen for inclusion and exclusion criteria (Reitsma et al., 2021). The baseline data of these interviews were used for this study.

Measures

In the study of Reitsma et al. (2021) PTSD, MDD and PGD were assessed. Additionally, demographic data, such as gender, age, educational level, kinship with the deceased, number of losses, kind of loss and time since loss were collected.

Posttraumatic Stress Disorder Checklist (PCL-5)

PTSD severity was assessed with the PCL-5, which is a 20 item self-report questionnaire (Blevins et al., 2015, Boeschoten et al., 2014). The subscales for intrusion consisted of five items (cluster B), avoidance consisted of two items (cluster C), negative alterations in cognitions consisted of seven items (cluster D) and last, alteration in arousal and reactivity consisted of six items (cluster E). On a 5-point Likert scale the participants answered how much they were affected in the last month by each symptom from 0 = not at all to 4 = extremely (e.g. “In the past month, how much were you affected by repeated, disturbing dreams of the death of your loved one during the COVID-19 pandemic?”). If a symptom was rated with at least a 2 (‘moderately’) it was seen as clinically relevant. A participant could be diagnosed with PTSD if at least one B and C item, two D items and two E items were seen as clinically relevant. To fit the research topic formulations of the items were adapted from ‘stressful experience’ to the ‘the death of your loved one(s) during the corona pandemic’ (Reitsma et al., 2021).

Patient Health Questionnaire (PHQ-9)

Depressive symptoms were assessed with the PHQ-9, a 9 item self-report questionnaire (Kroenke et al., 2001). On a 5-point Likert scale the participants answered how much they were bothered by each symptom during the past two weeks from 0 = not at all to 4 = nearly every day (e.g. “Over the past two weeks, how often have you been bothered by having little interest or pleasure in doing things?”). A participant would have shown clinically

relevant levels of MDD if a total score of 10 or higher was recorded. The psychometric properties of the PHQ-9 are adequate and it is a sound measurement for depression (Kroenke et al., 2001).

Traumatic Grief Inventory – Clinician Administered (TGI-CA)

PGD symptoms were assessed through the TGI-CA, which is a 22 item interview version of the self-report questionnaire the Traumatic Grief Inventory – Self Report+ (Lenferink et al., 2022). On a 5-point Likert scale the participants answered how much they were bothered by each symptom in the past month from 1 = never to 5 = always (e.g. “In the past month, how often have you been bothered by experiencing intense emotional pain, sadness, or pangs of grief?”). If a symptom got rated with at least a 3 (‘sometimes’) it was seen as clinically relevant. A participant could be diagnosed with PGD when at least one B cluster symptom, six C cluster symptoms and the D cluster symptom were seen as clinically relevant and/or a total score of 54 or higher was recorded. To fit the research topic formulations of the items were adapted from ‘the death of your loved one’ to ‘the death of your loved one(s) during the corona pandemic’ (Reitsma et al., 2021). Based on previous research, the TGI-CA is considered a valid and reliable measure for PGD symptoms (Lenferink et al., 2022).

Analysis

Reliability

The internal consistency of the total score and the individual subscales of the PCL-5 were measured using Cronbach’s alpha. A score of $a > .70$ would indicate an acceptable internal consistency, a score of $a > .80$ would indicate a good internal consistency and a score of $a > .90$ would indicate an excellent internal consistency (Cicchetti, 1994).

Convergent validity

Based on the treatment-seeking sample of this study, it was expected that the scores would not be normally distributed. This assumption was not supported using the Kolmogorov-Smirnov and Shapiro-Wilk test. On the basis of these analyses, the Pearson's correlation coefficient was used to measure convergent validity to assess the strength of correlations between the PCL-5 and the PHQ-9 (MDD) and TGI-CA (PGD). A value of $r > .50$ would indicate a strong correlation (Cohen, 1988).

Known-groups-validity

The known-groups validity of the PCL-5 was measured using an independent t-test. This analysis was conducted to assess the relation between demographic variables and PTSD levels. The assessed variables included gender (1 = male, 2 = female), educational level (1 = higher education, 2 = lower education), kinship of the deceased (1 = other, 2 = spouse/child), time since loss (1 = less than 12 months, 2 = more than 12 months) and kind of death (1 = natural, 2 = unnatural). A p-value of $< .05$ would indicate a significant difference between the two independent groups.

