

**A Psychometric Evaluation of the Detailed Assessment of Posttraumatic Stress Disorder –
2nd Edition: Replication and Extension in a Trauma-Exposed Community Sample**

by

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Abstract

Trauma exposure is common and can result in a complex clinical presentation, including the manifold symptoms of posttraumatic stress disorder (PTSD) as well a range of comorbid conditions such as dissociation, depression and suicidality, and substance misuse. Accordingly, comprehensive and accurate assessment of trauma survivors is challenging. Structured interviews by expert clinicians are considered the gold standard, but these may not be feasible in resource-limited contexts. Questionnaires are more widely used because they are generally brief and low cost. However, they are subject to response bias and most are focused only on PTSD symptoms. The present study examines the psychometric performance of a comprehensive questionnaire for PTSD and related constructs, the Detailed Assessment of Posttraumatic Stress Disorder – 2nd Edition (DAPS-2). The current study replicated and extended previous psychometric evaluations of the DAPS-2 in a community sample of adult individuals with PTSD ($N = 85$). Analyses included evaluation of the internal consistency of the DAPS-2 PTSD and associated features scales, as well as evaluation of several sources of validity evidence for the DAPS-2 PTSD Total scale, including convergent and discriminant validity and diagnostic utility for predicting PTSD diagnosis on the original and recently revised versions of the Clinician-Administered PTSD Scale for *DSM-5* (CAPS-5 and CAPS-5-R). Results indicated high internal consistency for all DAPS-2 PTSD and most associated features scales, with Cronbach's alpha ranging from .58 (Substance Use scale) to .97 (PTSD Total scale). The DAPS-2 PTSD Total scale demonstrated strong convergent and discriminant validity and moderately strong agreement with the CAPS-5-R/CAPS-5 (efficiency = .79). These findings support the use of the DAPS-2 as

part of a comprehensive assessment battery for trauma survivors or as a stand-alone clinical tool when structured interviews are not practicable.

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Table of Contents

Abstract	2
Acknowledgments	4
List of Tables	7
Introduction.....	8
Challenges of PTSD Assessment	8
Assessment of Trauma Exposure	8
Assessment of Clinical Picture	9
Peritraumatic Response	9
<i>DSM-5</i> PTSD Symptom Criteria	11
Comorbidity	12
PTSD Symptom Assessment	12
Clinician-Rated Interviews	12
Self-Rated Questionnaires	14
Trauma-Relatedness	16
The Detailed Assessment of Posttraumatic Stress Disorder	17
The Present Study	23
Method	24
Participants and Procedures	24
Measures	26
Data Analytic Plan	31
Results	34

Discussion	38
References	44
Tables	54

List of Tables

Table 1 54

Table 2 55

Table 3 57

Table 4 58

Table 5 59

A Psychometric Evaluation of the Detailed Assessment of Posttraumatic Stress Disorder – 2nd Edition: Replication and Extension in a Trauma-Exposed Community Sample

According to the World Health Organization, exposure to traumatic life events is very common, with a lifetime prevalence of 70.4% and an average of 3.2 traumatic events per capita (Kessler et al., 2017). Accordingly, accurate assessment of posttraumatic stress disorder (PTSD; American Psychiatric Association [APA], 2022) is a crucial first step to ensuring appropriate treatment planning and successful recovery for trauma survivors. The assessment of trauma and PTSD has been extensively investigated in the field of traumatic stress, from conceptual discussions surrounding the nature of trauma and peritraumatic and posttraumatic reactions, to psychometric evaluations of clinician-rated interviews and self-rated questionnaires for trauma and PTSD symptom assessment. PTSD poses unique challenges to assessment, and the sheer volume of literature on this topic underscores the complexity of assessing this disorder.

Challenges of PTSD Assessment

Difficulties in PTSD assessment stem from challenges in the conceptualization and measurement of trauma exposure and several domains of the PTSD clinical picture, including peritraumatic responses, symptom criteria in the *Diagnostic and Statistical Manual of Mental Disorders – 5th Edition (DSM-5; APA, 2013)*, and comorbid conditions such as depression, anxiety, and substance misuse.

Assessment of Trauma Exposure

PTSD is unique in requiring the experience of an external stressor for consideration of the disorder, and the assessment required to determine if an event qualifies as Criterion A—the traumatic stressor criterion—is complex. Further, since an individual can experience more than one traumatic event in their lifetime, PTSD symptoms are assessed in relation to the event that is

currently bothering them the most at the time of assessment and considered the “worst”; this traumatic event is known as the index event. This Criterion A stressor, or index event, can be identified via self-rated checklist, narrative rating methodology, or clinician-rated interview, and each of these methods has unique strengths and limitations. Self-rated checklists, such as the Life Events Checklist for *DSM-5* (LEC-5; Weathers et al., 2013), are the most economical, minimizing time of administration and clinician and respondent burden. However, they are subject to intracategory variability (Dohrenwend, 2006), which occurs when a stressor label is so broad that it encompasses events ranging widely in severity. For example, if an individual endorses the LEC-5 category “transportation accident,” it cannot be determined if they experienced a life-threatening, multi-car pileup with severe injuries (Criterion A) or a non-life-threatening fender bender with no injuries or vehicular damage (Non-Criterion A).

Dohrenwend (2006) reviews solutions to the problem of intracategory variability, including (1) having respondents subjectively rate the degree of negative impact of the event, (2) providing instruction as to what does and does not qualify for inclusion of that event as experienced, or (3) obtaining a verbal narrative of the event via interview, followed up with a severity rating by the interviewer to determine if the event qualifies as a trauma. This third method, or narrative rating methodology, is considered the most accurate method of determining Criterion A. However, this method is less economical, requiring greater time and resources. An ideal trauma exposure assessment would balance economy and accuracy through a self-rated format with the opportunity to obtain a narrative of the event.

Assessment of the Clinical Picture

Peritraumatic Response. Peritraumatic responses are immediate, real-time reactions to a traumatic stressor and may include emotional reactions (e.g., fear), cognitive appraisals (e.g.,

“My life is in danger”), physiological arousal (e.g., increased heart rate, sweating), and dissociation (Bovin and Marx, 2011; Herman, 1997; McNally, 2003). Notably, dissociation is a severe peritraumatic reaction where an individual experiences a “detached state of consciousness” (p. 43; Herman, 1997) as an initial protective response to the traumatic event. Dissociation involves detachment from one’s surroundings, identity, and time and may disrupt “the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior” (p. 291; APA, 2013). Peritraumatic responses have become less of a focus in PTSD assessment following the removal of Criterion A2, the *DSM-IV* (APA, 1994) criterion requiring an emotional reaction of fear, horror, or helplessness at the time of the event. However, peritraumatic responses, especially dissociation, may be relevant for understanding the subsequent posttraumatic symptom picture and thus remain an important construct to assess.

In a review of peritraumatic responses, Bovin and Marx (2011) concluded that various peritraumatic reactions are associated with the development of PTSD. For example, in a study of earthquake survivors, Nobakht et al. (2019) found peritraumatic dissociation to be a significant predictor of PTSD. While self-rated questionnaires for dissociation (e.g., the Multiscale Dissociation Inventory [MDI; Briere, 2002]) and peritraumatic responses (e.g., Peritraumatic Distress Inventory [PDI; Brunet et al., 2001]) exist, they are independent from PTSD assessment tools. Consequently, the use of multiple measures to assess peritraumatic responses to trauma and PTSD symptomatology may be burdensome for clinician and respondent and given that diagnosis of a disorder often takes precedence, may result in peritraumatic responses being overlooked in assessment and treatment planning.

DSM-5 PTSD Symptom Criteria. There are 20 individual symptoms and four symptom clusters (reexperiencing, avoidance, negative alternations in cognition and mood, and arousal and reactivity) that comprise *DSM-5* PTSD criteria (as well as a dissociative subtype specifier). With such expansive criteria, there are 636,120 symptom combinations for PTSD, qualifying it as one of the more heterogeneous diagnoses in the *DSM-5* (Galatzer-Levy & Bryant, 2013). In addition to the volume of symptoms, Kramer et al. (2023) demonstrated that PTSD symptoms are conceptually difficult to understand, finding that respondents on a self-rated questionnaire for PTSD endorsed significantly greater symptoms compared to clinician-rated interviews, and the discrepancy was attributable in part to miscomprehension of symptom items. Further, overlap in symptoms complicate comprehension and assessment of the clinical picture. For example, there are two symptoms of avoidance (avoidance of memories/thoughts/feelings of the event and avoidance of external reminders) that must be distinguished from each other and measured independently, and given comprehension difficulties by respondents (Kramer et al., 2023) accuracy of independent endorsement of these items may be questionable.

Additionally, critics of *DSM-5* PTSD criteria have judged symptoms to be too conceptually similar to a general syndrome of distress, anxiety, and/or depression (e.g., Byllesby et al., 2017). For example, Bodkin et al. (2007) demonstrated that individuals diagnosed with major depressive disorder with no history of Criterion A trauma endorsed symptoms consistent with PTSD similar to those with Criterion A trauma history, suggesting that there is no trauma specificity inherent in the PTSD criteria. Given this, establishing that a symptom is functionally related to the trauma—meaning beginning or worsening *in response* to the event—is crucial. However, the trauma-relatedness of a symptom may be difficult to parse if the symptom was experienced prior to the trauma (e.g., concentration difficulties, trouble experiencing positive

emotions) as part of a non-trauma related disorder (e.g., attention-deficit/hyperactivity disorder, depression).

