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Attributional Retraining in Academic Achievement Settings

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Attributional Retraining in Academic Achievement Settings

Raymond P. Perry and Nathan Hall

Attributional retraining (AR) is a motivational treatment developed in the latter half of the 20th Century in concert with social cognition theories that focused on how individuals explain life experiences (Bandura, 1977; Heider, 1958; Weiner et al., 1972). AR is closely linked with Weiner's attribution theory (1974, 1985, 1995, 2006) which posits that negative, unexpected, and important outcomes trigger explanatory thinking in achievement settings. The ensuing explanations or causal attributions have three properties in common: *locus of causality* (within/outside the individual), *stability* (transient/enduring), and *controllability* (not modifiable/modifiable). Students' attributions for success and failure influence learning-related emotions, cognitions, and motivation because each dimension has unique cognitive and affective consequences.

The locus dimension fosters feelings of pride following an internal attribution for success. The stability dimension influences expectations about the reoccurrence of the event, and feelings of hope for future success (hopefulness/hopelessness). The controllability dimension determines responsibility judgments concerning the event, and guilt and shame emotions related to negative events. Following failure, a low ability attribution is motivationally dysfunctional because it affirms the expectation that failure can reoccur (stable/uncontrollable failure), while increasing feelings of shame. Lack of effort enhances motivation because it promotes expectations that change is possible (unstable/controllable failure) and engenders feelings of guilt. Because of these attribution-affect-cognition linkages, unstable and controllable causes intensify motivation and persistence when failure occurs; uncontrollable and stable causes do the opposite.

In achievement settings, a variety of AR treatments have been used that differ in terms of attributional content, delivery formats, and audience targets (Forsterling, 1985; 1988 Perry et al., 1993; Weiner, 1988; Wilson et al., 2002). AR content ranges from modifying individual attributions to changing the dimensional properties of attributions based on Weiner's theory (1985; 2006). Some treatments specifically encourage effort instead of ability attributions as explanations of failure; others seek to change ability from a stable to an unstable attribution that changes with time. Still others primarily seek to increase controllable attributions for negative experiences (effort, strategy), or to decrease uncontrollable attributions (test difficulty, luck). For example, an AR treatment focusing on controllable attributions may highlight lack of effort or poor note-taking as causes of failure because they can be increased by studying harder, taking clearer notes, or attending more classes.

AR treatments also differ in terms of the delivery format used to present the attributional content. Past studies have delivered the content via written material, videotape simulations, and structured lectures separately or in combination. These formats vary in length and in whether they are delivered to recipients individually or in groups. Individual presentations are often face-to-face and group presentations are some combination of written material, videotape, and lecture. In a typical experiment, recipients are encouraged to think about past performance outcomes (e.g., class tests, course grades) or receive feedback on a task designed to activate attributional thinking. The AR treatment is administered immediately thereafter via some combination of

delivery formats. Prior to the activation task and following the AR treatment, attributional measures are administered to assess pre/post treatment effects.

The recipients of AR treatments can be differentiated largely in terms of age (children versus adults), and these can be further segregated into sub-groupings based on demographic and psycho-social variables. Depending on the target audience, the objectives and the format of the treatment will vary in accordance with audience characteristics. An AR treatment administered to college students, for example, can use more complex attributional content that may include a broader range of specific attributions and formats than would be possible with children. It may also be more readily presented in a group context rather than in an individualized, face-to-face context as may be necessary with children.

With younger students, AR information is typically administered through repeated face-to-face or computer-based attributional feedback in response to performance. Attributional feedback often involves highlighting the importance of investing effort ("You've been working very hard"; Schunk, 1983) or noting insufficient effort following failure ("You should have tried harder"; Dweck, 1975). Examples of other AR techniques include the modeling of adaptive attributions during mock performance trials with learning-disabled children (Borkowski et al., 1988; Thomas & Pashley, 1982) and reinforcing student-generated statements involving effort (Craske, 1988; Fowler & Peterson, 1981).

With university students, AR typically comprises one-time, mass informational seminars presenting controllable attributions verbally, in written format, or via videotaped interviews (Perry et al., 1993). Following the presentation, an activity that encourages students to reflect concretely (e.g., by completing a difficult test) or abstractly (e.g., group discussion, writing exercise) on the information is administered, with both the presentation and consolidation typically required for AR to be successful (Perry et al., 2005).

*AR in School*s

In elementary classrooms, AR is effective in improving academic motivation and performance in struggling students, demonstrated originally by Dweck (1975) and Miller et al. (1975). An AR intervention encouraging effort attributions for failure improved performance on a mathematics problem-solving task, particularly for students who have "learned helplessness". These findings have been replicated primarily with underachieving students, showing AR techniques not only to improve performance, but also to increase motivation, self-efficacy, success expectations, and controllable attributions, as well as to lower uncontrollable attributions (e.g., Andrews & Debus, 1978; Craske, 1985, 1988; Fowler & Peterson, 1981; Ho & McMurtie, 1991; Han, 1998; Horner & Gaither, 2004; Hu, 1996; Schunk, 1982, 1983; Schunk & Cox, 1986). AR methods can also reduce aggressive behavior in school classrooms (Carlyon, 1997; Hudley et al., 1998) and can be beneficial for children with learning disabilities (Borkowski et al., 1986, 1988; Nakamura, 2004; Okolo, 1992; Robertson, 2000; Yasutake et al., 1996).