Optimal clinical cut off scores

The optimal clinical cut-off score of the PCL-5 was determined using a Receiver Operating Characteristic (ROC) analysis. First, the total scores of PCL-5 as well as a binary variable representing whether participants met the criteria for PTSD or not, based on diagnostic scoring rule, were determined. After that, a ROC curve was computed, where the true positive rate (sensitivity) was plotted against the false positive rate (1-specificity). Next, the area under the curve (AUC) was calculated, which showed the ability of this test to distinguish between positive and negative outcomes. Last, to determine the most optimal cut-off score a Youden's Index needed to be calculated. The score with the highest combination

of sensitivity and specificity was selected. Scores below .7 would indicate poor accuracy, scores between .7 and .8 would indicate acceptable accuracy, scores between .8 and .9 would indicate good accuracy, and lastly, scores above .9 would indicate excellent accuracy (Ferraris, 2019).

Results

Demographics of the participants

In total, 116 people were included. Most participants were female and the mean age was 67.8 (SD = 16.2). The majority of people experienced one loss with 35 people experiencing multiple losses simultaneously during the pandemic. 69 people lost a loved one due to a physical illness and 35 people lost someone due to Covid-19. Other causes of death were suicide and accidents. For 5 participants the cause of death was unknown or uncertain. On average 8.3 (SD = 5.9) months had passed since the loss, with a range between 2 and 29 months. Overall, 77.6 % of participants met the PTSD diagnostic criteria. See Table 1 for results.

Table 1

Demographics of participants (n = 116)

	n	Percentage	Mean	SD	Min	Max
Gender						
Male	19	16.4				
Female	97	83.6				
Age in years			67.8	16.2	14.0	92.0
Education						
Higher education	60	51.7				
Lower education	56	48.3				
Birth country						
Netherlands	110	94.8				
Other countries	6	5.2				
Kinship, deceased is a ...						

Spouse	50	43.1				
Child	5	4.3				
Parent	46	39.7				
Sibling	7	6.0				
Grandparent	4	3.4				
Friend	2	1.7				
Other	2	1.7				
Number of Losses						
One Loss	81	69.8				
Multiple losses	35	30.2				
Time since loss (in months)			8.3	5.9	2.0	29.0
Cause of Death						
Physical Illness	69	59.5				
Corona	35	30.2				
Accident	2	1.7				
Suicide	5	4.3				
Unknown	5	4.3				
PTSD criteria met						
Yes	90	77.6				
No	26	22.4				

Reliability

Good internal consistency ($\alpha = .86$) was found for the total scores of the Dutch translation of the PLC-5. Acceptable internal consistency was found for the subscales for

intrusion ($\alpha = .70$), avoidance ($\alpha = .79$) and negative alterations in cognitions ($\alpha = .78$). Last, alteration in arousal and reactivity showed questionable internal consistency ($\alpha = .63$).

Convergent Validity

Strong positive correlations were found between the totals scores of the PCL-5 and the total scores of the TGI-CA and PHQ-9. See Table 2 for results.

Table 2

Pearson's r for the PCL-5, TGI-CA and PHQ-9 (n = 116)

	Mean	SD	TGI-CA	PHQ-9
PCL-5	54.97	12.67	.76***	.75***
TGI-CA	68.68	12.37		.66***
PHQ-9	22.30	4.96		

***.p < .01, two-tailed.

Known-Groups Validity

The results of the independent sample t-tests indicate that PCL-5 total-scores were not significantly different depending on any demographic variable. See Table 3 for results.