Comorbidity. PTSD often co-occurs with other mental health conditions, such as depression, suicidality, alcohol use, substance use, and other trauma-related phenomena such as dissociation (Atchley & Bedford, 2021; Nichter et al., 2019; Vujanovic & Back, 2019).

Comorbidity of PTSD with other mental health conditions is an important consideration for assessment because comorbid presentations complicate differential diagnosis and impact treatment planning, implementation, and prognosis. However, focal PTSD measures typically do not assess for the presence of co-occurring disorders, so additional measures must be administered to achieve full coverage of the clinical picture.

PTSD Symptom Assessment

With regard to *DSM-5* PTSD symptom assessment, symptoms related to the identified index event can be assessed via clinician-rated interview or self-rated questionnaire. As with trauma measures, each method for PTSD symptom assessment has unique strengths and limitations. Accordingly, the choice of method may depend on additional factors, such as resources available, the purpose of assessment (e.g., screening vs. diagnosis, information gathering for treatment planning), and the context of administration (research vs. clinical setting).

Clinician-Rated Interviews. The Clinician-Administered PTSD Scale for *DSM-5* (CAPS-5; Weathers et al., 2018) is considered the gold standard assessment for diagnosing and assessing PTSD (Forbes et al., 2015; Hunt et al., 2018). The CAPS-5 has consistently demonstrated strong psychometric properties, including good convergent and discriminant validity, high internal consistency, and strong interrater and test-retest reliability (Weathers et al.,

2018). Another clinician-rated interview for PTSD is the Posttraumatic Stress Disorder Symptom Scale Inventory for *DSM-5* (PSSI-5; Foa et al., 2016). The PSSI-5 demonstrated good internal consistency and test-retest reliability, excellent interrater reliability, and good convergent and discriminant validity in the initial psychometric evaluation.

In 2022 the *DSM-5* underwent a text revision and the *DSM-5-TR* was published (APA). While there were no modifications to the PTSD diagnostic criteria, the authors of the CAPS-5 utilized the publication of the new *DSM* edition to revise and improve the measure, creating the Clinician-Administered PTSD Scale for *DSM-5* – Revised (CAPS-5-R; Weathers et al., 2022). The revised edition of the CAPS-5 features updates to item wording, additional follow-up prompts to clarify commonly misunderstood symptoms (e.g., flashbacks, amnesia, negative beliefs, depersonalization and derealization), more detailed scoring guidelines, expanded ratings of item intensity and frequency, and a frequency rating card provided to respondents to minimize burden of frequency estimation and improve accuracy. A psychometric evaluation of the CAPS-5-R was recently published (Jackson et al., 2024), indicating excellent test-retest and interrater reliability properties and good convergent and discriminant validity. The CAPS-5-R had good to excellent alternate forms reliability with the CAPS-5, providing strong support for the updated edition of the CAPS-5.

Unlike the CAPS-5, CAPS-5-R, and PSSI-5, which are dedicated instruments for trauma and PTSD assessment, *DSM-5* symptoms can also be assessed with select modules from semi-structured clinical interviews that assess psychopathology more broadly. For example, the Structured Clinical Interview for *DSM-5*–Clinician Version (SCID-5-CV; First et al., 2016), Mini International Neuropsychiatric Interview (MINI; Sheehan, 1992-2016), and Composite International Diagnostic Interview (CIDI; WHO, 1990) all include modules to assess for PTSD.

In a systematic review, Greene et al. (2016) found the *DSM-IV* versions of the CAPS, SCID PTSD module, and CIDI PTSD module to be the most frequently utilized clinician-rated interviews for assessing PTSD in primary care settings. Greene et al. (2016) illuminate that while the CAPS is the ideal gold standard for assessment, it is more time consuming than other interviews; however, the psychometric properties of the SCID, MINI, and CIDI are less well-known. Osório et al. (2019) found the SCID-5-CV to have excellent reliability and high diagnostic specificity, but there was no information on the performance of the PTSD module specifically. Further, the PTSD module of the SCID-5-CV does not assess symptom severity. Psychometric investigations of the current version of the MINI (version 7.0.2) are sparse, though some work has examined the properties of specific modules in diverse populations (e.g., Korte et al., 2023). Previous versions of the MINI have been found to have good interrater and test-retest reliability and good sensitivity and specificity (Lecrubier et al., 1997). Likewise, original versions of the CIDI have demonstrated good interrater and test-retest reliability, but validity tests are limited (see Andrews & Peters, 1998 for a review of this work). However, Kimerling et al. (2014) examined the most recent version of the CIDI PTSD module against the *DSM-IV* CAPS and found that the CIDI demonstrated less diagnostic sensitivity than the CAPS. Notably, for each of the measures described above there is little information on the psychometric properties of the PTSD module alone.

Self-Rated Questionnaires. Popular self-rated questionnaires for PTSD symptom assessment, where the respondents themselves are evaluating the information being requested, interpreting the rating scale, and making the final rating, include the PTSD Checklist for *DSM-5* (PCL-5; Weathers et al., 2013) and the Posttraumatic Diagnostic Scale for *DSM-5* (PDS-5; Foa et al., 2016). The PCL-5 is a 20-item questionnaire assessing the 20 *DSM-5* symptoms of PTSD,

with a weekly and monthly version of the form available. The PCL-5 has consistently demonstrated strong psychometric properties and is recommended in clinical and research contexts for assessing PTSD symptoms and establishing a provisional diagnosis (Blevins et al., 2015; Bovin et al., 2016). Additionally, the PCL-5 has been used to determine diagnostic status in Veterans, with a cutoff score of 31 to 33 as indicative of PTSD presence (Bovin et al., 2016).

Similar to the PCL-5, the PDS-5 is a 24-item questionnaire assessing the 20 symptoms of *DSM-5* PTSD and includes two trauma-screening items to determine the Criterion A index event and four items to assess distress, impairment, onset, and duration of symptoms. The PDS-5 demonstrated convergent and discriminant validity and strong internal consistency and test-retest reliability, and previous versions of the PDS have been used to screen for probable PTSD and assess symptom severity (Foa et al., 2016). Additionally, a cutoff score of 28 was established as an indicator of probable PTSD in a community sample of adults with mixed trauma exposure (Foa et al., 2016).

Another questionnaire, designed as a screening tool for PTSD in primary care settings, such as the Veterans Affairs administration, is the Primary Care PTSD Screen for *DSM-5* (PC-PTSD-5; Prins et al., 2016). The PC-PTSD-5 is a five-item screening measure assessing reexperiencing, avoidance, negative alterations in cognition and mood, and arousal and reactivity symptoms. The PC-PTSD-5 was modified from the original PC-PTSD (Prins et al., 2003) to include revised instructions with examples of traumatic events and an additional item to assess trauma-specific guilt and blame. In the initial psychometric evaluation, the PC-PTSD demonstrated strong test-retest reliability and predictive validity against the *DSM-IV* version of the CAPS (Prins et al., 2003), and the PC-PTSD-5 had excellent diagnostic utility against an abbreviated PTSD module from the MINI (Prins et al., 2016). Lathan et al. (2023) provide

support for the PC-PTSD-5 as a brief alternative to the PCL-5 in primary care settings, where a cutoff score of 4 on the PC-PTSD-5 had the highest rate of correct classifications of PTSD as determined by the PCL-5. There is little additional research on the validity of the English version of the PC-PTSD-5. However, one study demonstrated strong reliability, adequate convergent validity, and good discriminant validity in a Chinese version of the PC-PTSD-5 (Cheng et al., 2021), and a second study found strong concurrent validity in a Korean version of the PC-PTSD-5 (Jung et al., 2018).

Although they are economical, PTSD questionnaires do not include validity items to assess response biases. Other unique risks to validity using questionnaires include item order, wording and language influences, and cultural differences in interpretation (Kazdin, 2017). Additionally, some measures, such as the PC-PTSD-5, need additional psychometric research to better establish their reliability and validity.

Trauma-Relatedness. Within the PTSD clinical picture, symptoms are directly related to the experienced traumatic event; if a symptom is unrelated to the event, meaning it did not start, worsen, or stem from the traumatic stressor, the symptom is better explained by another disorder. This stipulation requires that the relationship between symptom and traumatic event is established during assessment. While this task is more feasibly approached with clinician-rated interviews, there are greater challenges to establishing trauma-relatedness of symptoms using self-rated questionnaires.

For example, recent work has demonstrated that self-rated assessment of PTSD is discordant from corresponding clinician-rated interviews. Kramer et al. (2023) thoroughly examined the PCL-5's correspondence with the CAPS-5, finding that discrepancies existed between the PCL-5 and CAPS-5 at the item level, cluster level, and total score. At the item level

the biggest discrepancies were found for items assessing hypervigilance, exaggerated startle, internal avoidance, and external avoidance, with average PCL-5 scores significantly higher than CAPS-5 scores. To further understand these discrepancies, the authors collected qualitative data from respondents regarding differences in responding between the PCL-5 and CAPS-5, finding that one of the most common explanations for discrepancies in self-rated versus clinician-rated assessment was trauma-related attribution error. While questionnaire instructions direct respondents to answer how much they have been bothered by a symptom as it relates to the traumatic stressor, there are no recurring reminders of this intended trauma-relatedness of the symptom throughout measures. However, utilizing a clinician-rated interview to remedy this risk may not be feasible depending on resources available, such as time and training capacities.

