



The Peritraumatic Behavior Questionnaire (PBOQ): A Proposed Observer-Rated Measure of Traumatic Stress in Combat

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Background

- Combat/operational stress injuries (COSIs) that reach medical attention are at high risk for subsequent PTSD¹
- The majority of COSIs never reach medical attention in theater, though some are treated later, after deployment²
- No research yet on prevalence and outcomes of the entire spectrum of COSIs in theater — diagnosed & undiagnosed
- Valid tools exist for identifying PTSD post-deployment
- Increasing research on precursors to PTSD (e.g., peritraumatic distress, hyperarousal, Acute Stress Disorder) in civilians
- So far, no tools have yet been developed for identifying precursors to PTSD in combat environments



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Why No Research on Early Recognition in Combat Zones?

- “Normalization” doctrine since WWI
 - PIES (Proximity, Immediacy, Expectancy, Simplicity)
 - Battlefield stress problems have not been seen as medical conditions worthy of scientific study
 - Defined solely as failures to perform duties
 - Concern that drawing attention to stress symptoms or medicalizing them will create epidemics
- Normal coping in a war zone depends on external focus of attention²
 - Warfighters are discouraged from focusing on negative internal states during deployment



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Objectives for This Project

- Develop and pilot an instrument for early identification of traumatic stress injuries
- Requirements for the instrument:
 - Usable in operational environments
 - Doesn't interfere with warfighters' adaptive coping
 - Covers many different domains of peritraumatic symptoms and behavior
- Future intended uses of the instrument:
 - An operationally useful screening tool
 - Predicting risk for PTSD and need for early intervention



Methodology For Development of Instrument

- **Modified existing questionnaires covering three domains of combat stress injury symptoms/behaviors:**
 - Peritraumatic Distress Inventory (PDI)³
 - Terror, horror, helplessness, or loss of control
 - A2 criterion for PTSD
 - Shortened to 10 items from 13 and modified language: **PDI-M**
 - Peritraumatic Dissociative Experiences Questionnaire (PDEQ)⁴
 - Cognitive dissociation
 - B criterion for Acute Stress Disorder (ASD)
 - Modified language on 10 items slightly: **PDEQ-M**
 - Somatoform Dissociation Questionnaire (SDQ-20)⁵
 - Psychosomatic symptoms similar to “shell shock”⁶
 - Shortened to 10 items and modified language: **SDQ-M**



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Methodology For Development of Instrument (Continued)

- **Developed a questionnaire covering a fourth domain**
 - Peritraumatic Emotional Dissociation Questionnaire: PEDQ
 - Inappropriate emotions or loss of control of emotions²
 - 10 items developed by research team
 - Likert scale responses (scored 0-4)
 - Sample questions
 - Not acting like oneself
 - Not caring about one's own or others' safety
 - Acting inappropriately giddy or silly
 - Uncontrollable laughing, crying, or screaming
 - Not feeling remorse in situations in which they would in the past



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Methodology For Development of Instrument (Continued)

- Focus group of Navy corpsmen and doctors with operational experience selected which items from all four questionnaires they could observe in Marines in the field
- Constructed Peritraumatic Behavior Questionnaire (PBQ), with **14** Likert scale items (scored 0-4)
 - 7 items regarding emotional dissociation (from PEDQ)
 - 2 items regarding cognitive dissociation (from PDEQ-M)
 - 2 items regarding somatoform dissociation (from SDQ-M)
 - 3 items regarding peritraumatic distress (from PDI-M)

SAMPLE

Peritraumatic Behavior Questionnaire (PBQ)

INSTRUCTIONS: Please complete the items below by filling in the circle under the answer that best describes the reactions you OBSERVED IN THE INDIVIDUAL BEING RATED DURING AND/OR IMMEDIATELY AFTER THEIR TRAUMATIC EVENT. To apply to the person being rated, these reactions must have been UNUSUAL FOR THEM, NOT THE WAY THEY NORMALLY BEHAVE. If an item does not describe an observed change in behavior for the rated individual during or after a traumatic event, please fill in the circle for "Not at all true."

