


Validation and Construct Validity of the Posttraumatic Avoidance Behaviour Questionnaire in a Sample of Trauma-Exposed Black Women

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Engaging in posttraumatic avoidance behaviors after a traumatic incident is associated with posttraumatic stress disorder (PTSD) outcomes. Given the inherent limitations in the scope of the two-item assessment of posttraumatic avoidance used in commonly administered measures of PTSD symptoms, the 25-item Posttraumatic Avoidance Behaviour Questionnaire (PABQ) was developed to assess a range of avoidance behaviors, including avoidance of visual and sensory reminders, trauma-related thoughts, and agoraphobia, as well as avoidance related to the home, sleep, and social interaction. However, the PABQ's utility is limited by its lack of (a) construct validity and (b) validation in diverse samples. To address these limitations, we examined the psychometric properties of PABQ scores in a sample of trauma-exposed Black women ($N = 601$, M age = 41 years). Confirmatory factor analyses indicated that the original seven-factor model fit the data well when Item 8 was excluded, $\chi^2(231, N = 602) = 497.86$, RMSEA = .04, 90% CI [.04, .05], CFI = .99, TLI = .989, WRMR = .939, but reliability estimates were variable (i.e., Cronbach's α s = .70–.91). In addition, we found support for convergent validity, clinical validity, and incremental validity. These results provide evidence for the psychometric strengths of the PABQ in minority samples and suggest that it is a valid assessment of posttraumatic avoidance in Black women.

Classic and prominent theories of posttraumatic stress disorder (PTSD) implicate posttraumatic avoidance as a key etiological factor in the development and maintenance of PTSD symptoms (Brewin & Holmes, 2003). Cognitive and behavioral models of PTSD propose a multiphasic process in which trauma leads to dysregulated fear responses via fear learning processes (e.g., classical conditioning, development of fear network; Mowrer, 1960), which are then maintained by posttraumatic avoidance behaviors, such as avoiding thoughts, people, and sensations related to the traumatic event (Foa et al., 1989). Specifically, posttraumatic avoidance behaviors are thought to increase the persistence and severity of PTSD symptoms

through negative reinforcement, such as relief from intrusive and hyperarousal symptoms, as well as prevention of successful emotional processing (i.e., the inability to effectively learn fear inhibition; Foa et al., 1995). In line with theoretical work establishing its importance, empirical evidence shows that following a traumatic experience, avoidance is associated with a higher prospective risk of developing more severe symptoms of PTSD (Marx & Sloan, 2005), slower recovery from PTSD (Dunmore et al., 2001), and less improvement following PTSD treatment (Badour et al., 2012). Given the fundamental role posttraumatic avoidance plays in PTSD etiology, the comprehensive assessment of posttraumatic avoidance is crucial. However, there is a dearth of psychometrically supported measures of posttraumatic avoidance that have been validated in racially and ethnically diverse samples. This hampers the field's ability to understand the specific ways posttraumatic avoidance is linked to the risk for trauma-related psychopathology, particularly in populations that are more likely to be exposed to trauma and subsequently develop PTSD, including marginalized racial and ethnic populations (Alegría et al., 2013).

The only comprehensive measure of posttraumatic avoidance to date is the Posttraumatic Avoidance Behaviour Questionnaire (PABQ; van Minnen & Hagedaars, 2010). The PABQ was initially developed and validated using a Dutch sample of 75 patients seeking treatment for PTSD, 50 patients seeking treatment for panic disorder with agoraphobia, and 312 trauma-exposed community members without PTSD. The PABQ asks

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respondents to indicate the frequency with which they engage in various avoidance behaviors, such as avoiding trauma-related smells, shops, and people, since experiencing an index traumatic event. Items are scored on a scale of 1 (*almost never*) to 4 (*almost always*). Although the original exploratory factor analysis (EFA) resulted in 11 factors, three of the factors had items with relatively low factor loadings, and one factor demonstrated inconsistent reliability. This resulted in a 25-item, seven-factor scale composed of subscales that assess visual reminders, trauma-related thoughts, agoraphobia, feeling unsafe in the home, sleep, social interaction, and sensory issues. In the initial study, all seven subscales were shown to be associated with more severe self-reported depression and PTSD symptoms, six subscales were associated with anxiety, and only two subscales were associated with thought control strategies (van Minnen & Hagedaars, 2010). Although the PABQ has subsequently been used in Dutch samples to examine associations among implicit and explicit avoidance (Fleurkens et al., 2014) and dissociation (Huntjens et al., 2014), there have been no further psychometric validation papers published on the PABQ.

Although the development of the PABQ served as a crucial step in the assessment of posttraumatic avoidance, several limitations of the initial development and validation preclude its implementation and adoption across samples. First, the validity of the seven-factor structure is undermined by the lack of validation using confirmatory methods, such as confirmatory factor analysis (CFA; Worthington & Whittaker, 2006). Using CFA in an independent sample is necessary to determine whether the EFA-derived solution can be replicated and, therefore, more likely to be valid in an independent sample (Flora & Flake, 2017). Second, the initial evidence for construct validity is limited in scope. For example, although it is a strength that the PABQ subscales assess context-specific avoidance behaviors, it is unclear whether those subscales map on to trauma types in expected ways; for example, are interpersonal traumas more likely to be associated with social avoidance compared to noninterpersonal traumas? Examining such associations would provide support for the utility of assessing posttraumatic avoidance with this degree of specificity. Third, the use of self-reported mental health outcomes limits the ability to test whether the PABQ subscales successfully distinguish between diagnostic groups using structured, empirically validated diagnostic tools. Using diagnostic tools to examine whether the PABQ differentiates between disorders characterized in part by posttraumatic avoidance, such as PTSD, and those that are not characterized by posttraumatic avoidance, such as substance use disorders (SUD), would support the clinical validity and utility of the PABQ. Fourth, there is no evidence that utilization of the PABQ explains additional variance in key outcomes beyond the two general avoidance items typically included in PTSD assessments. Such evidence would provide incremental validity supporting the importance of comprehensively assessing context-specific posttraumatic avoidance.