Table 3

Independent sample t-test for the PCL-5 and demographic data (n = 116)

	Mean	SD	Sig.
Gender			.19
Male	55.11	14.72	
Female	54.94	12.31	
Education			.25
Higher Education	53.72	11.99	
Lower Education	56.30	13.33	

Kinship			.37
Spouse/Child	51.98	13.45	
Other	57.66	11.39	
Cause of death			.13
Natural	55.36	12.00	
Unnatural	54.38	13.70	
Time since loss			.33
Less than 12 months	54.77	12.31	
More than 12 months	55.86	14.45	

Optimal Clinical Cut-Off Score

The optimal cut-off score for the PCL-5 was set between 53 and 54 (AUC = .90 (95% CI)). With this cut-off score PTSD was in 71.11 % of the cases correctly identified and in 0.04 % of the cases incorrectly identified. The Youden's Index was poor (J = .67). See Table 4 for results.

Table 4

Optimal cut-off score for the PCL-5 (n = 116)

Cut-off score	Sensitivity	1-Specificity	Youden's Index
46	.91	.30	.60
48	.90	.23	.66
49.5	.82	.23	.59
50.5	.79	.19	.59
51.5	.73	.08	.66
52.5	.71	.07	.63
53.5	.71	.04	.67

54.5	.69	.04	.65
55.5	.57	.04	.53
56.5	.50	.04	.46
57.5	.48	.04	.44
59	.46	.04	.42

Note. In bold the optimal cut-off score.

Discussion

The aim of this study was to examine the psychometric properties of the Dutch PCL-5, the most widely used self-report measure to assess PTSD severity. Data were derived from Reitsma et al.'s (2021) study which included a treatment-seeking sample of 116 Dutch adults who lost a loved one during the Covid-19 pandemic. To date only one validation study for the Dutch PCL-5 was conducted, which focused on individuals with a traumatic brain injury (Van Praag et al., 2020). To the researchers knowledge the current study is one of the first studies to focus on a target group of traumatically bereaved individuals in a treatment-seeking sample. These factors underline the relevance of this research.

First, it was expected that the PCL-5 would be a reliable measurement for PTSD severity, therefore showing at least acceptable internal consistency for both total scores and subscales. This claim could only partially be supported. For the total scores of the PCL-5 good internal consistency was found, which is in line with the findings of previous research (Ashbaugh et al., 2016; Bovin et al., 2016; Krüger-Gottschalk et al., 2017; Weathers et al., 1993). This means, when using total-scores, the PCL-5 is a reliable measurement to assess PTSD severity. This is also the case for the subscales intrusion, avoidance and negative alterations in cognitions, for which acceptable internal consistency was found. However, for the subscale alteration in arousal and reactivity only questionable internal consistency was found. Even though the four-factor structure of the DSM-5 is sound, the six-factor Anhedonia model and the seven-factor Hybrid model are often considered to be superior (Van Praag et al., 2020). For example, in a sample of Korean Veterans the superiority of the 7-factor hybrid model was supported, consisting of the subscales re-experiencing, avoidance, negative affect, anhedonia, externalizing behaviours, anxious arousal, and dysphoric arousal. For all subscales high internal constancy ($\alpha = .80 - .93$) and significant correlation were found (Lee, et al.,

2021). Therefore, it might be implied that for a treatment-seeking sample another model might be a better fit.

Second, it was expected that the PCL-5 total-scores would correlate strongly with measures for PGD and MDD. This claim could be supported with results showing a strong positive correlations between the PCL-5 and the measures of MDD and PGD. These results were in line with findings of previous studies such as Komischke-Konnerup et al. (2021). Furthermore, the correlation were neither too strong nor too weak showing that the PCL-5 measures similar yet distinct concepts (Gros et al., 2012; Maercker, & Lalor, 2012).

Third, it was expected that PCL-5 scores would be able to distinguish between groups with known differences in risk of developing PTSD symptoms. This claim could not be supported, because there were no significant differences in the total-scores of the PCL-5 depending on any demographic variable. This would imply that PTSD severity does not significantly differ in a treatment-seeking sample in regards to specific demographic variables. Furthermore, most of the absolute scores numerically did not differ in the expected direction with for example men having a higher score on the PCL-5 than women. These findings were therefore not in line with previous research, which identified distinct at-risk factors, such as female gender, lower education, losing a spouse or child, an unnatural loss and the time since loss (Djelantik, et al., 2017; Greene et al., 2016; Murphy et al., 2003; Van Denderen et al., 2016). A possible explanation for this deviance could lie in the lack of heterogeneity in the sample. A majority of individuals (i.e. 77.6 %) met the PTSD criteria and the mean total scores were in general high. To establish known-groups validity a more diverse sample with more individuals with lower concerns would be required. For the demographic of gender there might be another explanation. Only a small proportion (i.e., 16.4%) of participants were male compared to majority of women thus men were underrepresented in

this study. This underrepresentation might be an indication that women are in fact more at risk, as more women sought treatment and therefore participated in this study.

