



Attributional Retraining and Self-Esteem: "Robin Hood" Effects on Academic Achievement

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Objective

The present study demonstrates the benefits and risks of an attributional retraining (AR) intervention on academic achievement outcomes as moderated by global self-esteem levels.

Background

Based on Weiner's attribution theory (1985), attributional retraining (AR) is a remedial intervention encouraging controllable failure attributions that consistently results in improved academic motivation and performance for at-risk students. Ongoing AR research involves the continued identification of student risk factors and improvement of AR methods - both of which moderate the effectiveness of the intervention (Perry, Hall, & Ruthig, 2005).

AR has been found to improve achievement among college students at risk of demotivation and poor performance due prior failure (Perry et al., in press), maladaptive failure attributions (Perry & Penner, 1990) and learning strategies (Hall et al., 2004), and most recently, overconfidence (Hall et al., 2006; Ruthig et al., 2004). No effects, or unanticipated *benefits*, have to date been observed for "non-risk" students (Hall et al., 2007).

Studies suggest that individuals with low self-esteem make more characterological (internal, uncontrollable) attributions for failure (Campbell & Fairey, 1985), and thus may benefit from AR. Nonetheless, AR research to date has not investigated self-esteem as an academic risk factor given a lack of substantial relations with academic performance (Crocker & Luhtanen, 2003).

Research based on significant relations between self-esteem and employment found AR to help students with low self-esteem get jobs sooner (Hall et al., 2010). However, this study also showed students with *high* self-esteem to perform much *worse* in employment interviews. Although consistent with research on the risks of high self-esteem (Baumeister et al., 2003), the present study aimed to replicate this finding by exploring AR effects on academic achievement in college students as moderated by self-esteem levels.

Method

Participants

One month into the academic year, 242 freshman college students from 10 sections of Introductory Psychology participated in a study session in exchange for course credit. The sample included 154 females and 82 males (6 unknown), with a mean age of 19.54 and average high-school grade of 76.54%.

Procedure

Students selected a study session during which one intervention condition was administered. During the session, students completed a 45-min questionnaire after which control participants ($n = 70$) were dismissed. Students in an AR session viewed an 8-min AR video and completed a 20-min exercise involving an aptitude test ($n = 56$), writing assignment ($n = 61$), or group discussion ($n = 55$). All participants received a summary handout prior to exiting. Test scores and final grades were obtained from instructors for consenting students at the end of the academic year. GPA data was obtained from institutional records two years later.

Independent Measures

Attributional retraining. The 8-minute *videotape* depicted a discussion between two graduate students concerning the benefits of controllable failure attributions. The one-page *handout* summarized the benefits of changing dysfunctional causal attributions (e.g., ability) to functional attributions (e.g., effort). The AR video was followed by one of three activities intended to facilitate greater reflection and/or application of the video content in either an independent (aptitude test, writing exercise) or interpersonal way (group discussion).

The timed *aptitude test* (Perry & Dickens, 1984) was intentionally difficult to allow students to practice failure attributions, and consisted of three 5-minute sections including verbal analogy (10), quantitative (5), and sentence completion items (10). The *writing exercise* asked students to summarize the AR video, list reasons why students perform poorly, and discuss the personal relevance of the attributional information (Entwistle, 2000). The *discussion* condition required groups of 4-5 students to collectively respond to each writing exercise question, with all responses solicited, recorded, and reported to the experimenter by a group leader. The experimenter then summarized the responses, underscoring the adaptive nature of controllable attributions.

Self-esteem. Rosenberg's (1965) global self-esteem scale included ten 5-pt items (e.g., "I feel that I have a number of good qualities"; $\alpha = .88$). A median split was used to classify students as low (< 38; LSE) or high in self-esteem (38+; HSE).