Finally, the lack of validation in diverse populations prohibits the use of PABQ in populations where it may be particularly

important to comprehensively assess and treat PTSD symptoms. Among Black individuals living in urban communities characterized by low socioeconomic conditions and substantial violence, for example, the risk for the development of PTSD is particularly high (Gillespie et al., 2009). Black women in particular may be at the highest risk due to increased trauma exposure (Olf et al., 2007). Furthermore, there is evidence that avoidance in particular is more relevant to PTSD severity in Black compared to White individuals in the United States (Ruglass et al., 2020). Given these findings, examining the psychometric properties of PABQ scores in Black women may be of value when assessing its relevance as a research and clinical assessment tool in this population.

The objective of the current study was to examine the psychometric properties of PABQ scores in a community sample of trauma-exposed Black women. Specifically, we aimed to establish (a) factorial validity, by examining the factor structure of the PABQ using competing CFA models (Cohen & Swerdlik, 2002); (b) convergent validity, by examining whether the PABQ subscales are differentially associated with childhood and adulthood trauma; (c) clinical validity, by examining whether PABQ scores differ based on clinical diagnosis; and (d) incremental validity, by examining whether the PABQ predicts general psychological functioning above and beyond the traditional items used to assess avoidance. Establishing psychometric support for the PABQ in this sample has the potential to enhance the utility of the PABQ and provide empirical evidence for its use in highly trauma-exposed populations that have been understudied in psychiatric research and are at a disproportionately higher risk of developing trauma-related disorders.

Method

Participants and Procedure

As part of an ongoing publicly funded study as part of a larger study on risk factors for the development of PTSD, participants were recruited from waiting rooms in the gynecology and primary care medical (i.e., nonpsychiatric) clinics at a publicly funded hospital as well as from the emergency department waiting room of a nonprofit pediatric hospital in Atlanta, Georgia. We did not narrow recruitment to specific criteria and approached any individual in the waiting room. To be eligible for participation, individuals had to be at least 18 years old and able to give informed consent. After signing the informed consent, trained research assistants administered an interview, which lasted approximately 45–75 min, for which participants were compensated with \$15 (USD). More comprehensive assessments of psychological functioning (i.e., clinical interviews) were conducted in a separate associated study drawn from the pool of participants who completed the initial assessment. These studies were focused on assessing the risk of PTSD development among women in particular; thus, only women were eligible to participate. For this portion, which averaged 2–3 hr to complete, participants were compensated \$60. The study

was approved by the Emory University Institutional Review Board and the Grady Health System ethical review boards.

The current sample included 602 Black women who ranged from 18 to 65 years old ($M = 41.25$ years, $SD = 11.94$). Regarding educational attainment, 21.1% reported receiving less than a high-school level of education, 33.3% reported completing high school or obtaining a GED (i.e., diploma equivalent), and 45.6% reported completing more than a high-school level education. With regard to treatment history, 35.5% of participants had been previously treated for depression, 10.8% reported being previously treated for PTSD, and 3.2% reported being previously treated for schizophrenia. For employment, 46.2% reported being unemployed, 20.0% reported receiving disability payments, and 33.7% were currently employed. In terms of household income, 21.5% of participants reported a household income of less than \$500 per month, 24.9% reported a household income of less than \$1,000 per month, and 53.6% reported a household income of more than \$1,000 per month.

Measures

Posttraumatic Avoidance Behaviors

The PABQ (Van Minnen & Hagedaars, 2010) is a 25-item questionnaire used to assess various posttraumatic avoidance behaviors. Items are rated on a Likert-type scale ranging from 1 (*almost never*) to 4 (*almost always*) and are summed to yield a total score and subscale scores, with higher scores suggesting more severe avoidant behaviors. In the current sample, Cronbach's alpha for the total PABQ was .94, and alpha values for the subscales ranged from .70 to .91; when the Trauma Thoughts subscale was excluded, Cronbach's alpha for the total PABQ was .93. Further details are provided in Table 1.

Lifetime Trauma Exposure

The Traumatic Events Inventory (TEI; Gillespie et al., 2009) is a screening measure used to assess lifetime trauma exposure. Several items evaluate different types of traumatic experiences, including physical assault by a romantic partner and/or nonromantic partner, sexual violence, witnessing violence, and life-threatening accidents or injury. For each traumatic event, participants are asked to indicate their frequency of exposure on a scale of 0 (*1 time*) to 8 (*more than 20 times*). Scores were averaged to assess the frequency of exposure to different trauma types.

Childhood Trauma Exposure

The Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998) is a 28-item, validated measure used to assess five domains of childhood abuse, including physical abuse, sexual abuse, emotional abuse, physical neglect, and emotional neglect. Items are rated on a Likert-type scale of 1 (*never true*) to 5 (*always true*) and summed to yield a total score and subscale scores, with higher scores suggesting higher levels of childhood trauma exposure. Cronbach's alpha values for the CTQ subscales ranged from .71 to .95 (see Table 1).