	Not At All True	Slightly True	Somewhat True	Very True	Extremely True
1. For a period of time, the individual did not act like themselves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. For a period of time, the individual seemed to feel fearless and invulnerable, as if nothing could harm them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. For a period of time, the individual seemed not to care about their own or others' welfare or safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. For a period of time, the individual seemed to feel no remorse for doing things that would have bothered them in the past	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. For a period of time, the individual seemed to be determined to get revenge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. For a period of time, the individual seemed unable to stop themselves from laughing, crying, or screaming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. For a period of time, the individual seemed helpless and unable to take care of themselves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Initial Validating Study of PBOQ in Retrospective Self-Report

- **Subjects:**

- 106 Service members and veterans with recent OIF/OEF experience
- Recruited for genetics of PTSD study at San Diego VA and UCSD during 2006-2007
- Minimum Combat Exposure Scale (CES) score of 10 (mean 23.7)
- Ages ranged from 21 to 55 (70% in 21-29 age range)
- Clinician-Administered PTSD Scale (CAPS) scores:
 - o 69 had CAPS scores of 65 or greater (PTSD-positive)
 - o 37 had CAPS scores of 30 or less (PTSD-negative)



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Initial Validating Study of PBOQ in Retrospective Self-Report

- **Methods:**

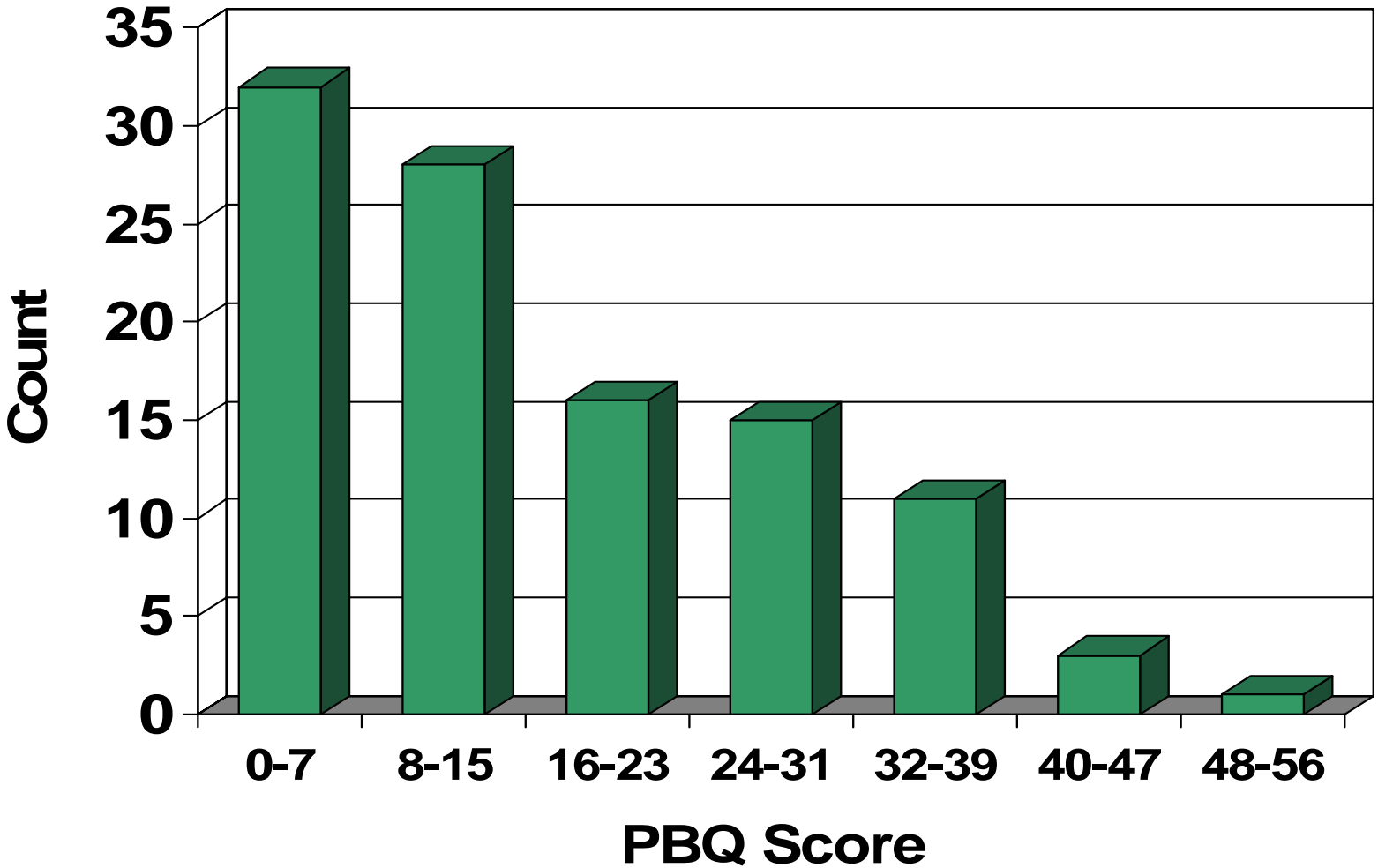
- All subjects completed all four measures of peritraumatic distress or dissociation retrospectively, for their worst or target trauma in theater
 - PDI-M
 - PDEQ-M
 - SDQ-M
 - PEDQ
- Self-report PBOQ scores were constructed by extracting responses to the 14 PBOQ items from the four parent questionnaires

