

RUNNING HEAD: ATTRIBUTIONAL RETRAINING AND EMPLOYMENT

Attributional Retraining, Self-esteem, and the Job Interview:
Benefits and Risks for College Student Employment

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Abstract

The present study evaluated the effectiveness of an attributional retraining (AR) program for helping upper-level undergraduates perform better in employment interviews as moderated by self-esteem levels. The sample consisted of 50 co-operative education students preparing for actual job interviews who were randomly assigned to an AR condition (controllable attribution focus) or control condition (communication skills focus). Dependent measures included interview-related attributions and actual interview performance. Results showed self-esteem to predict more adaptive attributions and better interview performance in the control group. Findings also demonstrated significant AR benefits for students with lower self-esteem on attributions and interview success. Unanticipated negative treatment effects were found for students with higher self-esteem who reported more external attributions and performed substantially worse in employment interviews upon receiving AR. Implications concerning the risks of high self-esteem and possible improvements to AR techniques in employment settings are discussed.

Keywords: attributional retraining, self-esteem, employment interview

Attributional Retraining, Self-esteem, and the Job Interview: Benefits and Risks for College Student Employment

Upon completing a post-secondary degree, college graduates are inevitably faced with the challenge of obtaining gainful employment in their field of study. In recent years, this process has become considerably more competitive due to substantial increases in college enrollment (e.g., 21% from 1994-2004; USDE, 2006) combined with limited growth in professional employment opportunities (Greenhouse, 2006; Weller, 2006). This challenge for recent college graduates is further compounded by recent increases in unemployment due to the current U.S. economic crisis (bachelor's degree, ages 20-24, 2008-2009: 7.6%-10.6%; TICAS, 2009), a trend not expected to improve significantly in the near future (Goodman, 2010; Tuna, 2008). In such an employment climate, job interview performance is critical with respect to not only highlighting one's capabilities, but also establishing rapport with potential employers and distinguishing oneself from other applicants (Chapman & Rowe, 2002; Struthers, Colwill, & Perry, 1992). However, an unfortunate consequence of the interview process is that most graduates encounter rejection as part of their job search, and risk motivational, emotional, and financial declines if these failures persist (Ryan & Ployhart, 2000). Based on Weiner's attribution theory, the present study evaluated the effectiveness of a motivational intervention, referred to as attributional retraining (AR), for improving employment interview performance in upper-level college students by encouraging controllable failure attributions, with a specific focus on assisting students at risk of poor interview performance due to low self-esteem.

Attribution Theory and the Employment Interview

Initially introduced by Heider (1958), attribution theory attempts to explain how individuals use causal principles to explain events (Fiske & Taylor, 1991). In the achievement domain, Weiner's (1985, 1995, 2006) attribution theory has received considerable empirical support and been used extensively to account for the relationship between attributions and behavior. According to Weiner's model, outcomes that are negative, unexpected, or important increase the likelihood of searching for explanations (particularly negative events; see Stupnisky, Haynes, Daniels, & Perry, in press; Taylor, 1991). Referred to as *causal search*, this process results in explanations for such events, or *causal attributions*, that can be classified along three dimensions: locus, stability, and controllability. The *locus* of causality concerns the extent to which the individual interprets the cause of an event as internal or external to oneself; *stability* refers to the perceived degree to which the cause will persist or fluctuate over time; and *controllability* refers to whether or not the cause is under the voluntary control of the individual.

Research on attribution theory demonstrates that the attributions one uses to explain an outcome can influence subsequent emotions and expectations, and in turn, motivated behavior. More specifically, Weiner's (1985, 1994, 1995) attribution theory suggests that following the occurrence of failure events, attributions to uncontrollable factors (e.g., lack of ability) result in lower achievement striving, more demotivating emotions (e.g., apathy, shame), and poorer performance. In contrast, attributions to controllable causes (e.g., lack of effort, poor strategy) foster increased motivation, more motivating emotions (e.g., hope, regret), and improved performance (for mediational analyses, see Hall et al., 2007; Jackson, Hall, Rowe, & Daniels, 2009; Van Overwalle, Mervielde, & De Schuyter, 1995).