The Detailed Assessment of Posttraumatic Stress Disorder

To address these challenges of trauma and PTSD assessment, a “one-stop shop” or broadband measure of PTSD is in order. The Detailed Assessment of Posttraumatic Stress Disorder (DAPS; Briere, 2001) is a 104-item self-rated questionnaire of trauma exposure, peritraumatic and posttraumatic response, functional impairment, and associated problems. The first edition of the DAPS mapped onto *DSM-IV* PTSD criteria and includes 104-items across 13 scales: reexperiencing (RE), avoidance (AV), hyperarousal (AR), relative trauma exposure (RTE), peritraumatic distress (PDST), peritraumatic dissociation (PDIS), posttraumatic impairment (IMP), posttraumatic dissociation (T-DIS), posttraumatic stress total score (PTS-T), suicidality (SUI), substance use (SUB), positive response bias (PB), and negative response bias (NB). The DAPS yields a single score and is intended for use as both a symptom assessment measure and diagnostic tool.

The normative sample ($N = 446$) was composed of trauma-exposed community members

and a subset of university students (to access individuals in a lower age range). Within this general population sample, there was a significant difference between men and women, with women scoring significantly higher than men on the peritraumatic distress, peritraumatic dissociation, reexperiencing, and avoidance subscales, and men scoring significantly higher than women on the positive response bias subscales. Briere (2001) suggests that these discrepancies may be a result of the increased risk for sexual violence in women and, consequently, greater PTSD symptom severity. After controlling for sexual assault and child sexual abuse there was no longer a significant discrepancy between men and women on avoidance and reexperiencing scales, although women continued to score significantly higher on peritraumatic distress and posttraumatic dissociation. Therefore, separate norms were established for men and women.

The reliability of the DAPS was analyzed on the normative sample, a clinical/community sample ($N = 191$), and a university sample ($N = 257$). The DAPS was found to be internally consistent: the average clinical scale Cronbach's alpha was .83 in the normative sample, .88 in the clinical/community sample, and .82 in the university sample. Validity of the DAPS was assessed on the normative sample and clinical/community sample. The DAPS demonstrated good convergent validity, as evidenced by expected correlations with theoretically related constructs. Specifically, the DAPS validity scales correlated as expected with validity scales from other self-rated personality questionnaires, and the core *DSM-IV* PTSD symptom cluster scales (reexperiencing, avoidance, and hyperarousal) correlated strongly with other self-rated PTSD questionnaire subscales of these same symptom clusters. As an indication of discriminant validity, reexperiencing, avoidance, and hyperarousal were less correlated with other, unrelated constructs (somatic symptoms, antisocial personality traits, and mania). Likewise, the associated features subscales demonstrated good convergent and discriminant validity.

Additionally, the initial psychometric evaluation of the DAPS included diagnostic utility to determine the measure's capacity for correctly identifying someone with or without PTSD. The sample for diagnostic utility testing involved community members and a subsample of individuals from the clinical sample ($N = 69$), using the *DSM-IV* version of the CAPS (Blake et al., 1995) as the diagnostic referent. The DAPS demonstrated good sensitivity (.88) and specificity (.86), with diagnostic efficiency of .87, suggesting the DAPS was effective at correctly identifying those with and without PTSD as compared to the gold-standard clinician-rated interview.

Aside from the initial 2001 evaluation, no other psychometric studies have been conducted on the DAPS. However, the DAPS has been used in psychometric validation studies of other measures. For example, Blevins et al. (2015) utilized the DAPS in a psychometric evaluation of the PCL-5 and found that the DAPS had excellent construct validity, supported by a strong fit between predicted and expected correlations of PTSD. Further, Witte et al. (2015) utilized the DAPS in a study investigating how item order may influence assessment measures' agreement with current models of PTSD.

The DAPS has also been used as an assessment tool in clinical research concerning repeated and chronic trauma exposure, also known as complex posttraumatic stress disorder (CPTSD; Herman, 1997). Given that the DAPS assesses lifetime history of trauma exposure and constructs associated with CPTSD (e.g., dissociation), Briere and Spinazzola (2005) discuss the use of the DAPS in the assessment of CPTSD. In one study, Briere and Scott (2007) used the DAPS to assess trauma and CPTSD-related pathology in individuals with eating disorders and trauma histories. Further, Briere et al. (2016) examined the role of multiple trauma exposures on

the development of PTSD in both a community sample and prison inmate sample using the DAPS.

With the publication of the *DSM-5* in 2013, the DAPS underwent revision. The new edition, the DAPS-2, includes 119 items and was modified to align with *DSM-5* criteria for PTSD. Subscales assess the four primary symptoms of PTSD (reexperiencing, avoidance, negative alterations in cognition and mood, and arousal and reactivity) and associated features of trauma and PTSD (retained from the original DAPS). In the initial psychometric evaluation of the DAPS-2, Petri et al. (2019) concluded that the DAPS-2 was a psychometrically sound instrument for the measurement of PTSD. Internal consistency was high for all subscales: Cronbach's alpha was .96 for reexperiencing, negative alterations in cognition and mood, and arousal and reactivity subscales and .89 for avoidance. All associated features subscales demonstrated high internal consistency, ranging from .78 to .97, and the PTSD Total scale had a Cronbach's alpha of .99. In addition, Petri et al., (2019) found the PTSD Total scale was highly correlated with the PCL-5, and weaker correlations were noted between the DAPS-2 and measures of other, unrelated constructs (e.g., appetite gain, obsessive-compulsive disorder). Further, the authors examined the psychometric properties of the suicidality and trauma-related dissociation scales and found strong support for the convergent and discriminant validity of these associated scales. The results from this study provided initial empirical support for the DAPS-2 as a psychometrically sound instrument demonstrating good internal consistency and convergent, discriminant, and construct validity.

Petri et al. (2019) also examined the DAPS-2 fit with existing models of PTSD using confirmatory factor analysis. The authors examined the structural validity of the DAPS-2 against four different models of PTSD: (a) the *DSM-5* four-factor model (re-experiencing, avoidance,

negative alterations in cognition and mood, and arousal and reactivity), (b) six-factor model of anhedonia (reexperiencing, avoidance, negative alterations in cognition and mood, anhedonia, anxious arousal, and dysphoric arousal; Liu et al., 2014), (c) six-factor model of externalizing behaviors (reexperiencing, avoidance, negative alterations in cognition and mood, externalizing behaviors, dysphoric arousal, and anxious arousal; Tsai et al., 2014) and (d) a hybrid, seven-factor model (reexperiencing, avoidance, negative affect, anhedonia, externalizing behaviors, anxious arousal, and dysphoric arousal; Armour et al., 2015). The authors found that the seven-factor hybrid model of PTSD had the greatest fit with the DAPS-2; both six-factor models demonstrated good fit, whereas the four-factor model had adequate fit.

Importantly, the DAPS-2 balances economy and accuracy of PTSD assessment in a self-rated questionnaire format while capturing the various complexities of trauma and the PTSD clinical picture. First, the questionnaire addresses the concern of intracategory variability by including a thorough list of index event items. Respondents select from dichotomous yes/no response options as to whether they have experienced a given event at any time in their life (DAPS-2 Part 1; i.e., *A hurricane, tornado, flood, earthquake, explosion, or fire, when you were seriously hurt or were afraid you would be hurt or killed?*), followed by selecting the event that currently bothers them the most from the experiences they marked “yes.” Next, respondents are asked to provide a detailed narrative of the event, and to create a label of their event.

Importantly, respondents are directly instructed to remember the label and informed that later questions will ask them to refer to this worst identified event when answering future items.

Following the index event selection, respondents answer a subset of items regarding the index event (DAPS-2 Part 1 “Index Event Questions”), such as how the event was experienced (i.e., directly, witnessed, learned about), life threat, risk of injury, presence of sexual violence, cause

of death (if relevant; i.e., accidental, violent, natural causes), emotional response to the event (i.e., terrified, horrified, helpless), age of occurrence, number of times the respondent experienced the event (e.g., in the case of chronic or repeated trauma exposure), and presence of peritraumatic dissociative phenomenon. Further, respondents provide additional written information to describe what happened and who was involved in the event, to explain life threat or serious injury to self/other, and to describe how they responded emotionally during the event or soon after. Thus, the DAPS-2 maintains the economy of a questionnaire, while attempting to minimize intracategory variability by implementing multiple of Dohrenwend's (2006) suggestions, such as including a list of what is considered a Criterion A trauma and obtaining a detailed narrative of the event.

Secondly, the DAPS-2's expansive assessment of PTSD includes *DSM-5* PTSD symptom assessment, as well as the assessment of additional clinical features of trauma, comorbidity (associated features subscales), and positive and negative response biases (DAPS-2 Part 2 and Part 3). Prior to the beginning of the DAPS-2 Part 2, respondents are asked to again provide the label they chose for their index and to "Please keep the upsetting experience in mind as you answer these questions." The DAPS-2 attempts to solve the problem of trauma-related attribution error (see Kramer et al., 2023) by prompting the individual multiple times throughout the questionnaire to label, describe, and identify the most upsetting/worst event. Further, while most PTSD questionnaires are brief, the DAPS-2 is 119 items, including multiple items for each of the twenty primary symptoms of PTSD and items to assess other trauma-related phenomena and experiences. Nevertheless, to confidently use the DAPS-2 for PTSD diagnosis in an array of contexts (e.g., clinical, primary care, research), diagnostic utility analyses are warranted to determine how well the DAPS-2 predicts PTSD diagnostic status.

