Word-Association Task for Drug Use (WAT-DUD)*: A new implicit task in drug use disorder

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1 Introduction

In the field of addiction research, a usual aim is to predict the outcome of a treatment. **Interpretation bias** tasks, and especially word association tasks, have shown a moderate relationship with the use of substances.

But these studies have at least two limitations.

- 1) Most word association studies have been done with non-clinical samples.
- 2) Word association tasks require the categorization of the responses by independent raters, making them difficult to evaluate.

To solve this problems, the WAT-DUD was designed as a conditional discrimination, where an image (explicit or ambiguous) worked as sample, and two words (one drug-related and another non-drug-related) worked as comparisons.

Objective:
To provide evidence of reliability and validity for the WAT-DUD in a clinical sample

2 Method

Participants
The task was completed by 186 patients (90% men, 67 outpatients, 119 inpatients).

Measures
Substance Dependence Severity Scale
Cocaine Craving Questionnaire-Now
Multidimensional Craving Scale

WAT-DUD: Type of trials

Neutral

To ensure stimulus control by semantic relations
(**Correct in red**)

Agreement - Trousers

Explicit

To measure possible avoidance responses
(**Drug-related in red**)

Cocaine - Shovel

Ambiguous

To measure interpretation bias
(**Drug-related in red**)

Alcohol - Friends

100 trials: 25 Control, 25 Explicit, 50 Ambiguous

3 Results

	Effect size	p- value
Evidences of Reliability		
<i>Internal consistency</i>	$\alpha = 0.80$	
<i>Test-retest</i>	$r = 0.75$	
Evidences of Validity		
<i>Relation with variables of addiction</i>		
→ Higher interpretation bias in users of two or more substances	$d = 0.38$	.034
→ Cocaine craving	$r = .20$	.029
→ Alcohol craving	$r = .30$	.010
→ Alcohol abstinence	$r = .31$	.010
→ Severity of dependence	$r = .23$	.040
<i>Relation with therapeutic process</i>		
→ Fewer drug-related words among those who relapsed in explicit images	$r = .38$	< .000
→ Shorter reaction times to drug-related words among those who relapsed in explicit images	$r = .58$	< .000

Avoidance?

- ## 4 Discussion

→ Different facets of implicit cognition are related to relevant variables in addiction. The WAT-DUD added new evidence supporting that implicit processes such as interpretation bias are related to substance use.

→ Craving, abstinence and severity of dependence were related to more interpretation bias.

→ The avoidance-like pattern found in patients who relapse is consistent with the results of other implicit tasks.

→ The psychometric properties of the task support, in a preliminary way, its validity in research contexts.
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