PTSD Symptoms and Diagnosis

The Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995; Weathers et al., 2001, 2018), is a standardized, structured diagnostic assessment for current PTSD based on the criteria in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*. In the current sample, the CAPS has demonstrated good interrater reliability for a current PTSD diagnosis, $k = 0.83$ (Powers et al., 2017). In the present study, the CAPS for both the fourth and fifth editions of the *DSM* (i.e., *DSM-IV* and *DSM-5*) were used, with the CAPS-5 being adopted upon its release.

Psychiatric Disorders

The Mini International Neuropsychiatric Interview (M.I.N.I.; Sheehan et al., 1998) is a validated, structured clinical interview used to assess various psychological disorders (Sheehan et al., 1998). In the present study, we included the modules on alcohol and illicit substance use disorders, which assess current and lifetime dependence on alcohol or substances based on the criteria in the *DSM-IV*. Participants were designated as having an SUD if they met the criteria for either alcohol or illicit substances (e.g., stimulants, cocaine, narcotics, hallucinogens, inhalants marijuana, and tranquilizers) either currently or during their lifetime.

Functioning

The Longitudinal Interval Follow-up Evaluation–Baseline Interview (LIFE-Base; Keller et al., 1987) is a semistructured, interviewer-administered diagnostic assessment of overall daily functioning. Participants were asked about their social relationships (e.g., how well they get along with family and friends), and their responses were then scored by the clinician on a scale of 1 (*very good*; e.g., had several special friends/family that he/she saw regularly), 2 (*good*; e.g., had at least two special friends or family that they saw from time to time), 3 (*fair*; e.g., had only one special friend or family member), 4 (*poor*; e.g., had no special friends), or 5 (*very poor*; e.g., had no special friends and practically no social contact). Participants were also asked about their subjective sense of global adaptive functioning during the past month, and their response was scored using a scale of 1 (*very good*) to 5 (*very poor*).

Data Analysis

To examine basic descriptive statistics, we used SPSS (Version 26). To establish the factor structure of the PABQ, we used CFA to test the originally identified seven-factor model in Mplus (Muthén & Muthén, 1998–2018). In addition to this model, we also ran a unidimensional model to ensure that the multidimensionality was justified and a higher-order model to test whether the lower-order dimensions could be accounted for by a higher-order Avoidance factor. Given the categorical response format of the PABQ, we used a robust weighted

Table 1
Descriptive Statistics

Measure	<i>M</i>	<i>SD</i>	Number of items	Range	Cronbach's α
PABQ Agoraphobia	6.05	2.65	4	4–16	.76
PABQ Sensory Reminders	4.97	2.37	3	3–12	.70
PABQ Sleep	2.71	1.26	2	2–8	.84
PABQ Social	8.48	3.75	5	5–20	.85
PABQ Trauma Thoughts	10.16	3.48	4	4–16	.76
PABQ Unsafe at Home	5.43	2.81	3	3–12	.70
PABQ Visual Reminders	7.56	3.97	4	4–16	.91
PABQ Total	45.37	15.68	25	25–92	.93
PABQ Trauma Thoughts ^a	7.47	2.93	3	3–12	.81
PABQ Total ^a	42.65	15.49	24	24–90	.94
CTQ Sexual Abuse	9.11	5.94	5	5–25	.95
CTQ Physical Abuse	8.24	4.15	5	5–25	.82
CTQ Emotional Abuse	9.65	5.26	5	5–25	.87
CTQ Emotional Neglect	9.96	5.27	6	5–25	.88
CTQ Physical Neglect	6.72	2.95	4	5–21	.71
TEI Sexual Violence	0.74	1.23	3	0–8	
TEI Assault (Partner)	1.17	1.58	2	0–8	
TEI Assault (Nonpartner)	0.52	1.01	3	0–7	
TEI Witness Violence	0.93	1.13	7	0–7	
TEI Illness or Accident	0.72	0.73	4	0–6	
LIFE-Base Interpersonal Functioning	2.67	1.22	1	1–6	
LIFE-Base Overall Functioning	3.38	0.92	1	1–5	
CAPS-5 Avoidance Symptoms Severity	2.28	2.04	2	0–8	

Note. PABQ = Posttraumatic Avoidance Behaviour Questionnaire; CTQ = Childhood Trauma Questionnaire; TEI = Traumatic Events Inventory (Frequency); LIFE-Base = Longitudinal Interval Follow-up Evaluation baseline interview; CAPS-5 = Clinician-Administered PTSD Scale for *DSM-5*.

^aExcluding Item 8.

least squares estimation procedure (WLSMV) in Mplus, which evidences superior performance for ordinal items (Beauducel & Herzberg, 2006; Li, 2016).