Present Study

The DAPS-2 does not have published information concerning diagnostic utility. Importantly, diagnostic utility analyses provide information regarding criterion-related validity and can determine a questionnaire's capacity for correctly identifying someone with a disorder. Given the limitations of other PTSD questionnaires and their variable levels of diagnostic utility for predicting interview-based PTSD diagnostic status, diagnostic utility analysis is an important next step in the validation of the DAPS-2. Accordingly, the purpose of the current study was twofold: (a) to further validate the DAPS-2 primary PTSD scale, the PTSD Total scale (PTS-T), through a community sample with mixed trauma exposure and replicate the work of Petri et al. (2019) and (b) to investigate the diagnostic utility of the DAPS-2 PTS-T scale by evaluating how well the DAPS-2 PTS-T scale predicts PTSD diagnostic status based on the CAPS-5 and CAPS-5-R. Regarding the psychometric properties of the measure, it was hypothesized that the DAPS-2 PTS-T scale will be psychometrically sound, demonstrating high internal consistency and good convergent and discriminant validity, with strong effect sizes for construct validity, replicating Petri et al. (2019). Internal consistency of all PTSD symptom subscales and associated features scales was also examined. Concerning diagnostic utility of the measure, it was hypothesized that the DAPS-2 PTS-T scale would demonstrate strong diagnostic utility, such that the optimally efficient cut score for the PTS-T scale would demonstrate sensitivity, specificity, and efficiency of .80 or higher.

Method

Participants and Procedures

Participants were 101 adults (i.e., 18 years or older), with Criterion A trauma history and report current distress, recruited from the community in the Southeastern United States as part of a larger study examining the psychometric properties of a revised, *DSM-5-TR* version of the Clinician-Administered PTSD Scale, the CAPS-5-R (Jackson et al., 2024). The Personality Assessment Inventory (PAI; Morey, 1991) validity scales (inconsistency and infrequency scales) were used to identify and remove careless or inattentive responses from inclusion. $N = 101$ individuals were enrolled for participation in the present study. The dataset was cleaned prior to the initiation of any statistical analyses, and individuals were excluded on the following basis: $n = 8$ individuals for not receiving a CAPS-5 or CAPS-5-R clinical interview, $n = 3$ individuals for having an invalid PAI, $n = 1$ individual for withdrawn participation in the study, $n = 1$ individual due to the index event trauma occurring less than one month ago, $n = 2$ individuals for incomplete participation (i.e., incomplete online questionnaires), and $n = 1$ individual for an invalid CAPS assessment (inconsistent responding between the first and second interview sessions). The final sample size for all analyses was $N = 85$. The sample was predominantly female ($n = 59$; 69.4%) and White ($n = 69$; 81.2%), with an average age of 41.31 years ($SD = 14.74$). The most common trauma types were sexual assault (25.9%), physical assault (20%), and transportation accident (11.8%). Based on the CAPS diagnosis, $n = 52$ were PTSD negative and $n = 33$ were PTSD positive. See Table 1 for complete demographic information on the sample.

The study involved completion of an online battery of self-rated questionnaires and participation in at least one interview session in which the CAPS-5 or CAPS-5-R was

administered. In the first phase of data collection there were three intended conditions: test-retest for CAPS-5, test-retest for CAPS-5-R, and alternate forms with one administration each of the CAPS-5 and CAPS-5-R. However, because of slow recruitment, the CAPS-5 test-retest condition was dropped after 10 participants enrolled. In the second phase of the study, participants were administered a single CAPS-5-R. In the final sample there were three individuals in the CAPS-5 test-retest condition, 30 in the CAPS-5-R test-retest condition, 29 in the alternate forms condition, and eight in the second phase who were administered only a single CAPS-5-R. In addition, in the first phase there were 15 individuals who completed only a single interview session, with four who were administered a single CAPS-5 and 11 a single CAPS-5-R. Thus, in the final sample seven participants were administered only the CAPS-5; the other 78 were administered at least one CAPS-5-R.

Individuals interested in participating contacted study personnel via email and received a link to complete a brief online survey screener to determine the presence of (a) a Criterion A traumatic event and (b) current distress related to the event. Other inclusion criteria included permission to use email communication for study-related matters and consent to recording of the interview session. Interview sessions were conducted in-person at a local community clinic or remotely via secure videoconferencing software. Additional criteria for remote participation included access to a device with a web camera, internet, a private/confidential space, willingness to provide personal contact information (e.g., telephone number, precise location including county), and information for an emergency contact. Participants were compensated for their time in the form of an electronic gift card to Amazon; in Phase I participants were compensated \$100 for completion of questionnaires and participation in both interviews (\$75 if they only completed one interview); participants in Phase II were compensated \$75 for completing questionnaires and

interview session; participants who partially participated (i.e., completed the self-report questionnaires, but did not complete an interview session) were compensated \$30.

In addition to the DAPS-2, participants completed a battery of questionnaires administered via Qualtrics prior to the first (or only) interview session. The measures used in the present study are described below. In addition, two other questionnaires were administered but not analyzed in the present study, including measures of *International Classification of Diseases– 11th Edition (ICD-11; WHO, 2019)* PTSD and posttraumatic maladaptive beliefs.

Measures

Screening Measures

In addition to items assessing standard eligibility criteria (e.g., 18 years of age or older, consent to video record, consent to email communication) and telehealth eligibility criteria, prospective participants completed the extended version of the LEC-5 and PC-PTSD-5 screener to determine the presence of a Criterion A trauma and current related distress.

Life Events Checklist for *DSM-5* (LEC-5)–Extended. The LEC-5 (Weathers et al., 2013) is a 17-item checklist of traumatic events utilized to determine exposure to a Criterion A stressor. The individual indicates “*happened to me*,” “*witnessed it*,” “*learned about it*,” “*part of my job*,” “*not sure*,” or “*doesn’t apply*” in response to that item/traumatic event. The extended version of the LEC-5 includes follow-up items to assess how long ago the event occurred, how the event was experienced, life threat, presence of sexual violence, cause of death (if relevant; accidental, violent, or natural death), and frequency of trauma. Importantly, the LEC-5 extended version has a field to obtain a written narrative of the worst, or index, event. These written narratives were reviewed by advanced doctoral students in clinical psychology who were well-

trained by an expert in the field of trauma and PTSD assessment. Only individuals whose event met Criterion A with certainty were eligible for participation.

Primary Care PTSD Screen for *DSM-5* (PC-PTSD-5). The PC-PTSD-5 (Prins et al., 2016) is a five-item screening measure assessing for the presence of symptoms consistent with the core symptoms of PTSD (reexperiencing, avoidance, negative alterations in cognition and mood, and arousal and reactivity). Individuals respond dichotomously (yes/no) if they have experienced the symptom in the last month. The PC-PTSD-5 demonstrated high internal consistency and had moderate agreement to the PCL-5 in detecting PTSD (Lathan et al., 2023). Further, the original version demonstrated strong test-retest reliability and predictive validity (Prins et al., 2003). Notably, the PC-PTSD-5 has been shown to have excellent diagnostic utility for PTSD (Prins et al., 2016).

Clinician-Rated Interviews

Participants completed the CAPS-5 and/or the CAPS-5-R and MINI (Sheehan et al., 1998, 2016) in the scheduled interview session. The MINI was administered to participants to provide the sponsoring organization with greater information on the clinical presentation of the sample. The MINI was not used in any present analyses as it was not the criterion measure for diagnostic utility testing and external constructs for validity testing were quantified by various self-rated questionnaires.

Clinician-Administered PTSD Scale for *DSM-5* (CAPS-5). The CAPS-5 (Weathers et al., 2018) is a clinical interview designed to assess the presence and severity of *DSM-5* symptoms of PTSD. The intensity and frequency of items are rated separately and then combined into a 5-point severity rating, from 0 = *Absent* to 4 = *Extreme/incapacitating*. A PTSD diagnosis is determined by considering items with a severity score of 2 = *Moderate* and higher as

symptoms endorsed, and then following the *DSM-5* diagnostic rule of one intrusion symptom, one avoidance symptom, two symptoms of negative alterations in cognition and mood, and two symptoms of alterations in arousal and reactivity. A total severity score ranging from 0-80 is calculated by adding item severity scores for the 20 PTSD symptoms. The CAPS-5 is a psychometrically sound instrument with good internal consistency, test-retest reliability, construct validity, and convergent and discriminant validity (Weathers et al., 2018).

Clinician-Administered PTSD Scale for *DSM-5* – Revised (CAPS-5-R). The CAPS-5-R (Weathers et al., 2022) is a revised edition of the CAPS-5. The CAPS-5-R includes updates to item wording, follow-up prompts to clarify commonly misunderstood symptoms, expanded severity rating options, a frequency rating card provided to respondents during administration, and a revised scoring grid. As on the CAPS-5, the intensity and frequency are rated separately and combined into a severity rating. However, item severity scores on the CAPS-5-R were expanded to 0 to 10 to capture more variability. Importantly, the CAPS-5-R is backward compatible with the CAPS-5 in that CAPS-5-R scores can be converted to CAPS-5 scores. However, CAPS-5 scores cannot be converted to CAPS-5-R scores. Similar to the CAPS-5, PTSD diagnosis on the CAPS-5-R is determined by considering items with a severity score of 3 and higher as symptoms endorsed, and then following the *DSM-5* diagnostic rule. In the initial psychometric evaluation (Jackson et al., 2024), which was the data source for the present study, the CAPS-5-R demonstrated strong psychometric properties, including excellent test-retest and interrater reliability, good convergent and discriminant validity, and good to excellent alternate forms reliability with the CAPS-5.