Last, it was expected that an optimal clinical cut-off scores would lie between 31 and 33 (Bovin et al., 2016; Weathers et al., 2013). The optimal cut-off score for the PCL-5 in this study was set between 53 and 54 with poor sensitivity and specificity scores. This means that with these cut-off scores 71.11 % of the cases were correctly und 0.04% incorrectly identified. These findings were not in line with previous research and therefor do not support existing cut-off scores in literature. For example, Bovin et al. (2016) suggested a cut-of score of 31 in sample of veterans. Another example would be Weathers et al. (2013) who suggested a general cut of score between 31 and 33 for the PCL-5. A possible explanation for this deviance could lie, again, in the lack of heterogeneity in the sample. To establish an adequate cut-off score people with low concerns are needed.

Strengths and Limitations

A strength of this study is that it is one of the first of its kind in validating the PCL-5 for a target group of bereaved individuals. This is relevant as traumatic bereavement, such as a pandemic-related death of a loved one, is a potential trigger for the development of PTSD symptoms (American Psychiatric Association, 2013). Another strength is the usage of telephone interviews. Normally the PCL-5 is a self-report measure, which the clients have to fill out on their own. By using a telephone interview the participants were able to ask questions, which reduced the chance of misunderstandings. There are some limitations regarding this study that need to be considered. First, the usage of telephone interviews might also be a limitation. The PCL-5 normally is a self-report measure and this change in administration methods could have led to differences in outcomes. Furthermore, a telephone interview could have led to an increased risk of biases. Second, because of the lack of heterogeneity the results should be interpreted carefully, especially regarding the cut-off

scores and known-groups validity. Third, there was an underrepresentation of men in this study which might affected the detection of gender differences in regards to PTSD severity levels. Last it is important to mention that the PCL-5 is not a diagnostic tool for PTSD, but a self-report checklist. Therefore, generalizability to a clinical sample should be seen with caution. Other studies included the CAPS as a diagnostic tool, which is the gold standard structured clinical interview for PTSD (Weathers, et al., 2018).

Implications

This study can be seen as one step closer in regards to the validation of the Dutch translation of the PCL-5, with Van Praag et al. (2020) having made the first step. Future research should focus on more heterogeneous sample with bigger sample sizes to enable the generalizability of findings. Additional psychometric properties should be analysed, such as the test-retest reliability to measure the reliability of the PCL-5 over time. The factor structure of the PCL-5 should also be analysed to find out if the six-factor Anhedonia model or the seven-factor Hybrid model results in better reliability of the subscales of the PCL-5. This study was not able to discern difference between groups in regards to PCL-5 scores, so future research should focus on further evaluations of known-groups validity for a treatment seeking sample.

Conclusion

The present study adds relevant information to the ongoing process of the validation of the Dutch translation of the PCL-5. Specifically, this paper focused on the psychometric properties of the PCL-5 for a sample of traumatically bereaved individuals who sought treatment during the Covid-19 pandemic. In line with previous research good and acceptable internal consistency for the PCL-5 total-scores and subscales were found, however, the results for the subscale alteration in arousal and reactivity were only questionable. The results of convergent validity were in line with research as well, showing strong positive correlations

between the PCL-5 and measures for PGD and MDD. Significant differences in known-groups validity could not be determined. Last, an optimal cut-off score between 53 and 54 was set for this sample, with poor specificity and sensitivity. Concluding, the Dutch PCL-5 shows decent psychometric properties, but requires further evaluation with a more heterogeneous and larger treatment-seeking bereaved sample.

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