We used several indices to assess model fit according to conventional standards, including a nonsignificant chi-square value, which would indicate that the model reproduces the observed covariance matrix adequately (Satorra & Bentler, 1994); comparative fit index (CFI) and Tucker–Lewis index (TLI), with values of .95 or higher indicating a good model fit (Hu &

Bentler, 1999); root mean square error of approximation (RMSEA), which indexes the differences between the observed and hypothesized covariance matrices and indicates greater absolute fit (Brown, 2006), with a value less than .06 indicating a good fit and values between .06 and .08 indicating an adequate fit; and a weighted root mean square residual (WRMR), with a value less than 1.0 indicating an adequate model fit specifically for this type of data (DiStefano et al., 2018). To statistically compare model fit as determined by the chi-square

Table 2
Model Fit Indices for Confirmatory Factor Analyses

Model	Parameters	χ^2	df	RMSEA	95% CI	CFI	TLI	WRMR	$\Delta\chi^2$ (vs. Correlated Traits model)
All items									
Unidimensional	100	2246.87	275	.11	[.11, .11]	.903	.894	2.431	$\Delta\chi^2(21 N = 602) = 741.60^{***}$
Higher-order	107	940.28	268	.07	[.06, .07]	.967	.963	1.421	$\Delta\chi^2(14 N = 602) = 161.53^{***}$
Correlated traits	121	671.92	254	.05	[.05, .06]	.979	.976	1.082	
Without Item 8									
Unidimensional	96	2053.26	252	.10	[.10, .11]	.910	.901	2.401	$\Delta\chi^2(21 N = 602) = 721.83^{***}$
Higher-order	103	785.63	245	.06	[.06, .07]	.973	.970	1.323	$\Delta\chi^2(14, N = 602) = 159.52^{***}$
Correlated traits	117	497.86	231	.04	[.04, .05]	.987	.984	0.930	

Note. CFI = comparative fit index; TLI = Tucker–Lewis index; RMSEA = root mean square error of approximation; WRMR = weighted root mean square residual. *** $p < .001$.

value, we used the DIFFTEST procedure proposed by Asparouhov and Muthén (2014). In this procedure, the most restrictive model (i.e., fewer parameters) is compared to the least restrictive model (i.e., more parameters), with a significant result indicating that the restriction worsens the model fit. For nonnested models, for which this procedure cannot be used, a CFI change of .01 or higher (Cheung & Rensvold, 2002) and nonoverlapping RMSEA confidence intervals (Curran et al., 2003) are evidence of comparative model fit. We also examined the standardized item loadings on each factor, with a value greater than .40 evidence of an acceptable loading (Flora & Flake, 2017).

The remainder of the analyses were tested in SPSS. To test our hypotheses regarding trauma type, we examined the associations between each PABQ subscale and trauma type, including childhood trauma (sexual abuse, physical abuse, emotional abuse, emotional neglect, physical neglect), adult interpersonal trauma (sexual violence, physical assault by a partner, physical assault by someone who was not a partner), and lifetime other traumatic experiences (witnessing violence, illness or accident).

To test our hypothesis regarding clinical validity, we examined PABQ scores by diagnosis. We first classified participants based on diagnosis in one of four categories: no PTSD or SUD, only SUD, only PTSD, and PTSD + SUD. Second, a series of analysis of variance (ANOVA) tests were conducted to examine whether PABQ scores differed by diagnostic category. Follow-up comparisons were conducted using Tukey's honestly significant difference (HSD) tests to determine significant differences between specific groups.

We used hierarchical regression modeling to test our hypothesis that PABQ subscales would account for additional variance in interpersonal and overall functioning above and beyond the Criterion C (i.e., avoidance) severity items on the CAPS-5. For each model, Criterion C severity was entered in the first block, and the PABQ subscales were entered in the second block. We examined the statistical significance of each block as well as the specific effects for each subscale.

Results

Preliminary Results

Regarding endorsement of traumatic experiences on the TEI, we found that approximately 81.4% of participants in the sample reported having experienced or witnessed at least one life-threatening illness or serious accident or injury, with 29.2% reporting a sudden life-threatening illness, 26.5% reporting exposure to a natural disaster, 56.2% reporting experiencing a serious accident or injury, and 43.9% reporting witnessing a serious accident or injury. Approximately 52.8% of the sample reported having experienced at least one instance of sexual violence at different ages (35.4% between the ages of 0–13 years, 22.7% between the ages 14–17 years, and 19% after the age of 17 years). Approximately 80.9% of the sample reported having witnessed violence at least once during their lifetime (12.2% murder of a close friend or family member, 30.2% a family member or friend being attacked with a weapon, 25.0% non-family member attacked with a weapon, 36.3% family member or friend being attacked without a weapon, 32.3% non-family member being attacked without a weapon, and 40.5% between caregivers). In addition, 48.7% of the sample reported having experienced an assault from a nonromantic partner at least once, 25.8% reporting assault with a weapon with and 21.7% reporting assault without a weapon. A total of 51.2% of participants reported at least one experience of assault from a romantic partner, with 24.3% reporting assault with and 46.1% reporting assault without a weapon. The most frequent trauma type endorsed was physical assault by a known perpetrator ($M = 1.17$, $SD = 1.58$), and the least frequently endorsed trauma type was physical assault by a stranger ($M = .52$, $SD = 1.01$).

Regarding the CAPS, the CAPS-IV was used for 31.7% of participants, and the CAPS-5 was used for 68.3% of participants. The severity of PTSD symptoms did not differ for the CAPS-IV ($M = 17.13$, $SD = 14.20$) compared to the CAPS-5 ($M = 18.06$, $SD = 13.25$), $t(573) = -0.77$, $p = .444$. A total of 58.9% of participants met the criteria for lifetime PTSD, and 51.0% of these participants had a co-occurring SUD

Table 3
Standardized Loadings for Seven-Factor Correlated Traits Model, by Subscale^a

