



Generalization of conditioned responding: effects of (autobiographical) memory

Bert Lenaert^a, Bram Vervliet^a, Koen Schruers^b, & Dirk Hermans^a

^a Department of Psychology, University of Leuven, Belgium

^b School for Mental Health and Neuroscience, Maastricht University, the Netherlands

Centre for the psychology of learning and experimental psychopathology, KU Leuven

Introduction

Generalization occurs when a conditioned response is elicited by a stimulus different from the original conditioned stimulus (CS). Usually, the strength of the conditioned reaction to novel stimuli decreases with increasing dissimilarity to the CS. This can be visualized as a generalization gradient of which the slope indicates the extent of generalization.

In these two studies, generalization is approached from a memory perspective. Riccio and colleagues (1984) argued that a memory representation of a stimulus (e.g. CS) is a complex of attributes (e.g., color, shape, texture, etc.). They hypothesized that forgetting of these attributes might provide an explanation for the flattening of generalization gradients over time.

If generalization is indeed based on memory for specific 'attributes', one would predict generalization to be a function of individual differences in memory specificity.

So, we hypothesize that individuals low in memory specificity will display more extensive generalization of fear responding to stimuli resembling the CS that is followed by an aversive US

Contingency learning study

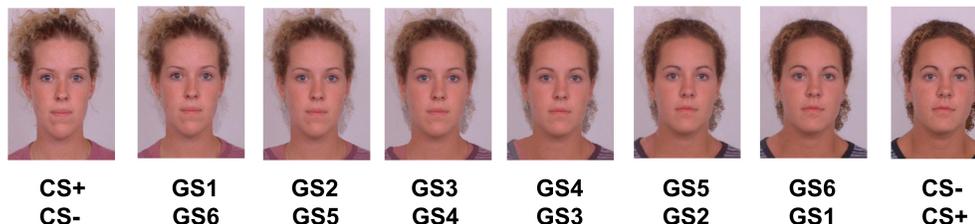
Participants: 38 first-year psychology students (25 ♀), who scored either *high* or *low* on memory specificity, as measured by the Autobiographical Memory Test (AMT; Williams & Broadbent, 1986).

Design (between subjects):

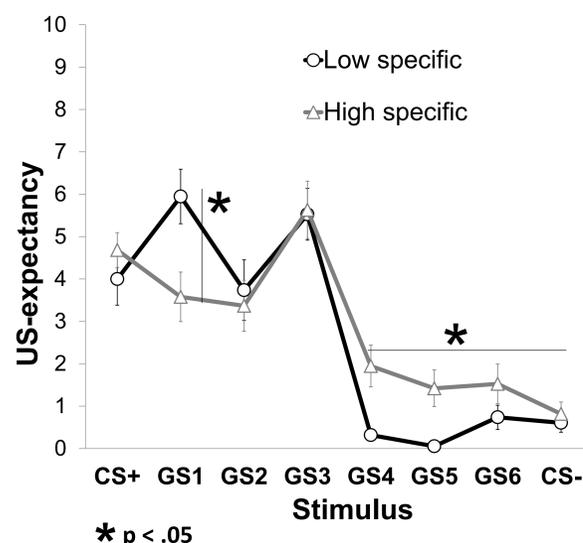
	Acquisition	Generalization Test
Low Memory Specificity Group	12 CS+ 12 CS-	2 CS+ with <i>neutral</i> US 6 GSs 2 CS-
High Memory Specificity Group	12 CS+ 12 CS-	2 CS+ with <i>neutral</i> US 6 GSs 2 CS-

Dependent measure: US expectancy (scale from 0 to 10)

Stimulus material



Results



Conclusions

- Autobiographical memory specificity was significantly associated with the extent of generalization.
- Results are compatible with the theoretical assumption that generalization is a function of memory specificity.

Prospective Fear learning study

Participants: 378 first year psychology students

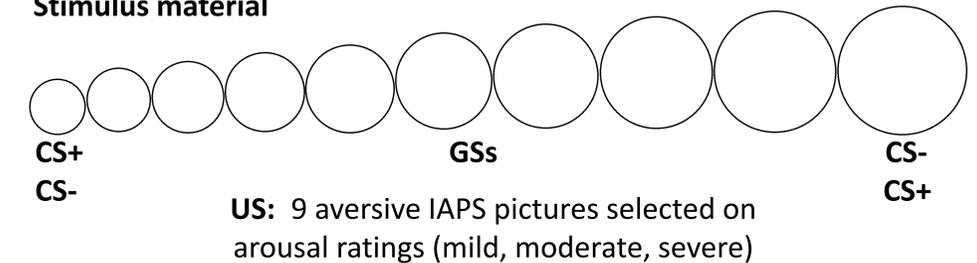
Design:

Acquisition	Generalization Test	Re-acquisition	Avoidance test
12 CS+	2 CS+	6 CS+	2 CS+
12 CS-	2 CS- 8 GSs	6 CS-	2 CS- 8 GSs

Dependent measure:

- Generalization test:** US expectancy (scale from 0 to 10)
- Avoidance Test:** US could be avoided by hitting the spacebar
- + *measure of risk-taking behavior (BART-task)*
- + *measure of visual memory (RVDLT-task)*

Stimulus material



Questionnaires

- Depression, Anxiety, Stress Scales (DASS-21)
- Anxiety Sensitivity Index (ASI)
- State and Trait Anxiety Index (STAI)
- White Bear Suppression Inventory (WBSI)

T1 (completed)

Generalization of Expectancy
Generalization of Avoidance
Risk-taking behavior
RVDLT
WBSI
ASI

T2 (in 6 months)

DASS-21
STAI
Other measures of anxiety

Main hypotheses:

- Generalization of Expectancy/Avoidance predicts the development of anxiety complaints
- (Visual) memory is associated with the extent of generalization