

Validation of the C-DARS in Depressed Patients in HK

Lu Zhang

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Construct and Test Score

Anhedonia: Inability to experience pleasure (physical vs. social; consummatory vs. anticipatory)

C-DARS: Chinese version of Dimensional Anhedonia Rating Scale

C-DARS (original: DARS)

4 reward domains

(Subscales: hobby, food&drink, social activity, sensory experience)

4 components of anhedonia

(Interest, Motivation, Effort, Pleasure)

17 items (4 items in each domain except 1 more in the last domain)

Each item: **5-point Likert Scale** (not at all → very much)

Table A1
The Dimensional Anhedonia Rating Scale.

	Not at all	Slightly	Moderately	Mostly	Very much
A. Please list at least 2 of your favorite pastimes/hobbies that are NOT primarily social:					
1. I would enjoy these activities					
2. I would spend time doing these activities					
3. I want to do these activities					
4. These activities would interest me					
B. Please list at least 2 of your favorite foods or drinks:					
5. I would make an effort to get/make these foods/drinks					
6. I would enjoy these foods/drinks					
7. I want to have these foods/drinks					
8. I would eat as much of these foods as I could					
C. Please list at least 2 of your favorite social activities:					
9. Spending time doing these things would make me happy					
10. I would be interested in doing things that involve other people					
11. I would be the one to plan these activities					
12. I would actively participate in these social activities					
D. Please list at least 2 of your favorite sensory experiences:					
13. I would actively seek out these experiences					
14. I get excited thinking about these experiences					
15. If I were to have these experiences I would savor every moment					
16. I want to have these experiences					
17. I would make an effort to spend time having these experiences					

Total Score

Hobby

interest

effort

motivation

pleasure

Food

interest

effort

motivation

pleasure

Social

interest

effort

motivation

pleasure

Sensory

interest

effort

effort

motivation

pleasure

Interpretations and Uses of C-DARS

- Assessing **anhedonia severity** of depressed patients:
lower score → higher level of anhedonia
- For clinical use, identification of anhedonia facilitates treatment planning (eg. medicine/agents use)

Validity Study: Data Collection

- Final sample: 151 out of 4229 patients
- Patients: age 18-64, ethnic Chinese, history of DSM-IV diagnosis of MDD
- Assessed with: C-DARS, SHAPS, HAMD

Sources of Validity Evidence



Test Content



Internal structure



Relations to other variables

Discriminant Evidence

Concurrent Evidence

Test Content Evidence

- Evaluated by an expert panel
- Focus group: cultural adaptation (translation, clearer instruction, etc.), Important when adopting a test from another context
- High degree of relevance and representativeness of C-DARS (agreement 60%-100%)

Internal Structure Evidence

- Confirmatory Factor Analysis (CFA) → Adequate fit (RMSEA=0.078)
- Inter-factor correlations between subscales were moderate
- Correlations between subscales and total score were high
- Confirmation the benefit of four-factor structure

Discriminant Evidence

- HAMD (Hamilton Depression Rating Scale) → depression severity
- Low correlations between scores of C-DARS and HAMD ($r=-0.34$, $p<0.001$)
- Anhedonia and depression are distinct albeit similar concepts

Test-Criterion Relationships (Concurrent evidence)

- SHAPS (Snaith-Hamilton Pleasure Scale) → consummatory anhedonia
 - High scores → higher level of anhedonia
- Significant negative correlations between scores of C-DARS and SHAPS. ($r=-0.75$, $p<0.001$)

Validity Results

- C-DARS was shown to be a psychometrically sound and valid measure of anhedonia severity ready for clinical use.
- Food & Drink subscale is unstable and has poor correlation with SHAPS and HAM-D, some questions may not truly reflect physical anhedonia

Evaluation of the Validation

- To what degree these evidence support the severity of anhedonia for clinical use?
- Intended interpretations and uses is not made explicit: Different depression severity level of patients in different studies
- Why not convergent evidence but concurrent between C-DARS and SHAPS?
(C-DARS: 4-factor structure; SHAPS: single-factor structure) why criterion?
- Many existing instruments: CPAS, CSAS, FCPCS, SHAPS, TEPS, ACIPS, DARS