Subscale and item	Item content	Loading
Agoraphobia		
9	I avoid crowded public places	.85
10	I avoid shops	.86
19	I avoid restaurants	.86
25	I avoid public transportation	.73
Sensory Reminders		
4	I avoid trauma-related tastes	.76
21	I avoid trauma-related sensations or feelings	.83
23	I avoid trauma-related smells	.86
Sleep		
2	I avoid going to bed	.91
13	I avoid going to sleep	.95
Social Avoidance		
5	I avoid smiling at a (relative) stranger	.79
14	I avoid making (eye) contact with a (relative) stranger	.85
17	I avoid interacting with others	.84
20	I avoid making new friends	.86
22	I avoid intimate relationships	.78
Trauma Thoughts		
6	I try to think about other things than the trauma	.79
16	I avoid thinking about the most upsetting aspects of the trauma	.89
24	When thoughts about the trauma come to mind, I distract myself	.81
Unsafe at Home		
1	I avoid being in the dark at home	.72
7	I avoid being home with windows not closed	.84
12	I avoid being home with doors not closed	.86
Visual Reminders		
3	I avoid reading trauma-related books/magazines/newspapers	.88
11	I avoid looking at trauma-related pictures	.92
15	I avoid trauma-related images	.95
18	I avoid watching trauma-related television shows/movies	.90

Note. In the model that included Item 8, the item loadings were as follows: Item 6 = .80, Item 8 = .23, Item 16 = .90, and Item 24 = .83. Items 6 and 24 started with, "When thoughts about the trauma come to mind," and the remainder of the items started with, "Since the trauma..."

^aExcluding Item 8.

diagnosis during their lifetime. Moreover, 39.4% of participants met the criteria for an SUD, and 76.3% of these participants had a co-occurring PTSD diagnosis. Taken together, 31.7% of participants did not have either PTSD or an SUD, 9.3% had an SUD but not PTSD, 28.9% had PTSD but not an SUD, and 30.1% had both PTSD and an SUD.

Factorial Validity

A summary of the fit indices can be found in Table 2. The first CFA model testing a unidimensional factor structure indicated a subpar model fit. For most items, the standardized factor loadings were acceptable, ranging from .60 to .89 (see Table 3). The exception, however, was the eighth item, "When thoughts about trauma come to mind, I think about pleasant

things," which had a factor loading of .16. To test whether this item performed differently in a multidimensional context, we completed the next two analyses as planned with all items in the model. The fit indices of the higher-order model indicated an acceptable fit with regard to CFI and TLI values only. The correlated traits model, however, demonstrated an adequate fit by nearly all objective measures, failing slightly only with regard to the WRMR. This model also demonstrated a better relative fit compared to the unidimensional and higher-order models. The Item 8 factor loading on the Thoughts factor continued to be unacceptable in both the higher-order (.23) and correlated traits (.23) models. As depicted in Table 1, although the inclusion of Item 8 did not have a negative impact on the internal consistency of the total scale (i.e., with Item 8: Cronbach's $\alpha = .93$; without Item 8, Cronbach's $\alpha = .94$), it appeared to have a

Table 4
Estimated Correlation Matrix for Latent Posttraumatic Avoidance Behaviour Questionnaire Subscale Scores

	1.	2.	3.	4.	5.	6.	7.
1. Agoraphobia		.79*	.70*	.89*	.54*	.73*	.64*
2. Sensory Reminders		-	.70*	.84*	.82*	.75*	.88*
3. Sleep			-	.76*	.55*	.71*	.65*
4. Social Avoidance				-	.68*	.76*	.70*
5. Trauma Thoughts					-	.65*	.74*
6. Unsafe at Home						-	.69*
7. Visual Reminders							-

Note. **p* < .05.

more notable impact on the internal consistency of the Thoughts subscale in particular (i.e., with Item 8: Cronbach’s $\alpha = .76$; without Item 8: Cronbach’s $\alpha = .81$). Thus, the models were replicated without Item 8.

The second set of CFAs (i.e., without Item 8) replicated a similar pattern as the first set. The unidimensional model was relatively better in the second set but was still nonetheless subpar. The fit indices of the higher-order model indicated an acceptable with regard to CFI and TLI values and an adequate fit in terms of the RMSEA. The correlated traits model demonstrated an adequate fit for all objective measures as well as relative for the unidimensional and higher-order models. The item loadings ranged from .72 to .95 (see Table 3). Given that the best-fitting models (i.e., the correlated traits models with/without Item 8) were not nested, we could not use the DIFFTEST procedure to compare them. Although there was a small overlap in the RMSEA confidence intervals (.002), the CFI difference (.008) reached the threshold of .01 and, thus, the

correlated traits model without Item 8 appeared to be a better fit. We, therefore, conducted subsequent analyses using this model. The latent variable correlations associated with this model are depicted in Table 4.

Convergent Validity

Correlations between the PABQ subscales and trauma variables can be found in Table 5. We used Funder and Ozer’s (2019) criteria for interpreting effect sizes, with *r* values of .10, .20, and .30 signifying small, medium, and large effects, respectively. We found large associations between the Sensory Reminders subscale and childhood sexual and emotional abuse; the Social Avoidance subscale and childhood sexual abuse, emotional abuse and neglect, and physical assault by a romantic partner; and the Trauma Thoughts, Unsafe at Home, and Visual Reminders subscales and emotional abuse. Of note, the highest