- **Analyses:**

- Internal reliability statistics
- Correlation coefficients for 5 dissociation/distress measures & CAPS
- Hierarchical regression for predicting PTSD severity from age, CES, and PBOQ



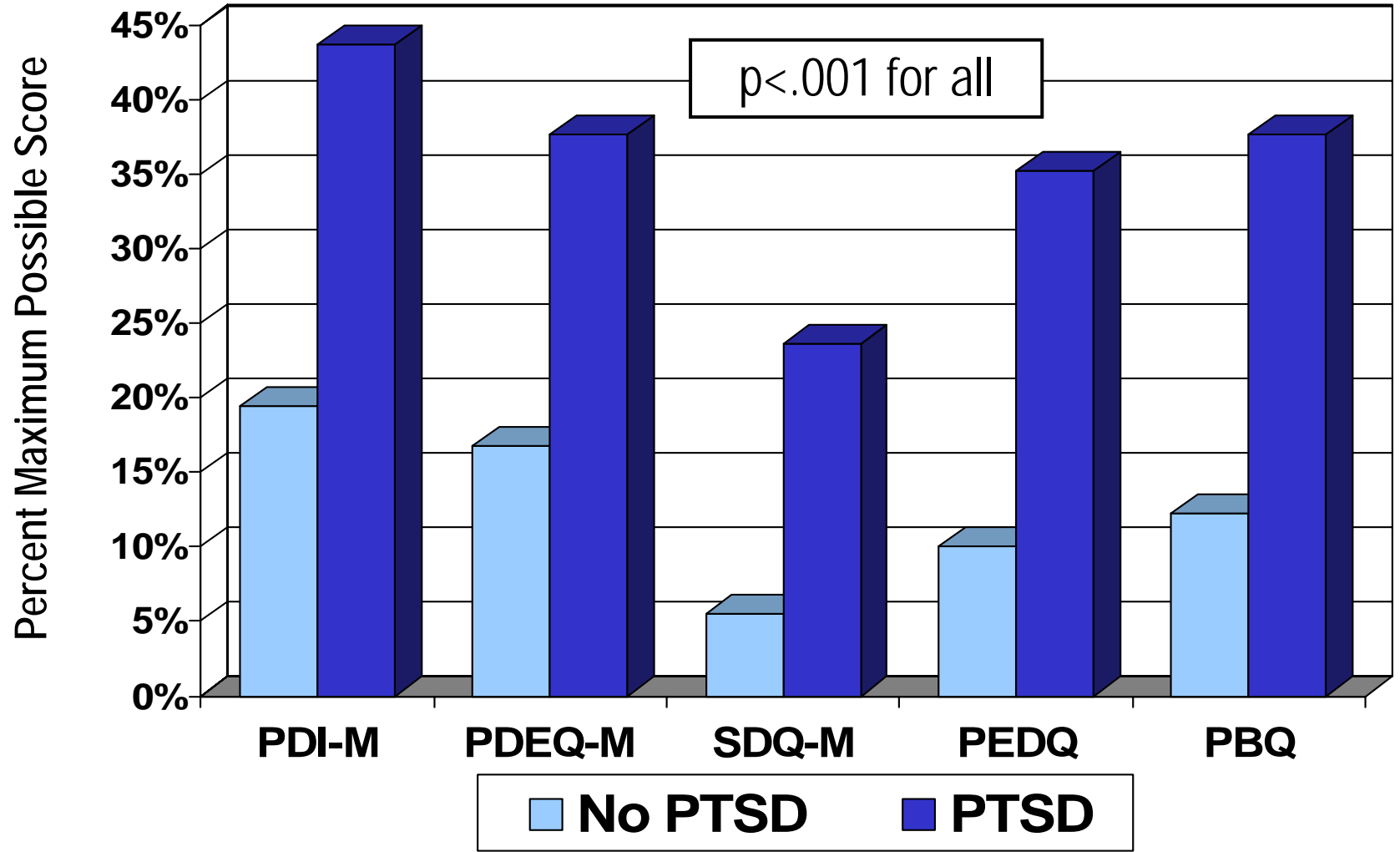
Distribution of PBQ Scores in Total Sample (N=106)





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Comparison of Mean Scores in PTSD (N=69) and Control (N=37) Groups





Internal Reliability Statistics

	Number of Items	Cronbach's Alpha
PDI-M	10	.864
PDEQ-M	10	.909
SDQ-M	10	.911
PEDQ	10	.902
PBQ	14	.907



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Pearson Correlation Coefficients (r)

	CAPS	PBQ	PEDQ	PDI-M	PDEQ-M	SDQ-M
CAPS	1					
PBQ	.654	1				
PEDQ	.623	.926	1			
PDI-M	.658	.906	.783	1		
PDEQ-M	.506	.755	.690	.670	1	
SDQ-M	.473	.839	.697	.747	.685	1

N=105-106; $p < .001$ for all



Hierarchical Regression Predicting PTSD Severity from Age, Combat Exposure, and PBQ Score

Predictor Model	R ²	R ² Change	F Change	p
Age, CES	.102	.102	4.762	.011
Age, CES, PBQ	.412	.310	43.756	<.001

N=87; Mean Age=28.48; Mean CES=23.06;
 Mean PBQ=16.4; Mean CAPS=57.79



Conclusions

- **The PBQ is a promising new instrument for assessing early signs of traumatic stress injury that uniquely:**
 - Covers four different domains of peritraumatic distress and dissociation
 - Can be used for third-person observer rating
 - Does not require warfighters to introspect and endorse subjective symptoms (when used as an observer-rated measure)
- **When used in retrospective self-report by OIF/OEF Service members and veterans, the PBQ has demonstrated:**
 - Excellent internal reliability
 - Very good correlation with PTSD severity (equal to the PDI, and possibly better than the PDEQ)
- **The PBQ is expected to perform as well or better when used as a third-person observer rated measure of peritraumatic behavior**



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References

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