In the employment domain, the job interview continues to be the most common personnel selection tool used by employers. However, because the intended purpose of the job interview is to select only the most qualified candidate, an unfortunate reality of the interview process is that most applicants experience rejection at some point. Considering the especially salient nature of *negative* events for eliciting causal search (Stupnisky et al., in press; Taylor, 1991), the critical *importance* of obtaining a job offer for college students upon graduation in the present economic climate (Goodman, 2010; TICAS, 2009; Tuna, 2008), and often *unexpected* nature of interview failure (Ployhart & Ryan, 1997), Weiner's (1985, 1995) attribution theory may provide a valuable perspective on how college students think about unsuccessful interviews and how to improve their chances of employment. Whereas past research on

attributions in employment settings has explored the decisions made by interviewers (e.g., Struthers et al., 1992; Tucker & Rowe, 1979), fewer studies have investigated applicants' perceptions of the interview process (e.g., Chapman & Rowe, 2002; Ryan & Ployhart, 2000).

Attributional Retraining in Employment Settings

To counter the negative consequences of uncontrollable attributions for failure experiences, considerable research over three decades has focused on the development of a remedial intervention in which controllable failure attributions are explicitly encouraged (Dweck, 1975; Schunk, 1998). Referred to as attributional retraining (AR), this motivational program has been found to consistently contribute to more adaptive attributions and emotions, and in turn, greater motivation and achievement among at-risk college students (for reviews, see Forsterling, 1985; Haynes, Perry, Stupnisky, & Daniels, 2009; Perry, Hechter, Menec, & Weinberg, 1993; Perry, Hall, & Ruthig, 2005). More specifically, AR has been found to improve academic outcomes among college students demonstrating previous poor performance (Perry, Stupnisky, Hall, Chipperfield, & Weiner, in press; Wilson & Linville, 1982; Van Overwalle & De Metsenaere, 1990), uncontrollable/external attributions (Menec et al., 1994; Perry & Penner, 1990; Struthers & Perry, 1996), poor use of learning strategies (Hall, Hladkyj, Perry, & Ruthig, 2004; Hall et al., 2007), and overconfidence (Hall, Perry, Chipperfield, Clifton, & Haynes, 2006; Haynes, Ruthig, Perry, Stupnisky, & Hall, 2006; Ruthig, Perry, Hall, & Hladkyj, 2004).

Despite substantial research on the effects of attributional retraining on academic outcomes, notably fewer studies have investigated AR in an employment setting or among individuals preparing for employment. For example, a study by Curtis (1992) found an AR program to promote more adaptive attributions for negative co-worker interactions as well as job promotions among physical therapists over a six month period. Dupuis and Struthers (2007) also found an intervention derived from Weiner's (1985) theory to promote prosocial perceptions and behaviors with respect to co-worker transgressions. In an effort to assist college students with employment concerns, Luzzo, James, and Luna (1996) showed an AR intervention to contribute to a more adaptive attributions and greater career exploration behavior. A follow-up study by Luzzo, Funk, and Strang (1996) also found these effects to be particularly evident for college students at risk of demotivation due to having an external locus of control.

A review of the AR literature revealed only a single study in which the effectiveness of AR for helping college students prepare for employment interviews was investigated. Conducted by Jackson et al. (2009), this study found a writing-based AR program (see Hall et al., 2006) to improve interview-related attributions, motivated behavior, and actual interview success for students at risk of interview failure due to maladaptive attributions (cf., Struthers & Perry, 1996). These results provide encouraging empirical support for the utility of AR for helping college students to achieve greater success in employment interviews and underscore the importance of causal attributions as a student risk factor. These findings further suggest that other risk factors found to correspond to poor job interview performance may also significantly moderate the effectiveness of AR for college students seeking employment.

