Acute Stress Questions for ECHO COVID-19 Survey: Background and scoring

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Abstract

The National Institutes of Health (NIH) Environmental influences on Child Health Outcomes (ECHO) COVID-19 Task Force led the development of the ECHO COVID-19 questionnaires, which includes the Acute Stress Disorder Scale. The stress-related questions of this scale are based on the DSM5 criteria for acute stress disorder and can help inform how pandemic stressors may relate to symptoms of acute stress disorder. This document further explains the background and scoring of these questions for the ECHO COVID-19 Survey.

Background

The stress-related questions are based on the DSM5 criteria for Acute Stress Disorder.

The DSM is designed to elicit information about how many symptoms someone experiences across 5 *symptom categories*. To make a diagnosis a patient would need to have 9 symptoms out of 14 total from any of the 5 symptom categories that begin or worsen after the trauma. Given space limitations for the ECHO COVID-19 survey, we query only 10 symptoms that cover all 5 symptom categories. For the "child_parent" report in which parents report on the child's symptoms, we also include one item assessing impairment.

For research purposes we think it will be useful to examine the total number of *endorsed symptoms* a person has, regardless of symptom area. It may also be useful to look at which symptom categories are endorsed (or the number of endorsed categories).

Similar to how ADHD symptom rating scales are coded and analyzed, the stress questions are designed to assess likelihood of meeting criteria for a diagnosis. A survey cannot ever replace an in-person interview and formal assessment by a trained clinician, but it can help generate important information about severity of response to the pandemic. We suggest the following scoring system:

Scores

Categorical score: (yes/no meets DSM5 threshold for Acute Stress).
- How many *symptoms* or items (10 total) does a person endorse at a significant level? An endorsement of 3 (sometimes), 4 (often), or 5 (very often) is considered significant (5a-5i on child_parent form, 9a-i on adolescent form, 11a-i on adult form). Reverse code the life satisfaction item e.g., include any response with 1, 2, or 3 (4 on child_parent form, 8 on adolescent form, 10 on adult form). If a person endorses 9 or more symptoms (items) at a significant level, then this score is coded YES.

Dimensional scores: In this system, dimensional scores can be coded based on symptom counts (the number of symptoms endorsed as 3, 4 or 5 (regardless of symptom area); reverse code for life satisfaction item e.g., include any response with 1,2, or 3 in symptom count. Summary scores are the *sum of all* points endorsed, 0-5 per item, regardless of severity level.

- **Total Symptoms**: how many symptoms (items) are endorsed at a significant level (endorse at level 3, 4,or 5, except life satisfaction score which is reverse coded; range 0-10).
- **Total Sum:** Sum of all points, regardless of area or level (range: 10-50)
- **Symptom Categories**: Number of symptom categories endorsed at a significant level (range: 1 -5 symptom areas)

Interpreting scores

<u>Categorical Score</u> **–** likelihood of DSM diagnosis
<u>Total Symptoms</u> – dimensional measure of stress
<u>Total Sum</u> **–** general severity of effects of stress
<u>Symptom Categories</u> – extent of effects of stress

Notes

The 5 DSM symptom areas are:

1. Intrusion symptoms -

Had distressing dreams about (related to) COVID-19

Been distressed when I see something that reminds me of COVID-19

2. **Negative mood**-

Felt happy and satisfied with your life (*requires reverse scoring)

3. Dissociative symptoms

Seemed to have a sense of time slowing down

Seemed spaced out or in a daze

4. **Avoidance**

Tried to avoid thoughts and feelings about COVID-19

Tried to avoid talking, reading, and/or watching information related to COVID-19

5. **Arousal symptoms**

Startled easily

Had angry outbursts

Had difficulty sleeping

Item 5j is an additional item <u>not to be included in scoring</u>, but used for investigation of impairment in functioning, as described within the section on "Development and Course" section of the DSM chapter:

Did things that he/she had outgrown or acted younger than current age (e.g., thumb sucking, bedwetting, requesting to sleep with parents)