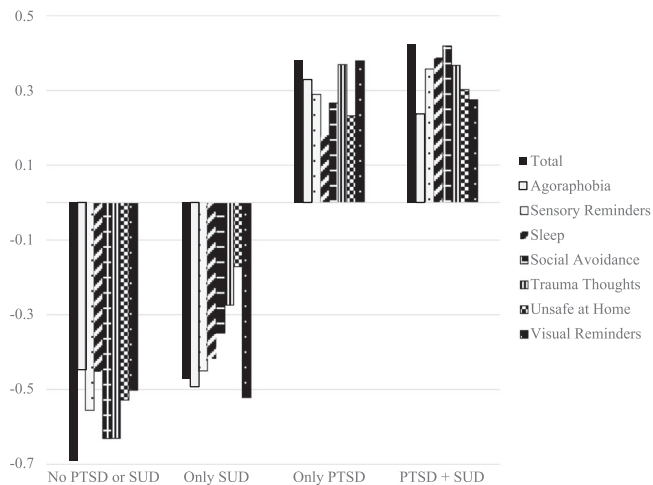
Table 5
Correlations Between Posttraumatic Avoidance Behaviours Questionnaire (PABQ) Subscales and Trauma-Related Variables

PABQ subscale	Childhood abuse			Adult trauma exposure			Lifetime trauma exposure			
	Sexual abuse	Physical abuse	Emotional abuse	Emotional neglect	Physical neglect	Sexual violence	Assault (partner)	Assault (Nonpartner)	Witness violence	Illness/ Accident
Agoraphobia	.25*	.18*	.29*	.23*	.17*	.19*	.20*	.13*	.21*	.10*
Sensory Reminders	.31*	.24*	.34*	.26*	.21*	.18*	.23*	.14*	.21*	.12*
Sleep	.23*	.19*	.29*	.22*	.19*	.14*	.19*	.08*	.18*	.14*
Social Avoidance	.33*	.22*	.37*	.33*	.25*	.25*	.30*	.19*	.29*	.11*
Trauma Thoughts	.29*	.24*	.30*	.27*	.20*	.19*	.26*	.19*	.25*	.15*
Unsafe at Home	.27*	.16*	.31*	.25*	.19*	.15*	.20*	.17*	.18*	.14*
Visual Reminders	.28*	.21*	.32*	.25*	.20*	.13*	.24*	.18*	.24*	.14*

Note. Correlations in italics are considered medium; correlations in bold are considered large.

**p* < .05.

Figure 1
Posttraumatic Avoidance Behaviours Questionnaire (PABQ) Scores, by Diagnosis, Using Standardized Scores



Note. $N_s = 668\text{--}578$. PTSD = posttraumatic stress disorder; SUD = substance use disorder.

effect size was observed between the Social Avoidance subscale and emotional abuse.

Clinical Validity

A series of ANOVA tests indicated statistically significant effects for all PABQ subscales: Agoraphobia, $F(3, 568) = 30.20$, $p < .001$; Sensory Reminders, $F(3, 564) = 44.17$, $p < .001$; Sleep, $F(3, 573) = 31.38$, $p < .001$; Social Avoidance, $F(3, 574) = 54.16$, $p < .001$; Trauma Thoughts, $F(3, 574) = 52.13$, $p < .001$; Unsafe at Home, $F(3, 572) = 30.71$, $p < .001$; Visual Reminders, $F(3, 572) = 39.85$, $p < .001$. As depicted in Figure 1, follow-up tests indicated the following pattern for Agoraphobia, Sensory Reminders, Sleep, Social Avoidance, Unsafe at Home, and Visual Reminders: The PTSD only and PTSD + SUD groups did not differ from each other, but participants in these groups had higher posttraumatic avoidance scores compared to those in the SUD only and no PTSD or SUD groups. The SUD only and no PTSD or SUD groups did not differ from one another. The only deviation from this pattern was for the Trauma Thoughts subscale, for which participants in the SUD only group had higher scores compared to those in the no PTSD or SUD group; participants in the PTSD groups (i.e., PTSD only and PTSD + SUD) still had higher scores compared to those in the SUD only and no PTSD or SUD groups.

Incremental Validity

As summarized in Table 6, the hierarchical regression models indicated that the PABQ subscales accounted for a significant amount of variance in both interpersonal and overall functioning over and above the effect of CAPS Criterion C severity. For interpersonal functioning, CAPS Criterion C no longer accounted for significant variance in the second block with the

PABQ subscale scores entered, and the only remaining significant effects were for the Social Avoidance, $\beta = .20$, and Unsafe at Home subscales, $\beta = .18$. For overall functioning, however, CAPS Criterion C, $\beta = .17$, remained significant in the second block, and the Sleep, $\beta = .14$; Social Avoidance, $\beta = .16$; and Trauma Thoughts, $\beta = .13$, subscales were also statistically significant.

Discussion

Given that posttraumatic avoidance plays a fundamental role in the development and maintenance of and recovery from PTSD, the comprehensive and valid assessment of the range of avoidance behaviors that may emerge after trauma exposure is crucial. Validation of posttraumatic avoidance assessments in marginalized populations who experience disproportionately high rates of exposure to diverse trauma types is needed to competently assess posttraumatic avoidance behaviors across different trauma populations. Building on the initial validation of one such measure of posttraumatic avoidance—the PABQ—the current study was conducted to examine the psychometric properties (e.g., factorial, convergent, clinical, and incremental validity) of the scale scores in a community sample of trauma-exposed Black women.