Interviewers were advanced graduate students in a clinical psychology doctoral program who were trained by the primary author of the CAPS-5 and CAPS-5-R, an expert in trauma and

PTSD assessment. For full details on interviewer qualifications and training, and interrater test-retest, and alternate forms reliability, see Jackson et al. (2025).

Self-Rated Questionnaires

A demographics questionnaire and DAPS-2 index event selection questions remained fixed at the start of the survey. To minimize order effects, the DAPS-2 Parts 2 and 3 and all other measures were presented in random order. The Personality Assessment Inventory (Morey, 1991) was presented last.

The Detailed Assessment of Posttraumatic Stress-2nd Edition (DAPS-2). As described above, the DAPS-2 (Briere, n.d.) is a 119-item questionnaire, with the primary PTSD scale (PTSD Total scale, or PTS-T), four primary symptom subscales (reexperiencing, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity) and associated features subscales.

Posttraumatic Stress Disorder Checklist for *DSM-5* (PCL-5). The PCL-5 (Weathers et al., 2013) is a 20-item measure assessing the 20 *DSM-5* symptoms of PTSD. Individuals respond on a scale from 0 = *not at all* to 4 = *extremely* bothered by the symptom in the past month. The PCL-5 has consistently shown excellent internal consistency, test-retest reliability, construct validity, and convergent and discriminant validity (Blevins et al., 2015; Bovin et al., 2016). Cronbach's alpha for the PCL-5 was .94 in the present sample, and McDonald's omega was .94.

Multiscale Dissociation Inventory (MDI). The MDI (Briere, 2002) is a 30-item measure assessing six types of dissociation (mapping onto six subscales): disengagement, depersonalization, derealization, emotional constriction, memory disturbance, and identity dissociation. Participants indicate the frequency of which they have experienced a symptom of dissociative phenomena on a scale from 1 = *never* to 5 = *very often*. The MDI has exhibited

strong psychometric properties, including good reliability and convergent and discriminant validity (Blevins et al., 2012; Briere, 2002; Jeffirs et al., 2023). Cronbach's alpha for the MDI was .96 in the present sample, and McDonald's omega was .96.

Personality Assessment Inventory (PAI). The PAI (Morey, 1991) is a 344-item measure of psychopathology and personality traits. Participants rate how accurate the statement is of them, from *false/not at all true* to *very true*. The PAI includes four validity scales (inconsistency, infrequency, negative impression management, and positive impression management), eleven clinical scales (somatic complaints, anxiety, anxiety-related disorders, depression, mania, paranoia, schizophrenia, borderline features, antisocial features, alcohol problems, and drug problems), five treatment consideration scales (aggression, suicidal ideation, stress, nonsupport, and treatment rejection), and two interpersonal scales (dominance and warmth). Relevant to the current study, the PAI anxiety-related disorders scale has a traumatic stress subscale, which was utilized in construct validity analyses. The PAI has demonstrated good internal consistency, test-retest reliability, and convergent and discriminant validity (Morey, 1991, 2007). In the present sample, Cronbach's alpha (α) and McDonalds omega (ω) was high for all subscales (Somatic Complains scale: $\alpha = .92$, $\omega = .92$; Anxiety scale: $\alpha = .93$ and $\omega = .93$; Anxiety-Related Disorders scale: $\alpha = .86$ and $\omega = .85$; Traumatic Stress subscale: $\alpha = .83$ and $\omega = .83$; Depression: $\alpha = .93$ and $\omega = .93$; Mania scale: $\alpha = .83$ and $\omega = .81$; Paranoia scale: $\alpha = .90$ and $\omega = .90$; Schizophrenia scale: $\alpha = .85$ and $\omega = .84$; Borderline scale: $\alpha = .87$ and $\omega = .87$; Antisocial scale: $\alpha = .81$ and $\omega = .79$; Alcohol Problems scale: $\alpha = .79$ and $\omega = .79$; Drug Problems scale: $\alpha = .80$ and $\omega = .80$; Aggression Treatment Consideration scale: $\alpha = .91$ and $\omega = .91$; Suicidal Ideation Treatment Consideration scale: $\alpha = .92$ and $\omega = .93$).

Data Analytic Plan

Descriptive analyses were conducted using IBM SPSS Statistic Version 30 (2024), and included demographic information, frequencies, and Cronbach's alphas and McDonald's omegas for internal consistency.

Following closer examination of the data, there were some isolated and rare missing data points (0.64% missing) that prevented the calculation of scale variables. To avoid the unnecessary deletion of participants with one missing item from the dataset, alternative methods of handling missing data were considered. Following guidelines from Tabachnick and Fidell (2019), Little's Missing Completely at Random (MCAR) Test demonstrated that missing data in the sample was missing completely at random; therefore, the characteristics of missing data in the sample met the assumptions for the use of multiple imputation techniques. Multiple imputation uses regression on present values in the dataset to calculate an estimate value for each missing item; in other words, a value is predicted from each individual's responses to other items in the dataset and is input into the missing cell. The regression included all questionnaire items to ensure missing data was handled across the entirety of the dataset. Multiple imputation was specified to produce five estimated datasets (the statistical package default, which was deemed sufficient given there was so few missing datapoints in the current study); thus, analyses were conducted on the pooled results (average of the five datasets).

Construct validity was examined using the Westen and Rosenthal (2003) approach which yields effect size correlations $r_{\text{alerting-CV}}$ and $r_{\text{contrast-CV}}$ indicating the overall level of convergent and discriminant validity. This approach compares bivariate convergent and discriminant correlations obtained from the current data to a pattern of conceptually predicted correlations and evaluates the degree of correspondence between the DAPS-2 PTS-T scale and theoretically

related and less-related external constructs. For the selection of external constructs for convergent validity, two studies were referenced given their relevance to the current work: Petri et al. (2020) to ensure replication of the study and Blevins et al. (2015), a psychometric evaluation of a dedicated measure of PTSD, the PCL-5. Measures selected for convergent validity were the PCL-5 total score and the Traumatic Stress subscale of the PAI Anxiety-Related Disorders clinical scale. External constructs selected for discriminant validity were dissociation (assessed by the MDI) and depression, anxiety, borderline features, schizophrenia, paranoia, somatic complaints, alcohol use, substance use, antisocial personality traits, and mania (assessed by the PAI).

To investigate hypotheses regarding the diagnostic utility of the DAPS-2, diagnostic utility analysis outlined by Kraemer (1987) was conducted. Kraemer underscored the importance of appropriate diagnostic utility testing to establish a test's capacity to correctly identify someone with a disorder or precursors of a disorder. In the present study, the test under investigation was the DAPS-2 and the diagnosis was PTSD status (positive or negative) as determined by the CAPS-5/CAPS-5-R. Kraemer (1987) elaborated that good diagnostic utility testing involves a representative sample from the clinical population and use of a "gold standard" or "well-accepted medical procedure" (p. 413) as the criterion to evaluate the test under investigation. In the present study, $n = 33$ had a positive PTSD diagnosis and $n = 52$ had a negative diagnosis, well surpassing Kraemer's recommendation for a minimum of 40 individuals with at least 10 individuals with a positive diagnosis, 10 with a negative diagnosis, 10 with a positive test, and 10 individuals with a negative test.

Diagnostic utility analysis specifically allows for the investigation of the sensitivity, specificity, and efficiency of an assessment tool or measure. Sensitivity is a measure of how well

a test correctly identifies someone with a disorder (true positive), whereas specificity is a measure of how well a test correctly identifies someone without the disorder (true negative). Further, the reciprocal of these indices, or how often a measure *incorrectly* identifies someone with or without a disorder, are also important metrics for study. These are false positives or “false alarms” (Type I errors) and false negatives or “misses” (Type II errors). The primary focus of the current study was to identify the optimally efficient DAPS-2 cutoff score, which is the DAPS-2 PTS-T cutoff score that results in the most correct diagnoses.

Following the approach outlined by Kraemer (1987), weighted Cohen’s kappa coefficient (κ) was calculated for sensitivity, specificity, and efficiency in order to adjust for chance agreement between test and diagnosis. The κ for sensitivity, $\kappa(1)$, gives full weight to false negatives; the κ for specificity, $\kappa(0)$, gives full weight to false positives; and the κ for efficiency, $\kappa(.5)$, gives equal weight to false negatives and false positives. A kappa coefficient of 0 is equal to chance agreement between test and diagnosis, and a kappa coefficient of 1 is equal to perfect agreement between test and diagnosis. The full range of DAPS-2 PTS-T cutoff scores were evaluated against CAPS-5/CAPS-5-R PTSD diagnosis to identify the optimally efficient score, i.e., the score that resulted in the highest $\kappa(.5)$.

