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## Does the Approach/Avoidance Task Correlate with Other Measures of Approach/Avoidance Processes?

### Abstract

The Approach/Avoidance Task (AAT; Rinck & Becker, 2007) assesses approach and avoidance motivational processes by requiring participants to respond to pictures by either pulling a joystick handle toward them or pushing it away. The amount of time required to execute these actions is the dependent variable. The rationale is that appetitive images should facilitate pull (i.e., approach) responses, whereas unpleasant images should facilitate push (e.g., avoid) responses. A small research literature attests to the AAT's validity in measuring approach/avoidance motivational processes (e.g., Wiers et al., 2010, 2011).

Nevertheless, we deemed it important to empirically explore the extent to which the AAT is related to other implicit and explicit measures of responses to emotionally evocative, motivationally relevant stimuli. In this study, undergraduates completed an (a) AAT designed to measure approach/avoidance biases in relation to pictures of snakes or spiders, (b) an Implicit Association Test (IAT) designed to measure automatic evaluations of snakes or spiders, and (c) several self-report items designed to tap the cognitive, affective, and motivational elements of snake or spider fear. We expected that links between the AAT and these other measures would be modest, a pattern that would imply that the AAT taps affective/motivational processes that are separable from the psychological processes that lie at the heart of these other assessment tools.

### METHOD

Forty-two undergraduates participated in the study for \$10.

The AAT presented participants with 30 pictures in each of four categories (images of food or babies, general threat-related scenes, neutral objects, and snakes or spiders). Half the pictures in each category were presented in landscape orientation; the other half were presented in portrait orientation. Upon picture onset, half of the participants were instructed to pull the joystick handle toward them in response to pictures presented in landscape and push the joystick handle away from them in response to pictures presented in portrait. The other half of the participants were given the opposite instruction. We followed standard procedures for the analysis of AAT data (Rinck & Becker, 2007).

Our IAT measured the strength of associative links between snakes/spiders or butterflies and the concepts "approach" or "avoid." We followed standard procedures for the analysis of IAT data (Greenwald et al., 2003).

Self-report items (7-point scale) were as follows: "If you encountered a snake/spider on the way home..." How would you feel? (affective) How long would it be before you could think about or focus on anything else? (cognitive) How strongly would you try to avoid it? (motivational).

### RESULTS AND DISCUSSION

Correlational analyses demonstrated, as predicted, that the AAT showed modest or near-zero links with the other explicit and implicit measures utilized here (IAT,  $r = -.02$ ; affective self-report,  $r = -.06$ ; cognitive self-report,  $r = .29$ ,  $p = .07$ ; motivational self-report,  $r = .13$ ,  $p = .43$ ). These results suggest that the AAT, compared to the other measures used here, taps separable approach/avoidance motivational processes. Additional research might more rigorously evaluate this possibility by determining the unique contributions of these measures to the prediction of motivationally relevant behavior.

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**Disciplines**

Psychology

**Comments**

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# Does the Approach/Avoidance Task Correlate with Other Measures of Approach/Avoidance Processes?

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## INTRODUCTION

- The Approach/Avoidance Task (AAT; Rinck & Becker, 2007) assesses approach and avoidance motivational processes by requiring participants to respond to pictures by either pulling a joystick handle toward them or pushing it away. The amount of time required to execute these actions is the dependent variable.
- The AAT's rationale is that appetitive images should facilitate pull (i.e., approach) responses, whereas unpleasant images should facilitate push (e.g., avoid) responses.
- A small research literature attests to the AAT's validity in measuring approach/avoidance motivational processes (e.g., Wiers et al., 2010, 2011).
- Nevertheless, much remains to be learned about the extent to which the AAT is related to other implicit and explicit measures of responses to emotionally evocative, motivationally relevant stimuli.
- In this study, undergraduates completed an **(a)** AAT designed to measure approach/avoidance biases in relation to pictures of snakes or spiders, **(b)** an Implicit Association Test (IAT) designed to measure automatic evaluations of snakes or spiders, and **(c)** several self-report items designed to tap the cognitive, affective, and motivational elements of snake or spider fear.
- We expected that links between the AAT and these other measures would be modest, a pattern that would imply that the AAT taps affective/motivational processes that are separable from the psychological processes that lie at the heart of these other assessment tools.

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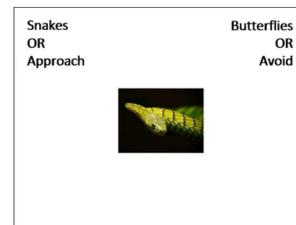
## METHOD

### Participants

- Forty-two undergraduates participated in the study for \$10.

### Measures

- The AAT presented participants with 30 pictures in each of four categories (food or babies, general threat scenes, neutral objects, and snakes or spiders). Half the pictures in each category were presented in landscape orientation; the other half were presented in portrait orientation. Upon picture onset, half of the participants were instructed to pull the joystick handle toward them in response to pictures presented in landscape and push the joystick handle away from them in response to pictures presented in portrait. The other half of the participants were given the opposite instruction.
- We followed standard procedures for the analysis of AAT data (Rinck & Becker, 2007). Specifically, an approach index was computed by subtracting median reaction times for "pull" responses from median reaction times for "push" responses. An alternative approach index based upon mean reaction times was also computed. For both measures, higher scores reflect greater putative approach.
- The IAT measured the strength of associative links between snakes/spiders or butterflies and the concepts "approach" or "avoid." We followed standard procedures for the analysis of IAT data (Greenwald et al., 2003).



- Self-report items (7-point scale) were as follows: "If you encountered a snake/spider on the way home..." How would you feel? (affective) How long would it be before you could think about or focus on anything else? (cognitive) How strongly would you try to avoid it? (motivational).

## RESULTS

- Correlational analyses were used to explore links between the AAT, IAT, and self-report measures. Results are summarized in Table 1.

**Table 1.** Correlations between the AAT (mean and median approach indices), IAT, and self-report measures of evaluations of snakes/spiders.

Variable	AAT (median)	AAT (mean)	IAT	Self-report (affective)	Self-report (cognitive)	Self-report (motivational)
AAT (median)	–	.70**	-.02	-.06	.29†	.13
AAT (mean)		–	-.01	.12	.11	.13
IAT			–	.02	.00	-.08
Self-report (affective)				–	.18	.17
Self-report (cognitive)					–	.37*
Self-report (motivational)						–

†  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$  (two-tailed)

## DISCUSSION

- The AAT was not significantly correlated with any of the other implicit or explicit measures of evaluations of snakes/spiders. It was marginally correlated with self-reports of the length of time it would take for participants to disengage thought processes from snakes/spiders in the event of their encounter.
- The near-zero correlation with the IAT is especially striking. It seems clear that the AAT and IAT tap separable psychological processes.
- Additional research might more rigorously evaluate this possibility by determining the unique contributions of these measures to the prediction of motivationally relevant behavior.