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THE EFFECT OF DEPERSONALIZATION AND DEREALIZATION SYMPTOMS ON OLFACTION AND OLFACTORY HEDONICS

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INTRODUCTION

Depersonalization and Derealization :

- Dissociative symptoms are characterized by subjective feelings of unreality (derealization) and alterations in the perception of the self (depersonalization) (APA, 2013).
- Depersonalization and derealization symptoms affect sensation, perception, and emotion, and typically result in subjective experiences of unreality and affective numbing (Simeon, 2004).
- Abnormalities in the amygdala, which is known to be associated with emotional reactions such as anxiety and fear (LeDoux, 1993) have been observed in depersonalization and derealization and other psychiatric (Sierra & Berrios, 1998).
- Hyperactivity and hypoactivity in sensory and perceptual areas of the brain have been observed and may in part explain the characteristic disturbances in perception observed in depersonalization/derealization symptoms (Simeon et al., 2000).
- Depersonalization/derealization disorder is highly comorbid with depression and anxiety (APA, 2013). The three conditions may utilize similar neurological mechanisms.

Olfaction:

- Within the brain, the olfactory system projects directly to the primary olfactory cortex, which includes the amygdala in strong emotional responses to odors (Stockhorst and Pietrowsky, 2004).
- Olfactory hedonics are defined as pleasure associated with sense of smell.
- Olfactory deficits in identification and threshold detection have been posited as a potential marker for psychiatric disorders, including depression (Atanasova, 2008).
- Another study found a negative correlation between odor identification threshold for a rose odor and state anxiety in males and females (Takahasi et al., 2015).
- The relationship between depersonalization and derealization and olfactory function has yet to be examined.

HYPOTHESES

1. Odor identification ability will be negatively correlated with reported depersonalization and derealization symptoms
2. Odor detection threshold will be positively correlated with depersonalization and derealization symptoms.
3. Hedonic ratings of both pleasantness and unpleasantness of odors will be negatively correlated with depersonalization and derealization symptoms.

METHOD

Procedure:

- University of Dayton undergraduate students (N = 80).
- Depersonalization/derealization experiences will be measured using the Cambridge Depersonalization Scale (CDS; Sierra and Berrios, 2000).
- Olfactory performance will be measured via the “Sniffin’ Sticks” test (Hummel et al., 1997).
- Depression and anxiety will be included as control variables and tested with the Center for Epidemiologic Studies Depression Scale, Revised (CES-D-R; Eaton et al., 2004) and the Generalized Anxiety Disorder 7 Item Scale (GAD-7; Spitzer et al., 2006).

MEASURES

Cambridge Depersonalization Scale:

- The Cambridge Depersonalization Scale is a 29-item self-report survey.
- The scale assesses the frequency and duration of depersonalization symptoms on a 6-point Likert scale.

Sniffin’ Sticks Test:

- Sniffin’ Sticks is a test of nasal chemosensory performance which uses pen-shaped devices to dispense stimuli.
- The Identification test contains 16 different odors. The participant is asked to identify the odor using a multiple-choice format.
- Odor thresholds are tested by presenting sticks with varying levels of n-butanol.

Center for Epidemiologic Studies Depression Scale, Revised:

- The Center for Epidemiologic Studies Depression Scale, Revised is a 20-item self report survey.
- The scale assesses severity of depression symptoms on a 4-point Likert scale.

Generalized Anxiety Disorder 7 Item Scale:

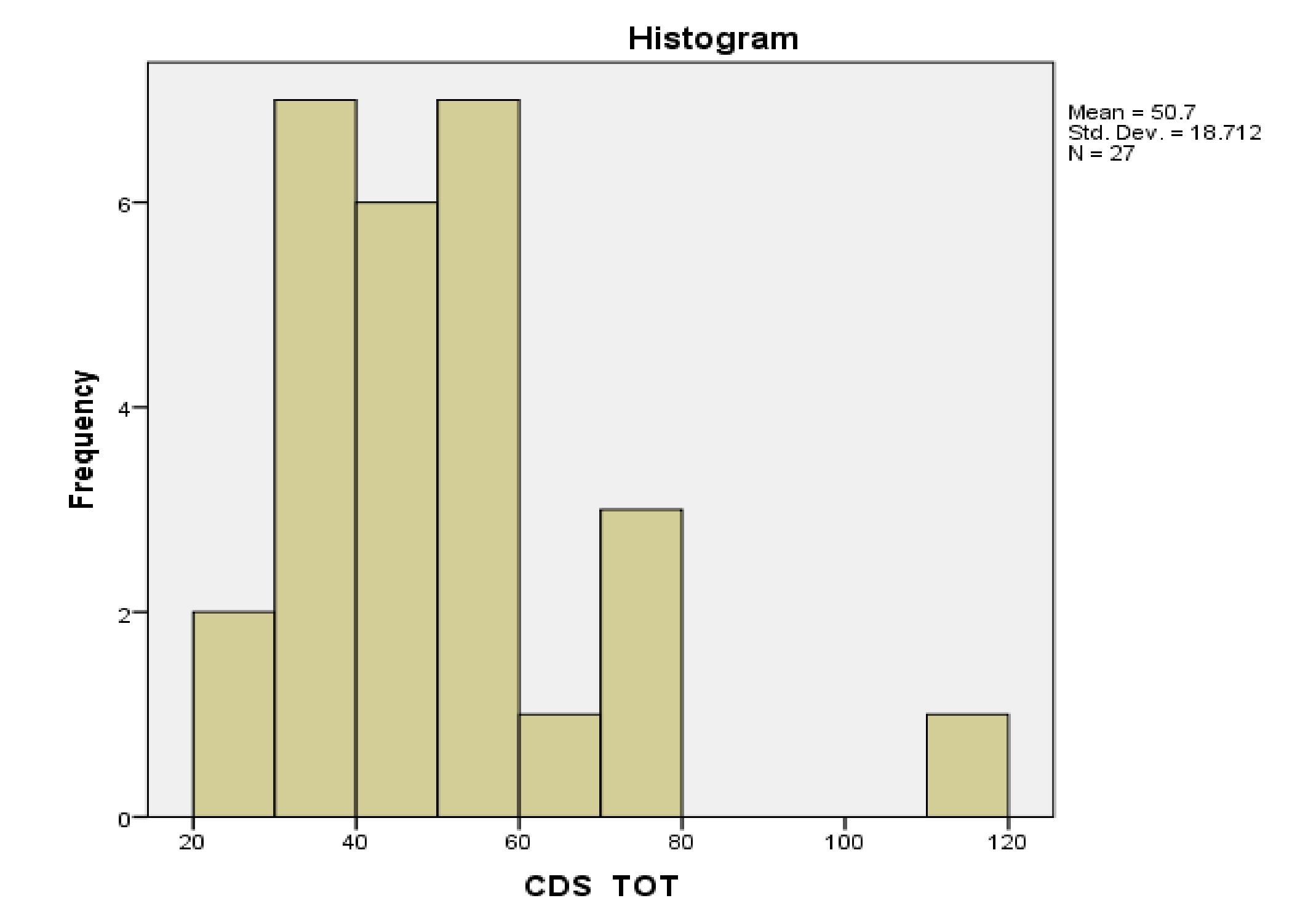
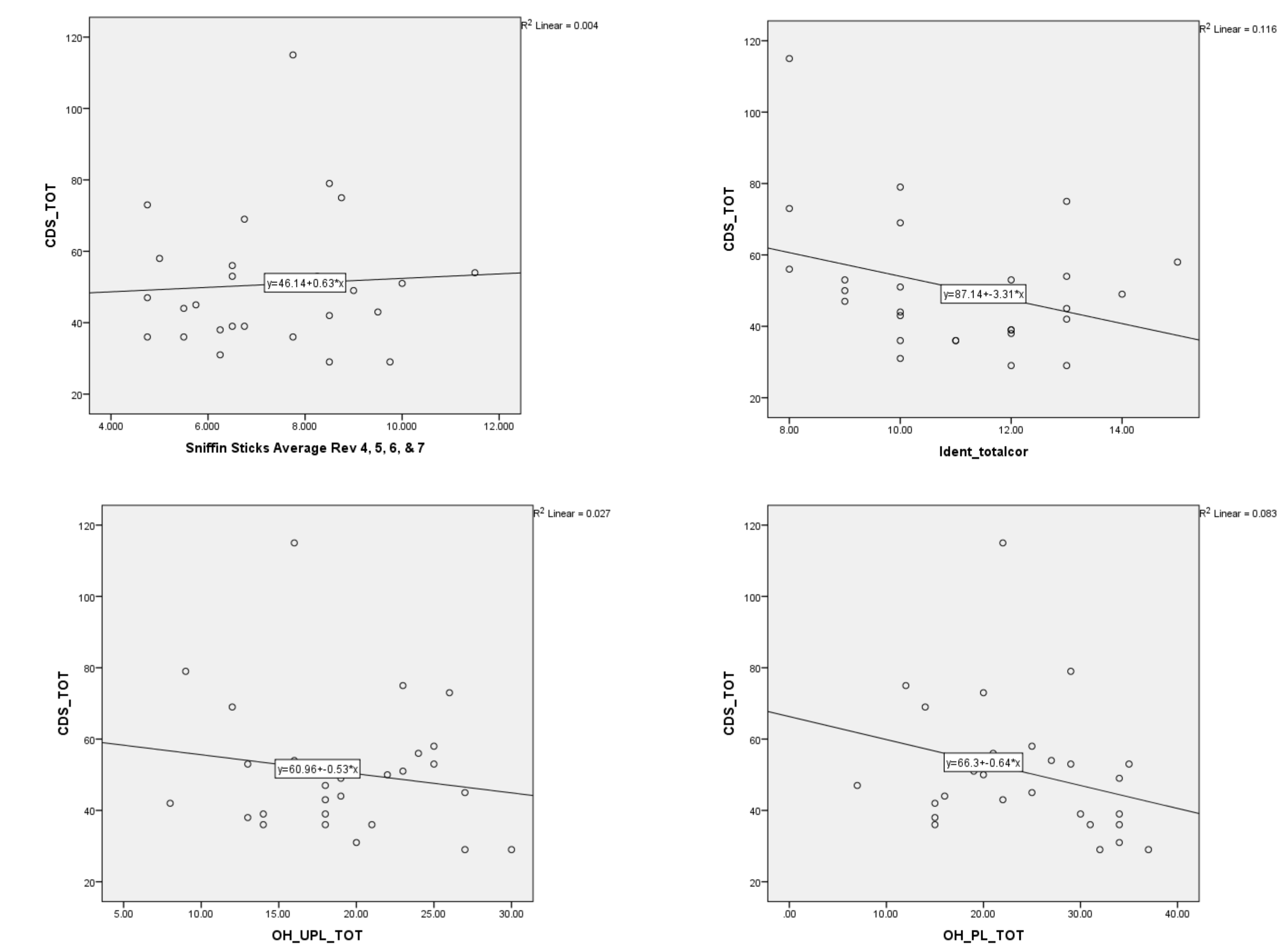
- The Generalized Anxiety Disorder 7 Item Scale is a 7-item self report survey.
- The scale assesses severity of generalized anxiety symptoms on a 3-point Likert scale.

PRELIMINARY RESULTS

CDS Correlations, N = 27

	M	SD	1	2	3	4	5
1. CDS Score	50.7	18.71	-	.061	-.340*	-.287	-.164
2. Odor Threshold	7.27	1.81		-	.222	.213	-.056
3. Odor Identification	11.00	1.92			-	.273	-.010
4. Pleasantness	24.22	8.53				-	.143
5. Unpleasantness	19.19	5.73					-

Table Note. * p < .10



References available upon request.