Although most participants were administered a CAPS-5-R, to maximize the sample size by including participants who were administered only the CAPS-5, the criterion was PTSD diagnostic status based on either the CAPS-5 or CAPS-5-R. For participants who were administered at least one CAPS-5-R ($n = 78$), their first or only CAPS-5-R was used to determine diagnostic status. For participants who were administered only the CAPS-5 ($n = 7$), their first or only CAPS-5 was used to determine diagnostic status. Given that the CAPS-5 and CAPS-5-R are very highly correlated (Jackson et al., 2024) and that CAPS-5-R scores can be

converted to CAPS-5 scores, CAPS-5-R scores were converted into CAPS-5 scores so that all participants were diagnosed using a common metric. Further, to ensure that participants with a PTSD diagnosis had at least a moderate level of symptom severity, the criterion had two requirements for a positive diagnosis: (a) meeting the *DSM-5-TR* PTSD diagnostic criteria and (b) having a CAPS-5 severity score of 26 or higher, which is in the middle of the moderate range of symptom severity (Weathers et al., 2018). This two-part criterion is referred to simply as the CAPS diagnosis throughout the rest of the paper.

Results

Table 2 includes scale-level descriptives for all self-rated measures. In the present sample there was evidence of high internal consistency for the DAPS PTS-T scale indicated by Cronbach's alpha and McDonald's omega ($\alpha = .97$; $\omega = .97$). Further, internal consistency was high for all PTSD cluster scales (reexperiencing: $\alpha = .94$; $\omega = .94$; avoidance: $\alpha = .79$; $\omega = .81$; negative alterations in cognition and mood: $\alpha = .93$; $\omega = .93$; arousal and reactivity: $\alpha = .91$; $\omega = .90$).

Notably, omega could not be calculated for the DAPS-2 NB scale. Negative bias items typically have low endorsement rates (in this sample, 68.2%–96.5% of participants answered “never”) given that validity scale items are written to be intentionally rare or unlikely symptoms to be experienced. Additionally, participants who were likely to endorse these items had previously been excluded from the sample (i.e., based on invalid responding as indicated by the PAI inconsistency and infrequency scales; $n = 3$). Therefore, this resulted in most NB items (7 out of 8 items) having negligible variation (above 80% of the sample had an endorsement of “never” on 7 out of 8 items), impacting the computation of covariance rates.

Table 3 lists observed and predicted correlations between the DAPS-2 PTS-T scale, convergent measures of PTSD (PCL-5, PAI ARD-T), and measures of external constructs. The DAPS-2 PTS-T scale correlated as expected with measures of similar and related constructs and demonstrated substantially lower correlations with measures of unrelated constructs, indicating good convergent and discriminant validity. However, the DAPS-2 PTS-T scale demonstrated higher than anticipated correlations with the PAI SCZ, PAI PAR, PAI SOM, PAI ANT and PAI MAN scales. This same pattern was observed with the PCL-5 and PAI ARD-T scales. Despite this, discriminant correlation values were all lower than the convergent correlations and were generally within the predicted range.

Table 4 presents effect sizes, calculated from predicted correlations and lambda, for the DAPS-2 PTS-T scale and convergent measures of PTSD. Large effect sizes were found for the DAPS-2 PTS-T scale, ($r_{\text{contrast-CV}} = .88$, $r_{\text{alerting-CV}} = .97$), indicating high construct validity. These effect sizes were consistent with those observed for the PCL-5 ($r_{\text{contrast-CV}} = .90$, $r_{\text{alerting-CV}} = .98$) and PAI ARD-T ($r_{\text{contrast-CV}} = .90$, $r_{\text{alerting-CV}} = .98$). The 95% CI for the DAPS-2 PTS-T scale overlapped with the 95% CIs observed for the PCL-5 and PAI ART-D scale, suggesting similar fit between expected and predicted correlations.

Table 5 presents the following indices for each scale included in diagnostic utility analyses of the DAPS-2 PTS-T test: (a) the point-biserial correlation between the test and scale (r_{pb}); (b) the optimally efficient cutoff score for the scale; (c) the level of the test, the proportion of positive tests; (d) sensitivity, the proportion of individuals with a positive diagnosis who have a positive test; (e) specificity, the proportion of individuals with a negative diagnosis who have a negative test; (f) positive predictive value (PPV), the proportion of individuals with a positive test who have a positive diagnosis (i.e., the probability that an individual with a positive test

actually has the diagnosis); (g) negative predictive value (NPV), the proportion of individuals with a negative test who have a negative diagnosis (i.e., the probability that an individual with a negative test actually does not have the diagnosis); (h) efficiency, the rate of correct classifications; (i) $\kappa(0)$, the kappa coefficient representing quality of specificity; (j) $\kappa(.5)$, the kappa coefficient representing quality of the efficiency index; and (k) $\kappa(1)$, the kappa coefficient representing the quality of sensitivity.

The DAPS-2 PTS-T scale optimally efficient cutoff score was 128, with efficiency = .79 and $\kappa(.5) = .56$. This cutoff score was chosen because it had the greatest agreement with the CAPS diagnosis, and it represents moderate correspondence with the CAPS criterion. Based on the PPV, there is a 71% probability that an individual with a DAPS-2 PTS-T score of 128 or higher scale would meet *DSM-5-TR* criteria for PTSD based on the CAPS diagnosis. Based on the NPV, there is an 84% probability that an individual with a DAPS-2 PTS-T score less than 128 would *not* meet *DSM-5-TR* diagnostic criteria for PTSD based on the CAPS diagnosis.

To compare the DAPS-2 PTS-T scale test performance, diagnostic utility analyses were conducted with measures of similar and dissimilar constructs against the CAPS diagnosis. As shown in Table 5, the PCL-5, PAI ARD-T, and PAI DEP all had similar levels of efficiency that indicate moderate levels of correspondence with the CAPS diagnosis but were somewhat lower than that for the DAPS-2 PTS-T. In contrast, as expected, PAI SOM and PAI ANT had substantially lower efficiency, indicating much lower correspondence with the CAPS diagnosis. The PCL-5 optimally efficient cutoff score was 37, with efficiency = .71 and $\kappa(.5) = .50$. This indicates there is a 64% probability that an individual with a PCL-5 score of 37 or higher would meet criteria for PTSD, and an 86% probability that an individual with a PCL-5 score less than 37 would *not* meet criteria for PTSD.

The PAI ARD-T optimally efficient cutoff score was 75, with efficiency = .74 and $\kappa(.5) = .48$. This indicates there is a 63% probability that an individual with a PAI ARD-T score of 75 or higher would meet criteria for PTSD, and an 84% probability that an individual with a PAI ARD-T score less than 75 would *not* meet criteria for PTSD.

The PAI DEP optimally efficient cutoff score was 72, with efficiency = .75 and $\kappa(.5) = .50$. This indicates there is a 65% probability that an individual with a PAI DEP score of 72 or higher would meet criteria for PTSD, and an 84% probability that an individual with a PAI DEP score less than 72 would *not* meet criteria for PTSD.

The PAI SOM optimally efficient cutoff score was 67, with efficiency = .71 and $\kappa(.5) = .40$. This indicates there is a 60% probability that an individual with a PAI SOM score of 67 or higher would meet criteria for PTSD, and an 80% probability that an individual with a PAI SOM score less than 67 would *not* meet criteria for PTSD.

The PAI ANT optimally efficient cutoff score was 49, with efficiency = .58 and $\kappa(.5) = .20$. This indicates there is a 47% probability that an individual with a PAI ANT score of 49 or higher would meet criteria for PTSD, and an 75% probability that an individual with a PAI ANT score less than 49 would *not* meet criteria for PTSD.

In summary, the DAPS-2 PTS-T scale with a cutoff score of 128 performed better than the PCL-5 and select PAI scales at detecting PTSD according to the CAPS criterion. Overall, the DAPS-2 PTS-T demonstrated strong psychometric properties, including good reliability and validity of the test, and associated features scales had strong internal consistency.

Discussion

The DAPS-2 demonstrated strong psychometric properties in the present study. The DAPS-2 showed high internal consistency across both symptom and associated features scales. Within the PTSD cluster subscales, avoidance demonstrated the lowest alpha ($\alpha = .79$) and omega ($\omega = .81$), which may be explained by the fewer number of items (four) comprising this subscale compared to other subscales that contain up to 14 items (e.g., arousal and reactivity cluster). Additionally, associated features scales demonstrated adequate to excellent reliability, with Cronbach's alpha ranging from .68 (Substance Use scale) to .94 (Posttraumatic Dissociation scale).

Westen and Rosenthal (2003) testing revealed that the DAPS-2 PTSD Total scale correlated as expected with measures of similar and dissimilar constructs, indicating strong construct validity. However, some correlations between the DAPS-2 PTS-T and convergent measures were higher than expected with several of the PAI scales, including the anxiety, schizophrenia, paranoia, somatic complaints, antisocial, and mania scales. This finding may be a result of PTSD symptoms that appear similar to other clinical presentations; for example, irritability and hypervigilance are hallmark symptoms of PTSD, and therefore PAI items belonging to the schizophrenia, paranoia, antisocial, and mania scales may have been more frequently endorsed by respondents in the current sample. Similarly, anxiety symptoms like physiological arousal and persistent worries also appear similar to reexperiencing and arousal and reactivity symptoms in PTSD.