Mostly in line with the original establishment of the PABQ factor structure (van Minnen & Hageaars, 2010), the results of the confirmatory models supported the use of a seven-factor correlated traits model, excluding Item 8. This item, which was a part of the Trauma Thoughts subscale, deviates from the other subscale items in that it focuses on avoiding trauma thoughts via pleasant activities. It is possible that the content of this positively oriented strategy deviated from the other strategies and subsequently reduced its factor loading on the Trauma Thoughts factor. Rather than reflecting avoidance, this item may represent an adaptive, positivity-focused coping style, making it a somewhat poorer fit for this measure. Furthermore, although the fit indices indicated the best fitting model was the seven-factor model excluding Item 8, the correlated traits model with Item 8 nevertheless indicated an adequate fit with regard to most fit indices. Taken together, these results suggest that although the PABQ without Item 8 is a better fit, using the full scale as validated is also justified. It may be helpful for researchers to carefully examine the reliability coefficients and the impact of including and excluding this item.

Regarding differential associations between the PABQ and different trauma types, we found that, in general, most PABQ subscales were strongly associated with emotional and sexual abuse in childhood and weakly associated with life-threatening illnesses or accidents. Consistent with previous literature (Bell & Higgins, 2015; Gratz et al., 2007; Shenk et al., 2012), it is possible that childhood emotional and sexual abuse may be particularly associated with the general experiential avoidance (i.e., unwillingness to experience and avoidance of unwanted private experiences) that often precedes posttraumatic avoidance behavior. The fact that emotional abuse does not

Table 6
Hierarchical Regression Models Predicting Functional Impairment

Predictor	R^2	ΔR^2	ΔF	B	SE	95% CI	β
<i>Interpersonal functioning</i>							
Step 1	.03	.03	10.79**				
CAPS Criterion C				0.10	.03	[.04, .16]	.17***
Step 2	.09	.06	3.55**				
CAPS Criterion C				0.00	.04	[-.08, .08]	.01
Agoraphobia				-0.04	.03	[-.10, .03]	-.08
Sensory Reminders				0.03	.04	[-.05, .10]	.05
Sleep				0.05	.06	[-.07, .17]	.05
Social Avoidance				0.06	.03	[.01, .12]	.20*
Trauma Thoughts				-0.01	.03	[-.07, .04]	-.03
Unsafe at Home				0.08	.03	[.02, .13]	.18**
Visual Reminders				-0.02	.02	[-.06, .03]	-.06
Step 1	.14	.14	59.52**				
CAPS Criterion C				0.17	.07	[.13, .21]	.37***
Step 2	.20	.06	4.21**				
CAPS Criterion C				0.08	.03	[.02, .14]	.17**
Agoraphobia				-0.01	.02	[-.05, .04]	-.02
Sensory Reminders				0.00	.03	[-.06, .06]	.00
Sleep				0.10	.04	[.02, .18]	.14*
Social Avoidance				0.04	.02	[.00, .08]	.16*
Trauma Thoughts				0.04	.02	[.00, .08]	.13*
Unsafe at Home				0.02	.02	[-.02, .06]	.06
Visual Reminders				-0.02	.02	[-.06, .01]	-.09

Note. CAPS = Clinician-Administered Posttraumatic Stress Disorder Scale.

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

qualify as a Criterion A traumatic event yet appears to be consistently associated with the most diverse array of posttraumatic avoidance behaviors also suggests that more research is needed to determine the psychological sequelae of emotional abuse.

As we expected, posttraumatic avoidance of social interactions was more strongly associated with interpersonal traumas (e.g., physical assault) compared to noninterpersonal traumas (e.g., illness or accident). Of note, social avoidance was most strongly associated with emotional abuse, which is consistent with previous studies that have reported avoidant attentional biases to emotional cues in emotionally abused individuals (e.g., Davis et al., 2014; Günther et al., 2015) and suggests that emotional abuse is a particularly potent predictor of social avoidance. Having the opportunity to experience positive social interactions (i.e., social reward) is critical to trauma recovery; social avoidance, which prevents exposure to potentially rewarding interactions, is thus a major hindrance to recovery (Monson et al., 2012). Overall, our findings may implicate the specific salience of emotional abuse in the development of trauma-related disorders by increasing the risk of social avoidance behaviors.

Somewhat intuitive results also emerged with regard to avoidance of sleep, with a similar magnitude of association for all trauma types except emotional abuse. These results suggest that although there may be some differentiation based on trauma type, certain types of traumatic experiences, particularly childhood maltreatment, may be more likely to be associated with avoidance behaviors overall across contexts. It is important to note that these results also highlight the importance of considering traumatic events that are ineligible for a PTSD diagnosis (i.e., non-Criterion A traumas), including experiences of emotional abuse, when considering the development of posttraumatic avoidance.

In support of the clinical validity of the PABQ, we found that the individuals who met the diagnostic criteria for PTSD, regardless of SUD comorbidity, had higher PABQ scores than those who did not meet the criteria for PTSD. Further, the lack of overall differentiation between individuals with an SUD only and neither PTSD nor an SUD suggests that in contrast to other transdiagnostic constructs (e.g., emotion regulation), avoidance may be uniquely associated with the diagnosis of PTSD. This etiological specificity supports the use of the PABQ in differentiating between PTSD and other disorders that are likely to

develop after trauma exposure (i.e., SUDs). This provides initial support for the utility of using the PABQ for specific clinical purposes, such as arriving at a differential diagnosis related to PTSD or an SUD. This is particularly important for Black individuals, who are more likely to be misdiagnosed in a psychological assessment context (Butts, 2002; Graves et al., 2011; Seng et al., 2011).