Self-Esteem, Attributions, and the Employment Interview

Considerable research suggests that high- and low-self-esteem individuals differ consistently in the attributions they make for failure experiences (e.g., Campbell & Fairey, 1985; Chandler, Lee, & Pengilly, 1997). More specifically, Campbell and Fairey (1985) illustrated that low-self-esteem individuals make more *characterological* (i.e., internal, stable, uncontrollable) attributions for failure than those high in self-esteem. As such, low self-esteem individuals tend to believe that specific failures have more widespread or global implications about their personal self-worth that can lead to demotivation (Hoyle, Kernis, Leary, & Baldwin, 1999). Research in support of self-consistency theory (Cohen, 1959; Korman, 1970) further suggests that low-self-esteem individuals tend to select causal attributions that do

not bolster their self-esteem (Fitch, 1970; Midkiff & Griffen, 1992) but instead predict lower expectations and poorer subsequent performance (Campbell & Fairey, 1985; Chandler et al., 1997).

Studies on college students in job interview settings show higher self-esteem to correspond to fewer failure attributions to uncontrollable factors (e.g., discrimination; Asai, 2006), an internal employment-related locus of control (Cook, Vance, & Spector, 2000), and lower use of potentially maladaptive impression management strategies (Delery & Kacmar, 1998). In addition, students with higher self-esteem tend to report more positive interview-related cognitions (e.g., perceived importance, competence; Lorentz & Hintz, 1998) and receive better ratings of interview performance in simulation research (Liden, Martin, & Parsons, 1993). Findings from field studies further suggest that those with high self-esteem use better job search strategies, receive more positive evaluations, obtain more job offers, and better cope with unemployment than low-self-esteem individuals (Ellis & Taylor, 1983; see also Shamir, 1986).

In sum, research in the employment domain suggests that college students with low self-esteem are at risk of poor performance in employment interviews. Considering that low self-esteem corresponds to a maladaptive attributional profile, and that internal/controllable attributions contribute to better interview performance (e.g., interviewer ratings: $r = .36$, Silvester, Anderson-Gough, Anderson, & Mohamed, 2002; job offers: $r = .33$, Tay, Ang, & Van Dyne, 2006), it is possible that students with low self-esteem may benefit from an intervention in which internal/controllable attributions are encouraged (cf., interview skills programs; Fiore & DeLong, 1990; Henley, 1986; Latham & Budworth, 2006; Tourish, Hargie, & Curtis, 2001).

Study hypotheses. Hypothesis 1 suggested that for control participants, greater self-esteem would predict better interview-related attributions and performance, consistent with the demonstrated link between self-esteem and optimal interview preparation and evaluations (e.g., Ellis & Taylor, 1983). Hypothesis 2 proposed that similar to previous AR studies showing performance gains for students reporting uncontrollable/external attributions (e.g., Luzzo, Funk, et al., 1996; Menec et al., 1994; Struthers & Perry, 1996), AR should contribute to more adaptive attributions and interview success for participants with low self-esteem. Finally, Hypothesis 3 stated that no improvements following AR would occur for students with high self-esteem as is typically observed for “non-risk” participants (e.g., Menec et al., 1994; Ruthig et al., 2004).

Method

Participants

The study sample consisted of students enrolled in a co-operative education program at a Canadian, research-intensive university. The present co-op program is the largest in North America consisting of 3,500 participating employers worldwide and allowing students in over 100 areas of study to obtain up to two years of work experience as part of their academic training. The co-op schedule entails the completion of academic terms, consisting of regular coursework, alternated with 4-month work terms involving paid employment with a participating company contingent upon a successful job interview. All study participants were preparing for their first round of interviews for the upcoming May to August work term, and were affiliated with various faculties including Engineering, Computer Sciences, Applied Health Studies, Psychology, and Mathematics. Students were recruited to participate in the present two-part study via an email from the program director to all co-op students completing their first work term interviews, and were entered into a prize drawing for \$100 in exchange for their participation.