Diagnostic utility analyses were conducted comparing the DAPS-2 PTSD Total scale score against the gold standard assessment for PTSD, the CAPS-5/CAPS-5-R interview to

examine the DAPS-2 performance and ability to correctly identify those with and without PTSD. The CAPS criterion variable included a minimum severity score of 26 on the CAPS-5 and CAPS-5-R back-translated into CAPS-5 scores. Diagnostic utility testing demonstrated that the DAPS-2 PTS-T scale had moderate agreement with the CAPS criterion, suggesting it is a self-rated measure adequately capable of identifying those with and without PTSD. Regarding the first hypothesis, efficiency was demonstrated at .79 just below the hypothesized efficiency of .80 or greater. Overall, the performance indices across all measures were lower than anticipated. For example, previous research by Bovin et al. (2016) found the PCL-5 to have a kappa coefficient for efficiency at .58, whereas in the present study $\kappa(.5) = .50$. This may be due in part to the nature of the sample. Participants were community residents rather than a clinical sample, and this may have increased the disparity between questionnaires and interviews found even in clinical samples. Some participants may have endorsed PTSD questionnaire items based more on nonspecific distress than actual PTSD, but such a response bias would not have influenced clinical ratings on the more rigorous CAPS to the same extent. Further, the DAPS-2 PTS-T scale had higher specificity, positive predictive value, and efficiency than the PCL-5. This suggests that the DAPS-2 PTS-T scale is better at identifying those without PTSD, is more accurate at identifying true positives, and has a greater rate of correct classifications than the PCL-5.

Further, there are substantial differences in the scope of the DAPS-2 compared to the PCL-5. Specifically, the DAPS-2 collects information on overall trauma exposure and other trauma-related constructs, including peritraumatic distress, peri- and post-traumatic dissociation, and impairment. The DAPS-2 includes a thorough assessment of Criterion A event exposure, and guides the respondent through selecting the most distressing experienced event and includes items to assess the level of threat and harm incurred. Unlike other self-rated assessments for

PTSD, the DAPS-2 includes items to assess commonly comorbid concerns, like substance and alcohol use and suicide ideation. The DAPS-2 collects a wealth of information that is not included on the PCL-5 or other self-report measures of PTSD. This information, for example, can inform providers if an individual is avoiding through self-medication (e.g., positive endorsement of items assessing substance and alcohol use), if they need to be referred for a more appropriate diagnosis, and guide treatment considerations (e.g., concurrent treatment of PTSD and alcohol use disorder or substance use disorder). The DAPS-2 is capable of providing insight into exacerbating factors of symptoms, like chronic suicidal ideation, dissociation, or polytraumatic exposure. Therefore, the DAPS-2 appears to be a psychometrically sound and comprehensive self-report assessment of PTSD when clinician-rated interview is not feasible.

Several explanations for why the DAPS-2 had moderate correspondence and efficiency just below the hypothesized value of .80 can be explored. The DAPS-2 may have only had moderate correspondence with the CAPS criterion given the differences inherent between self-report questionnaires and clinician-administered interviews. In a qualitative analysis, Kramer et al. (2023) examined differences in responding in a group of individuals who completed both the PCL-5 questionnaire and CAPS-5 diagnostic interview. The authors identified five primary themes contributing to under or over reporting on the PCL-5: comprehension of symptoms (i.e., misunderstanding the item), general errors (i.e., selecting the wrong answer), increased awareness (i.e., having greater reflection on symptoms during the interview assessment compared to self-report), time-frame reminders (i.e., not answering the items based on the past month), and trauma-related attribution error (i.e., misattributing a symptom to the trauma or not considering how a symptom was exacerbated by trauma). Given the differences Kramer et al. observed between PCL-5 and CAPS-5 responding, it is possible that under- or over- reporting of

symptoms on the DAPS-2 occurred in the present sample for similar reasons. Future work may focus on a qualitative analysis of differences in responding on the DAPS-2 and CAPS-5/CAPS-5-R, as a replication of Kramer et al. (2023) and extension (i.e., use a different self-report measure of PTSD, the DAPS-2).

The CAPS-5/CAPS-5-R is considered the gold standard diagnostic assessment tool for PTSD. There is a wealth of evidence that supports the CAPS-5/CAPS-5-R as the strongest, most psychometrically sound assessment for the diagnosis of PTSD (Jackson et al., 2024; Weathers et al., 2018). Clinician-rated interviews, like the CAPS-5-R, address discrepancy errors illuminated by Kramer et al. (2023) through the incorporation of the assessors' own clinical judgment. When a well-trained clinician conducts an assessment interview, they have the capability to make clarifications, maintain attention, and confirm trauma attribution of symptoms. As such, it is unlikely that any self-rated measure will assess and diagnosis PTSD as thoroughly and accurately as a clinician-rated interview, especially the gold standard. Regardless, other self-rated measures in the present study, notably the PCL-5, similarly demonstrated moderate correspondence with the CAPS criterion, suggesting that the DAPS-2's test performance is overall consistent with and better than other self-rated measures of PTSD against clinician-rated interviews.

With the DAPS-2's test performance and strong validity and reliability, there are several implications of this work. The DAPS-2 demonstrated a greater ability to correctly identify those with and without PTSD compared to other self-rated measures for PTSD and may be an appropriate fit for use in primary care settings that are seeking to determine diagnosis, referral needs, or treatment for mental health symptoms. In primary care contexts, where resources are limited and clinician-rated assessment of PTSD is not feasible, the DAPS-2 can inform providers

if a referral is needed for further assessment or increase their confidence in recommending a trauma-focused treatment. The DAPS-2 also offers additional insights compared to other self-rated measures of PTSD, including peri-traumatic responses, impairment, and commonly co-occurring conditions, like alcohol/substance use and suicidal ideation, and can inform the administrator of additional considerations. The present study also adds support in favor of using the gold standard, the CAPS-5/CAPS-5-R assessment, whenever possible, demonstrating that clinician-rated interview is the best tool for determining diagnosis.

There are several notable strengths to the present study. First, data was collected from a community sample, recruiting participants from the southeastern part of the United States. The sample was relatively diverse in trauma type, age, and gender. Second, the gold standard for PTSD assessment and diagnosis, the CAPS-5/CAPS-5-R, was used for the determination of positive/negative PTSD. Third, no individual in the present study was interviewed twice by the same clinician, reducing the risks of rater and response bias.

Despite these strengths, there are limitations to be taken into consideration. The sample was predominantly white, heterosexual, and female, so generalizability of results may be affected. Self-rated questionnaires were administered through an online survey platform, which can introduce threats to validity by careless or inattentive responding that cannot be monitored by study administrators. However, returned questionnaires were reviewed thoroughly by study personnel before the initiation of the interview session. Returned questionnaires were checked for respondent consistency, missing items, time completed, and for indications of bot versus human responding.

In addition to the replication and extension of Kramer et al. (2023)'s qualitative study eliciting respondent perceptions of discrepancies between self-report and clinician-administered

responses using the DAPS-2, several other future directions are proposed. Replication in a primary care setting may yield insight into the ecological validity of the DAPS-2 and better determine the feasibility of its administration in resource limited contexts. Further, the DAPS-2 should be tested against other criterion as it is unlikely every clinician or facility has access to the resources for training on the CAPS-5/CAPS-5-R and may use other clinician-rated instruments for PTSD, such as the MINI or SCID-5-CV modules for PTSD. Likewise, with the emerging interest in ICD-11 criteria for PTSD and the addition of complex PTSD in ICD-11 (WHO, 2019), it may be beneficial to examine the DAPS-2's performance against ICD-11 criteria for PTSD using the International Trauma Interview (Cloitre et al., 2018; Roberts et al., 2025). Lastly, diagnostic utility analyses should be expanded to assess the performance of the other DAPS-2 scales, like suicidal ideation (e.g., against depression criterion), substance use (e.g., against alcohol use disorder and substance use disorder criterion), and dissociative phenomena (e.g., against dissociative identity disorder criterion). Such additional diagnostic utility analyses will yield insight into how useful the associated features scales are for identifying those with comorbid disorders.

In conclusion, results demonstrated that the DAPS-2 is valid and reliable, with moderate diagnostic agreement to the CAPS-5/CAPS-5-R gold standard. The DAPS-2 PTS-T scale was shown to be better than other self-report measures of PTSD (i.e., the PCL-5) at correctly identifying those with and without PTSD. The present study supports the use of the DAPS-2, in favor of other self-rated questionnaires assessing PTSD symptom presentation, for the assessment and diagnosis of PTSD when clinician-rated interview using the gold standard is unavailable.

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Table 1
Demographic Information of Sample

	<i>M (SD) or %</i>
Mean age	41.31 (14.74)
Gender	
Female	69.4%
Male	29.4%
Transgender	2.4%
Did not answer	1.2%
Race	
White	81.2%
African American/Black	10.6%
Other or multiracial	5.9%
American Indian or Alaskan Native	1.2%
Did not answer	1.2%
Ethnicity	
Not Hispanic or Latino	91.8%
Hispanic or Latino	7.1%
Did not answer	1.2%
Student Enrollment Status	
Part-time	3.5%
Full-time	11.8%
Sexual Orientation	
Heterosexual	74.1%
Bisexual	12.9%
Gay/Lesbian	7.1%
Questioning	2.4%
Did not answer	1.2%
Trauma Type	
Sexual assault	25.9%
Physical assault	20.0%
Transportation accident	11.8%
Suicide	9.4%
Sudden unexpected death of someone close	8.2%
Assault with a weapon	5.9%
Life threatening illness or injury	4.7%
Serious accident (home, work, rec.)	3.5%
Captivity	3.5%
Repeated exposure to human suffering	2.4%
Combat or exposure to a war zone	1.2%
Severe human suffering	1.2%
Sudden violent death	1.2%
Other stressful event	1.2%

Note. $N = 85$.