In support of the incremental validity of the PABQ, we found that two PABQ subscales—Social Avoidance and Feeling Unsafe at Home—were stronger predictors of interpersonal functioning than avoidance items on the CAPS-5. We also found that two PABQ subscales (i.e., Social Avoidance and Avoidance of Trauma Thoughts) predicted additional variance in overall functioning beyond the role of CAPS-5 avoidance. These results suggest that when considering overall functioning in the context of psychopathology, it may be most useful to assess specific domains of posttraumatic avoidance (i.e., using the PABQ) rather than only using general avoidance of thoughts and places (i.e., using the CAPS-5 items). Our findings suggest that it may be particularly important to more comprehensively assess posttraumatic avoidance related to social behaviors given that they appear to be especially related to impairments in functioning.

The consequences of social avoidance may be related to the unique cultural and societal context in which Black women experience trauma and, in particular, interpersonal trauma (Gómez & Gobin, 2020). According to cultural betrayal trauma theory (Gómez, 2018), individuals from racially marginalized groups develop trust with racial in-group members to cope with shared marginalization and foster a sense of solidarity. Incurring a traumatic experience perpetrated by an in-group member is then conceptualized as a cultural betrayal because of the violation of this trust (Gómez & Freyd, 2018). In support of this theory, Gómez (2018) found that intracultural pressure, including the degree to which within-group assault perpetration made it difficult to disclose trauma exposure, was associated with more severe PTSD symptoms. Although we did not collect detailed information about the race of individuals involved in the perpetration of participants' traumatic experiences, this theory may help contextualize our findings. More specifically, posttraumatic social avoidance may be particularly salient in this population because it could represent the loss of a shared social bond that formerly fostered resilience and strength.

It is also possible that posttraumatic social avoidance is particularly disruptive for Black women because it reduces the opportunity for social connection, which has been found to buffer the severity of PTSD symptoms (Bryant-Davis et al., 2011). Indeed, culturally informed models of PTSD intervention for Black and other people of color often highlight the importance of community and sharing as part of the healing process (Bryant-Davis, 2019; Bryant-Davis & Ocampo, 2006; Marsella, 2010). Thus, relative to the other components of posttraumatic avoidance, social avoidance, in particular, may disturb posttraumatic recovery more profoundly and appears to be a potent barrier to psychological healing in Black women.

There are several implications of these findings. First, these results reify the importance of assessing context-specific posttraumatic avoidance behaviors. In a clinical setting, this highlights the potential utility of administering the PABQ and integrating posttraumatic avoidance into case conceptualizations. This can allow for the development of comprehensive functional models to identify the antecedents and consequences of avoidance behaviors. For Black women in particular, who, in addition to coping with trauma exposure must also contend with specific social expectations, including a lack of social tolerance for expressed negative emotion and persistence in the face of adversity (e.g., the Strong Black Woman schema; Watson-Singleton, 2017; Woods-Giscombé, 2010), addressing these antecedents and consequences is particularly important in clinical and research contexts. For example, it may be important to identify whether the avoidance of trauma-related thoughts or people is related to a fear of experiencing or expressing emotions and, if so, how this fear may have developed as a consequence of experiencing trauma at both interpersonal and systemic levels. To provide a space in which Black women may safely explore these emotions and heal from these experiences, it is particularly important for clinicians to embody an antiracist approach (Bryant-Davis, 2019). Second, support for the role posttraumatic avoidance plays in PTSD highlights the utility of integrating the PABQ into interventions for treating PTSD symptoms. For example, the measure may be used in the development of fear hierarchies or as an intervention target in exposure-based techniques (McLean & Foa, 2011). In particular, in the context of chronic interpersonal trauma, it may be helpful to focus on broader domains (i.e., PABQ subscales) rather than focusing on avoidance related to one particular traumatic event. Doing so may allow for the development of treatment plans that target the avoidance behaviors that result in the most severe consequences for clients. It may be particularly helpful to contextualize these avoidance behaviors within the broader social context in which Black women experience trauma (Bryant-Davis, 2019). Furthermore, repeated assessments of posttraumatic avoidance using the PABQ across treatment sessions would allow for a standardized method with which to track treatment progress. In addition, based on culturally informed conceptualizations, it may be helpful to also collect data about how a reduction in social avoidance may lead to behaviors that are conducive to unique healing processes for Black women. This includes increased social engagement, which is likely to lead to higher perceptions of social support and solidarity. Thus, in line with theories of PTSD (Brewin & Holmes, 2003), the PABQ may be used to more effectively target one of the most insidious factors that can exacerbate and maintain symptoms.

These results must be considered in the context of several limitations. First, the cross-sectional design precluded the examination of test–retest reliability and change over time. Determining the test–retest reliability could provide useful information about the stability of the PABQ, and identifying trajectories of posttraumatic avoidance could inform the field's understanding of the dynamic role it plays in the development of PTSD

symptoms. Second, although the inclusion of a relatively understudied population disproportionately impacted by trauma is a strength, it is unclear whether our results would generalize to Black men or other racial/ethnic minority groups in the United States. In addition, our use of based on both the *DSM-IV* and *DSM-5* obfuscates the specificity of the results for *DSM-5* diagnoses. Further psychometric validation of the PABQ is needed.

The present study contributes to the literature on posttraumatic avoidance by providing evidence supporting the use of the PABQ in a trauma-exposed sample of Black individuals. By providing clarity about the factorial, convergent, clinical, and incremental validity of the PABQ, these study findings increase researchers' and clinicians' ability to reliably and validly assess posttraumatic avoidance in diverse and typically understudied populations.

Open Practices Statement

Neither of the studies reported in this article was formally preregistered. Neither the data nor the materials have been made available on a permanent third-party archive; requests for the data or materials should be sent via email to the lead author at yara.mekawi@emory.edu.

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