Dependent Measures

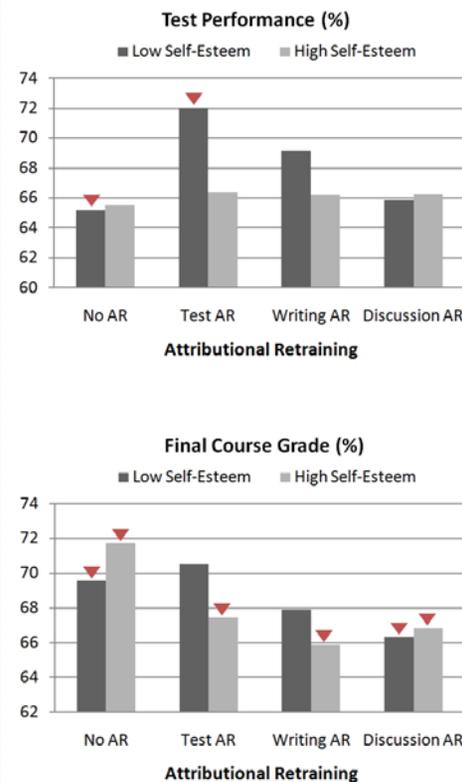
Test performance. Percentage grades on the first test in Introductory Psychology completed after the intervention were obtained from course instructors ($M = 66.75\%$).

Final course grade. Course grade percentages in Introductory Psychology were based on tests, assignments, essays, etc., administered throughout the academic year ($M = 68.25\%$).

Cumulative GPA. Overall academic achievement was assessed using end-of-year cumulative GPAs (4.5 = A+, 4.0 = A, etc.; $M = 2.57$)

Analyses

The analyses consisted of 2×4 ANCOVAs on achievement outcomes including self-esteem (low, high) and the AR intervention (No AR, Test AR, Writing AR, Group AR) as independent measures. To ensure a suitably conservative analysis of potential iatrogenic effects, the covariates included gender, English as first language, age, high-school GPA, first-year course load, and performance on the first course test completed prior to the study. Due to the specific study hypotheses, significant AR x SE interactions were anticipated but were not a prerequisite for a priori contrasts between the control and AR groups conducted separately for LSE and HSE students.



Results

Test performance. The main and interaction effects were not significant (AR x SE: $p = .18$). However, a priori *t*-tests revealed higher grades for LSE students in the Test AR condition ($M = 72.06$) relative to controls ($M = 65.19$, $t(44) = 2.37$, $p < .01$).

Final course grade. An AR main effect showed students in the Writing AR ($M = 66.89$) and Group AR conditions ($M = 66.57$) to perform worse than the Test AR ($M = 69.00$) or control groups ($M = 70.65$), $F(3,179) = 3.77$, $p = .01$. The AR x SE effect was not significant ($p = .12$). However, a priori contrasts showed HSE students in the Test AR condition ($M = 67.45$), $t(54) = 2.27$, $p = .01$, and Writing AR condition ($M = 65.87$), $t(45) = 2.81$, $p < .01$, to perform worse relative to controls ($M = 71.72$). Significant contrasts also showed the Group AR condition to predict lower grades for both HSE students ($M = 66.83$), $t(50) = 2.53$, $p < .01$, and LSE students ($M = 66.32$) relative to controls ($M = 69.58$), $t(49) = 1.67$, $p = .05$.

Cumulative GPA. The AR x SE interaction effect was significant, $F(3,181) = 2.29$, $p < .05$. A priori contrasts again showed poorer performance among HSE students in the Test AR condition ($M = 2.41$), $t(55) = 2.27$, $p = .01$, and Writing AR condition ($M = 2.40$), $t(46) = 2.10$, $p < .05$, relative to controls ($M = 2.73$). A significant contrast also showed LSE students to perform worse in the Group AR condition ($M = 2.34$) relative to controls ($M = 2.64$), $t(50) = 2.03$, $p < .05$.

Discussion

The present findings replicate the benefits of AR for students with low self-esteem as well as negative AR effects for students with high self-esteem on course-specific as well as cumulative academic achievement outcomes.