Attributional retraining and elaborative learning: Improving academic development through writing-based interventions

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Abstract

Attributional retraining (AR) is a motivational intervention that consistently produces improved performance by encouraging controllable failure attributions. Research suggests that cognitively engaging AR methods are ideal for high-elaborating students, whereas affect-oriented techniques are better for low-elaborating students. College students' ($N=749$) elaborative learning was assessed in the first semester, after which students were assigned to one of three writing-based AR conditions (No AR, Cognitive AR, Affective AR). Academic performance (course grades, GPA), motivation, attributions, and emotions were assessed in the second semester. AR by elaboration (low/high) 3×2 ANCOVAs showed optimal results for high elaborators following cognitive AR, and for low elaborators following affective AR. Performance improvements for the former were mediated by improved cognitions (expectations), and for the latter were mediated by increased positive affect.
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According to Weiner's (1985, 1995) attribution theory, causal attributions for success and failure have a significant impact on students' motivation, emotions, and achievement. Attributional retraining (AR) is a remedial intervention based on this premise, that assists students by encouraging controllable attributions for poor performance (Perry, Hechter, Menec, & Weinberg, 1993; Perry & Penner, 1990). While this technique has consistently produced modest increases in academic motivation and performance in college students, efforts to improve this intervention are ongoing. Specifically, recent research concerns the assessment of AR methods and the identification of student risk factors, both of which moderate the effectiveness of AR (Perry, Hall, & Ruthig, 2005). The present study examines the differential effectiveness of AR involving a cognitive or affective writing exercise for students' academic development, and the moderating effects of elaborative learning strategy use.

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1. Attributional retraining

Weiner's (1985, 1995) attribution theory posits that uncontrollable attributions for failure are especially detrimental to student motivation. Attributing poor performance to lack of ability, for example, will likely result in feelings of hopelessness and shame, and in turn, decreased motivation, achievement striving, and test performance. To counter these developments, attributional retraining (AR) encourages controllable explanations for failure such as lack of effort or poor study strategy (for reviews, see Forsterling, 1985; Perry et al., 2005). In turn, these "modified" attributions promote greater achievement motivation and perceptions of personal control, and result in increased persistence and performance (Schunk, 1998).

AR is typically comprised of an informational session (e.g., videotape, handout) followed by a consolidation phase allowing students to elaborate on the attributional information. Consolidation exercises have included an aptitude or achievement test (Menec et al., 1994; Perry & Penner, 1990), group discussion (Perry & Struthers, 1994), or a writing exercise (Hall, Perry, Chipperfield, Clifton, & Haynes, 2006; Van Overwalle & De Metsenaere, 1990; Wilson & Linville, 1982) with specific techniques proving beneficial for specific at-risk students having poor performance, low perceived success, overly optimistic beliefs, or low perceived control. Although AR research has also involved the manipulation of consolidation methods to promote elaborative processing in at-risk groups (e.g., Haynes, Ruthig, Perry, Stupnisky, & Hall, 2006; Perry & Struthers, 1994; Ruthig, Perry, Hall, & Hladkyj, 2004; see also Perry & Magnusson, 1989), how such exercises interact with individual differences in students' use of elaborative learning strategies has only recently been explored.

2. Attributional retraining and elaborative learning

Elaborative learning is an increasingly investigated individual difference variable representing the extent to which students cognitively incorporate new information with existing knowledge. Its occurrence is typically manifested as paraphrasing, forming examples, and summarizing material in one's own words (Pintrich, Smith, & McKeachie, 1989; Pintrich & Zusho, 2002; cf., "deep learning", Entwistle, 2000). In college students, elaborative learning is positively related to achievement (Albaili, 1998; Brackney & Karabenick, 1995; Pintrich, Smith, Garcia, & McKeachie, 1993; Sadowski & Gulgoz, 1996), critical thinking (Cheung, 2000; Cheung, Rudowicz, Lang, Yue, & Kwan, 2001), and control beliefs (Brackney & Karabenick, 1995; Pintrich et al., 1993). As such, control-enhancing interventions are often recommended for students who infrequently use of elaborative learning strategies (Brackney & Karabenick, 1995; Hofer, Yu, & Pintrich, 1998).

Research exploring how individual differences in elaborative learning moderate the effectiveness of AR is encouraging. In a study by Hladkyj, Hunter, Maw, and Perry (1998), AR administered via a videotape presentation and group discussion improved course performance for high-elaborating students. A follow-up study by Hall, Hladkyj, Perry, and Ruthig (2004) evaluated an AR technique involving a videotape followed by an independently-completed exercise: a writing assignment encouraging cognitive elaboration (Entwistle, 2000), or an aptitude test fostering emotion-based reactance (Wortman & Brehm, 1975). Both low- and high-elaborating students performed better following either AR format. Further, added benefits were found on control-related cognitions for high elaborators after the cognitive AR, and on negative affect for low elaborators after the affective AR. Although this suggests that performance improvements in low vs. high elaborators were due to affective vs. cognitive changes, respectively, this interpretation is confounded by the different consolidation formats used (i.e., writing vs. aptitude test).

The present study explored the differential effectiveness of AR involving cognitive or affective elaboration for low- and high-elaborating students, and employed a consistent writing-based consolidation format (see Pennebaker & Francis, 1996; Smyth, 1998) to more clearly examine the consolidation processes hypothesized to underlie performance improvements for each group. More specifically, it was anticipated that by structuring AR to more explicitly focus on cognitive vs. affective elaboration, low elaborators would respond best to Affective AR, particularly on affect-related outcomes, whereas high elaborators would benefit most from Cognitive AR, especially on cognition-related outcomes.

3. Method

3.1. Participants

Two months into the 2001/2002 academic year, 749 students at a large, mid-western research-1 university were recruited from 11 sections of a two-semester introductory psychology course to participate in a three-phase study in