These studies suggest AR procedures that promote self-talk concerning adaptive attributions may be better than direct persuasion by the instructor (e.g., "You should work harder"; Fowler & Peterson, 1981; Miller et al., 1975; Schunk & Cox, 1986). Instructor-initiated AR in intact classrooms may be less effective than smaller experimenter-led sessions (Craven et al., 1991; Robertson, 2000). Many AR interventions for children are administered as part of larger training programs focusing on learning or social skills, particularly for students with

learning disabilities (e.g., Borkowski et al., 1986, 1988; Ho & McMurtie, 1991; Horner & Gaither, 2004; Nakamura, 2004; Schunk, 1983; Yasutake et al., 1996). Although some results suggest that ability-related feedback following success may improve self-efficacy and performance (Schunk, 1983), other findings indicate the simultaneous combination of ability feedback (e.g., "You're good at this") and effort feedback does not improve AR effectiveness (e.g., Ho & McMurtie, 1991; Schunk, 1983).

AR research on middle- and high-school students shows that intensive, in-person AR programs can increase perceptions of control, persistence, and achievement (e.g., Dresel, 2000; Han, 1998; Ziegler & Heller, 1998), particularly for failing or depressed students (Dieser & Ruddell, 2002; Richman & Brown, 1986). Computer-based AR can also improve mathematics performance by providing attributional feedback contingent upon students' performance (failure = effort; success = ability; Okolo, 1992) and on their progress (success first attributed to effort, then ability; Dresel & Ziegler, 2006). Research by Heller, Ziegler, and colleagues further illustrates the effectiveness of brief AR techniques (e.g., videotape presentation) for gifted students, particularly for females in the natural sciences (Heller, 1999, 2003; Heller & Ziegler, 1996; Ziegler & Heller, 2000; Ziegler & Stoeger, 2004). AR also plays a critical role in resolving group discipline problems (Lapointe & Legault, 2004) and assisting with career-related decision-making (Szabo, 2006).

AR in Postsecondary Education

In college classrooms, AR researchers have focused extensively on students' scholastic development, particularly the transition from high school to college. Since classic studies by Wilson and Linville (1982, 1985), AR programs that encourage the changeable nature of academic performance have improved motivation, emotions, and course performance (Perry et al., 1993, 2005; Wilson et al., 2002). Successful AR techniques for college students are typically brief and consist of two phases. The initial presentation phase often includes a videotaped dialogue between senior students (Hall et al., 2004; Noel et al., 1987; Perry & Penner, 1990; Van Overwalle et al., 1989; Van Overwalle & De Metsenaere, 1990; Wilson & Linville, 1982, 1985) or an informational handout (Haynes et al., 2006; Jesse & Gregory, 1986-87; Ruthig et al., 2004) outlining the benefits of attributing poor performance to, for example, insufficient effort and poor study strategies.

Following the AR presentation, a consolidation phase is administered that encourages students to elaborate on the information through exercises such as group discussions (e.g., Ruthig et al., 2004; Struthers & Perry, 1996), aptitude or achievement tests (e.g., Hall et al., 2004; Menec et al., 1994), or writing assignments (e.g., Hall et al., 2006, in press). Similar to findings for younger students, AR conducted in intact classrooms by course instructors appears to be less effective than smaller-scale, experimenter-led sessions (Hladkyj et al., 1998; Perry, 1999), and computer-based AR involving the Internet can contribute to better course grades (Hall et al., 2005). AR can also facilitate career-related decision-making (Luzzo et al., 1996a, 1996b) and success in employment interviews for upper-level undergraduates (Jackson et al., 2007).

AR research with college students has focused not only on the development of intervention techniques, but also on targeting students with specific risk characteristics. For example, AR is especially beneficial for students at risk of failure due to previous poor

performance (Perry et al., 2007; Wilson & Linville, 1982, 1985; Van Overwalle et al., 1989; Van Overwalle & De Metsenaere, 1990), uncontrollable attributions (Struthers & Perry, 1996), an external locus of control (Menec et al., 1994; Perry & Penner, 1990), and insufficient use of elaborative learning strategies (Hall et al., 2004, in press). Students with overly optimistic beliefs are particularly at risk and respond especially well to AR interventions (Hall et al., 2006; Haynes et al., 2006; Ruthig et al., 2004).

Applications to Classrooms

As most educators know, attributional exchanges are commonly occur in the daily functioning of classrooms. However, these informal, spontaneous, and anecdotal attributional exchanges are rarely informed by scientific theory and evidence, and too often involve the communication of maladaptive (uncontrollable/stable) attributions for failure (e.g., low ability:"If you did poorly on the exam, this class isn't for you."). Such maladaptive attributional exchanges raise serious questions about the ethics of their use in teaching practices intended to foster motivation. In contrast, research-informed AR has several strengths as a motivation-enhancing treatment: it is derived from a well-established attribution theory (Weiner, 1985, 1995, 2006); it is supported by a solid body of empirical evidence (Perry et al., 1993, 2005), and it can be readily adapted to achievement settings (Perry, 1991, 2003; Wilson et al., 2002).

Assuming that AR is to be implemented in a classroom, four guiding principles are recommended. First, the attributional content should be strongly informed by the scientific evidence on effective AR procedures and reviewed by responsible professionals. Second, screening procedures should be used to identify students most likely benefit from the program. Such diagnostic procedures may include course tests, informal teacher/student exchanges, formal questionnaires, etc. Third, the intervention format should be selected based on empirical evidence regarding effective procedures for specific student populations (e.g., one-time, seminars for gifted or older students; repeated performance feedback for younger or learning-disabled students). Finally, follow-up assessments of subjective (e.g., attributions, motivation) and objective outcomes (e.g., attendance, performance) are required to accurately determine the effectiveness of AR on classroom adjustment and performance.

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