Table 2
Scale-Level Descriptive Statistics

Variable	<i>M</i>	<i>SD</i>	Possible Range	Observed Range	α	ω
DAPS-2						
PTS-T	123.73	40.08	2–210	46–210	.97	.97
RE	29.83	11.10	10–50	10–50	.94	.94
AV	12.13	4.87	4–20	4–20	.79	.81
NACM	41.31	15.57	14–70	16–70	.93	.93
AR	40.13	13.75	14–70	15–70	.91	.90
IMP	15.41	6.12	5–25	5–25	.87	.86
PDST	32.08	6.52	8–40	13–40	.76	.76
PDIS	22.27	6.57	6–30	6–30	.87	.86
TDIS	10.01	5.42	4–20	4–20	.94	.94
SUB	12.52	3.81	10–50	10–26	.68	.59
SUI	14.29	7.03	10–50	10–45	.93	.95
PB	21.91	6.98	8–40	9–38	.83	.83
NB	10.38	2.66	8–40	8–20	.41	-- ^b
PCL-5	38.19	18.26	0–80	6–72	.94	.94
ITQ	13.24	5.52	0–24	2–24	.92	.91
MDI	31.88	22.70	0–130	1–93	.96	.96
PAI^a						
SOM	67.55	15.34	39–110	43–107	.92	.92
ANX	69.86	13.96	34–103	43–103	.93	.93
ARD	69.43	14.87	26–109	37–106	.86	.85
ARD-T	74.19	14.09	41–99	43–99	.83	.83
DEP	71.11	16.67	35–111	40–107	.93	.93
MAN	53.25	10.65	25–103	33–78	.83	.81
PAR	63.93	13.78	29–112	38–99	.90	.90
SCHZ	62.40	13.42	32–124	38–106	.85	.84
BOR	64.87	11.79	32–104	43–96	.87	.87
ANT	52.88	10.26	36–115	37–78	.81	.79
ALC	49.62	9.61	41–105	41–89	.79	.79
DRU	57.71	13.46	42–110	42–100	.80	.80
AGG	52.20	13.18	32–97	34–87	.91	.91
SI	61.81	16.74	43–109	43–109	.92	.93

Note. *N* = 85. DAPS-2 = Detailed Assessment of Posttraumatic Stress Disorder – 2nd Edition; PTS-T = Posttraumatic Stress Total scale; RE = Reexperiencing subscale; AV = Avoidance subscale; NACM = Negative Alterations in Cognition and Mood subscale; AR = Arousal and Reactivity subscale; IMP = Posttraumatic Impairment scale; PDST = Peritraumatic Distress scale; PDIS = Peritraumatic Dissociation scale; TDIS = Posttraumatic Dissociation scale; SUB = Substance Use scale; SUI = Suicidality scale; PB = Positive Response Bias scale; NB = Negative Response Bias scale; PCL-5 = PTSD Checklist for *DSM-5*; ITQ = International Trauma Questionnaire; MDI = Multiscale Dissociation Inventory; PMBS = Posttraumatic Maladaptive Beliefs Scale; PAI = Personality Assessment Inventory; SOM = Somatic Complaints scale; ANX = Anxiety scale; ARD = Anxiety-related Disorders scale; ARD-T = Anxiety-related Disorders Traumatic Stress subscale; DEP = Depression scale; MAN = Mania scale; PAR = Paranoia scale; SCHZ = Schizophrenia scale; BOR = Borderline Features scale; ANT = Antisocial Features scale; ALC = Alcohol Problems scale; DRU = Drug Problems scale; AGG = Aggression Treatment Consideration scale; SI = Suicidal Ideation Treatment Consideration scale.

^a PAI scale scores reported in T scores, calculated from the standardization sample for PAI Clinical and Validity scales; all other scales reported in raw scores.

^b Omega could not be estimated due to 5 NB items (NB_{items 3, 4, 5, 6 and 8} “never” $\geq 80\%$) having low endorsement rates and limited variability, resulting in a high number of zero or negligible item covariances ($n = 50$ of 56 covariances, 89.3%)

Table 3***Construct Validity: Observed and Predicted Correlations Between DAPS-2 PTSD Total Scale Score and Measures of External Constructs***

	Observed Correlations			Predicted Correlations		
	DAPS-2 PTS-T	PCL-5	PAI ARD-T	Predicted <i>r</i>	Raw λ s	Raw λ s as integers
DAPS-2 PTS-T	--	--	--	.80	.37	4
PCL-5 total	.83**	--	--	.80	.37	4
PAI ARD-T	.77**	.80**	--	.80	.37	4
MDI DR	.51**	.56**	.59**	.60	.17	2
MDI DP	.56**	.63**	.62**	.60	.17	2
PAI DEP	.64**	.70**	.70**	.60	.17	2
PAI ANX	.59**	.68**	.69**	.50	.07	1
PAI BOR	.56**	.67**	.70**	.50	.07	1
PAI SCZ	.59**	.64**	.64**	.40	-.03	0
PAI PAR	.61**	.69**	.62**	.40	-.03	0
PAI SOM	.44**	.55**	.46**	.30	-.13	-1
PAI ALC	.21	.25*	.14	.20	-.23	-2
PAI DRU	.13	.19	.21	.10	-.33	-3
PAI ANT	.28**	.25*	.27*	.10	-.33	-3
PAI MAN	.33**	.35**	.29**	.10	-.33	-3

Note. DAPS-2 = Detailed Assessment of Posttraumatic Stress Disorder – 2nd Edition; PTS-T = Posttraumatic Stress Total scale; PCL-5 = PTSD Checklist for *DSM-5*; PAI = Personality Assessment Inventory; ARD-T = Anxiety-related Disorders Traumatic Stress subscale; MDI = Multiscale Dissociation Inventory; DR = MDI Derealization subscale; DP = MDI Depersonalization subscale; DEP = Depression scale; ANX = Anxiety scale; BOR = Borderline Features scale; SCHZ = Schizophrenia scale; PAR = Paranoia scale; SOM = Somatic Complaints scale; ALC = Alcohol Problems scale; DRU = Drug Problems scale; ANT = Antisocial Features scale; MAN = Mania scale.

** = significant at the $p < .001$ level

Table 4

Westen and Rosenthal (2003) Effect Size Statistics for DAPS-2 PTS-T Scale and Convergent Measures

Quantity	DAPS-2 PTS-T	PCL-5 total	PAI ARD-T
$r_{\text{alerting-CV}}$	.97	.98	.98
$r_{\text{contrast-CV}}$	.88	.90	.90
95% CI	[.82, .92]	[.84, .93]	[.85, .93]
Z_{contrast}	11.06	11.48	11.65
t_{contrast}	16.84	18.10	18.64
P_{contrast}	< .001	< .001	< .001

Note. DAPS-2 = Detailed Assessment of Posttraumatic Stress Disorder – 2nd Edition; PTS-T = Posttraumatic Stress Total scale; PCL-5 = PTSD Checklist for *DSM-5*; PAI = Personality Assessment Inventory; ARD-T = Anxiety-related Disorders Traumatic Stress subscale

Table 5

The Diagnostic Utility of Measures of PTSD and External Constructs Tested Against the Clinician-Administered PTSD Scale for DSM-5 – Revised^a

Scale	r_{pb}	Cutoff	Level of Test	Sensitivity	Specificity	PPV	NPV	Efficiency	$\kappa(0)$	$\kappa(.5)$	$\kappa(1)$
DAPS-2 PTS-T	.59**	128	.41	.76	.81	.71	.84	.79	.53	.56	.59
PCL-5	.58**	37	.49	.82	.71	.64	.86	.71	.42	.50	.64
PAI ARD-T	.58**	75	.48	.79	.71	.63	.84	.74	.40	.48	.59
PAI DEP	.58**	72	.47	.79	.73	.65	.84	.75	.43	.50	.60
PAI SOM	.39**	67	.47	.73	.69	.60	.80	.71	.35	.40	.49
PAI ANT	.16	49	.62	.76	.46	.47	.75	.58	.14	.20	.36

Note. DAPS-2 = Detailed Assessment of Posttraumatic Stress Disorder – 2nd Edition; PTS-T = Posttraumatic Stress Total scale; PCL-5 = PTSD Checklist for DSM-5 total scale score; PAI = Personality Assessment Inventory; ARD-T = Personality Assessment Inventory Anxiety-related disorders traumatic stress subscale; PAI DEP = Personality Assessment Inventory Depression subscale; PAI SOM = Personality Assessment Inventory Somatic complaints scale; PAI ANT = Personality Assessment Inventory Antisocial features scale; r_{pb} = Point-biserial correlation between test and diagnosis; Cutoff = Optimally efficient cutoff score; Level of test = proportion of positive tests; PPV = Positive predictive value; NPV = Negative predictive value; $\kappa(0)$ = kappa coefficient representing quality of specificity; $\kappa(.5)$ = kappa coefficient representing quality of efficiency index; $\kappa(1)$ = kappa coefficient representing quality of sensitivity

^a Diagnostic rule: All *DSM-5-R* criteria for PTSD met according to the CAPS-5/CAPS-5-R interview with a total severity score of greater than or equal to 26; Base rate = 38.8%.

** = p significant at the $p < .001$ level