

# Scoring consistency checks for the Clinician Administered PTSD Scale (CAPS)

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## Methodological Question

Can scoring consistency checks be developed for the Clinician Administered PTSD Scale (CAPS)?

## Introduction

The CAPS is regarded as the "gold standard" in PTSD assessment. It is a structured interview that yields a categorical diagnosis of PTSD and also a measure of the severity of PTSD symptoms. It can be administered in 30-60 minutes by a trained rater.

To improve the reliability and validity of measurement in clinical trials, we previously developed consistency checks "flags" for the Montgomery-Asberg Depression Rating Scale (MADRS)(Rabinowitz et al., 2019), Positive and Negative Syndrome Scale (PANSS) (Rabinowitz et al., 2017; 2021) and the Personal and Social Performance scale (PSP) (Rabinowitz et al, 2021).

Since a PTSD diagnosis in some settings could be connected to getting benefits, scoring inconsistencies may be more abundant with this rating scale as they not only reflect raters carelessness but intentional inaccurate reporting by the subject.

## Aim

The objective of the current effort was to derive consistency flags for the CAPS-IV.

## Methods

The first 17 items of CAPS IV elicits ratings on Frequency (0=never; 1=once or twice; 2=once or twice a week; 3=several times a week; 4=daily or almost every day) and intensity (0=no distress; 1=mild; 2=moderate; 3=severe; 4=extreme) of symptoms and are used to compute a total severity score. The next 4 items measure duration, subject distress and functional impairment. A scoring algorithm is applied to these 21 items to arrive at a diagnosis. The CAPS also includes 3 global ratings and ratings of 5 associated features.

We deconstructed CAPS scoring instructions and anchors to identify potential scoring inconsistency flags. These inconsistency flags were reviewed and confirmed by expert raters.

To test the ability of the flags to identify careless responses the flags were applied to Monte Carlo simulated data of 100,000 CAPS administrations.

## Results

Twelve flags were derived (presented in Table). Two flags applied to most of the 17 symptom items (Flag 1: Frequency=0 & Intensity>0 and Flag 2: Frequency>0 & Intensity=0). The remaining 10 flags pertained to individual items. Five flags were rated as "High" flags, representing very probably or definitely incorrect rating, one as medium, reflecting probably incorrect rating. Flags were raised for 95% of the Monte Carlo simulated CAPS administrations, 78% of the administrations had 4 or more flags and 60% 5 or more. Two high flags, Flag 1 and 2 were raised in more than 85% of the administrations.

## Conclusions

Scoring consistency flags for the CAPS may be useful in the quest to improve reliability and validity of clinical trials. Modified flags are currently being developed to cover the CAPS-V. Further testing of flags using clinical trial data is planned to examine their potential impact on signal detection.

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## Disclosure

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## References

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## List of CAPS IV items and inconsistency FLAGS

### A. Identifiable traumatic event (required for diagnosis)

Items in subsequent sections B, C & D rated on Frequency and Intensity

**F** = Frequency (0 = never; 1 = once or twice; 2 = once or twice a week; 3 = several times a week; 4 = daily or almost every day)

**I** = Intensity (0 = no distress; 1 = mild; 2 = moderate; 3 = severe; 4 = extreme)

**Flag 1 (High):** F = 0 & I > 0 applies to all 17 items in sections B,C & D

**Flag 2 (High):** F > 0 & I = 0 applies to all 17 items except B3, C1, C2

### B. Reexperiencing symptoms (1 needed for diagnosis)

- (1) B1- Intrusive recollections, (2) B2- Distressing dreams, (3) B3- Acting or feeling as if event were recurring (Flag 1 only); (4) B4-Cued psychological distress; (5) B5-Cued physiological reactions

### C. Avoidance and numbing symptoms (3 needed for diagnosis)

- (6) C1- Avoidance of thoughts or feelings; (7) C2- Avoidance of activities, places, or people  
(8) C3-Inability to recall important aspect of trauma  
**Flag 3:** F > 2 & I < 3; F = 4 & I < 3; F = 3 & I = 1  
(9) C4- Diminished interest in activities

**Flag 4:** F > 2 & I < 2; F = 4 & I < 3; F = 3 & I = 1

- (10) C5- Detachment or estrangement; (11) C6- Restricted range of affect; (12) C7- Sense of a foreshortened future

### D. Hyperarousal symptoms (2 needed for diagnosis)

- (13) D1- Difficulty falling or staying asleep; (14) D2- Irritable behavior and angry outbursts; (15) D3-Difficulty concentrating; (16) D4-Hypervigilance; (17) D-5 Exaggerated startle response

### E. Duration of disturbance is more than 1 month (required for diagnosis)

- (18) Onset of symptoms; (19) Duration of symptoms

### F. Significant distress or impairment in functioning

- (20) Subjective distress; (21) Impairment in social functioning; (22) Impairment in occupational functioning

### Global Ratings

(23) Global validity; (24) Global severity; (25) Global improvement

### Associated features

(26) Guilt over acts of commission or omission; (27) Survivor guilt; (28) Reduction in awareness of surroundings; (29) Derealization; (30) Depersonalization

### Composite flags

**Flag 5 (High):** Items 20- Subjective distress and 24- Global severity need to be similar. If they are not, we would expect it to have expression in 23- Global validity. For example, If 20 is 2 or more and 24 is 0 then 23 should be 1 or more.

**Flag 6:** 20-Subjective distress I=0 & at least one item in sections B,C,D I>0

20-Subjective distress I=4 & no items in sections B,C,D I>2

**Flag 7 (Medium):** 20-Subjective distress>1 & 21- Impairment in social functioning OR 22- Impairment in occupational functioning=0 and 23- Global validity=0

**Flag 8:** 26-Guilt over acts of commission or omission is F>1 and I>2 & 20- Subjective distress I<2

**Flag 9:** Unrealistically large differences between visits on a given item **not during treatment**. For example, at visit 2 a score item "x" has a rating of F>2 & I>2 and at visit 3 a rating of F<2 and I<2

**Flag 10 (High):** 2 (moderate) or worse on 24- global severity & 0-asymptomatic 1-considerable improvement on 25- Global improvement

**Flag 11:** 4- Psychological distress at exposure to cues F>1 and I>1 & 20- Subjective distress<2

**Flag 12 (High):** Flag 11 raised and Global validity<2