As students are required to compete with fellow students in real employment interviews in order to complete the co-op program, the employment interview thus represents a highly important achievement context for these students in which an AR intervention may prove effective (cf., AR with freshman college students; Haynes et al., 2009; Perry et al., 1993, 2005). The initial sample consisted of 50 participants, with two students excluded due to not completing the interview process. The final sample

consisted of 48 students (43% female) with an average age of 19 years ($SD = .80$). Participants had completed an average of 2.08 university semesters ($SD = .82$), and 3.96 past employment interviews ($SD = 3.02$). The average GPA was 78.99% (~ B+; $SD = 7.19$), and the average work experience was 24.01 months ($SD = 19.70$).

Treatment Measures

Attributional retraining. The AR procedure used in this study consisted of a videotaped presentation based on that used in previous AR research (Hall et al., 2004, 2006; Struthers & Perry, 1996). The videotape lasted approximately 8 minutes and depicted two co-op students discussing how adopting controllable causal attributions for not obtaining a job placement in their first round of interviews helped contribute to improved motivation and performance in subsequent interviews. One student attributed their initial failure to a lack of effort, whereas the other attributed their poor performance to a lack of interview skills – both reflecting controllable failure attributions. The main points of the video were summarized by a female psychology professor, relating the discussion presented to attribution research.

After viewing the videotape, participants completed a 20-minute writing exercise similar to those in Hall et al. (2004, 2006) concerning the information presented in the videotape. The writing assignment was constructed to encourage personal elaboration on the videotape presentation with respect to depth (i.e., interconnections fostering summarization), breadth (i.e., considering a variety of related information), and personal structure (i.e., personally relevant examples; Entwistle, 2000). The writing assignment thus included three questions requiring students to (a) summarize the main points of the video, (b) suggest important and controllable reasons for poor co-op interview performance, and (c) provide examples of how the main points of the video could be incorporated into their approach to co-op interviews.

Communication skills exercise. Although previous AR research shows no significant differences between control participants based on the presence or absence of a filler task (Perry et al., 1993), activities similar to those in the AR condition were administered in the control group to equate the experimental groups on the procedures completed and time invested. As communication skills have long been considered a critical component of a successful employment interview (Gifford, Ng, & Wilkinson, 1985; Peterson, 1997), the control group was shown a videotape outlining the importance of verbal and non-verbal communication.

The communication skills video presentation was approximately 8 minutes in length and consisted of the same two co-op students discussing the types of verbal and non-verbal communication used in employment interviews. The same female professor summarized the video, emphasizing the main points concerning the different forms of communication. Following the video, participants completed a 20-minute writing exercise consisting of three questions similar to those in the AR condition. The writing exercise asked students to summarize the main points of the video, describe some verbal forms of communication discussed in the video, and also elaborate on the non-verbal forms of communication addressed in the video presentation.

Study Measures

Descriptive information for each study measure including means, standard deviations, and scale reliability is provided in Table 1.

Self-esteem. Self-esteem was operationalized in the present study as students' global evaluations of personal worth and assessed at Time 1 using Rosenberg's (1965) self-esteem scale. The scale consisted of 10 items on a 9-point Likert scale (1 = *strongly disagree* to 9 = *strongly agree*) such as "I feel that I have a number of good qualities" and "On the whole I am satisfied with myself."

Attributions. Because of concerns surrounding the use of pre-determined attribution checklists (Perry et. al., 1993; Weiner, 1983), a measure that allowed students to generate and classify their own causes for poor performance was employed. The Revised Causal Dimension Scale (CDSII; McAuley, Duncan, & Russell, 1992) assessed at Times 1 and 2 measured students' ratings of the dimensions underlying their attributions for failure including (1) locus of causality, (2) stability, and perceived controllability with respect to (3) personal control, and (4) other-related control. For the present study, the CDSII was revised to ask participants to indicate the main reason they believed was responsible for their poor interview performance. Participants then rated this attribution on a 9-point scale containing 12 items. Each of the four CDSII subscales consisted of three items, and the average of each respective set of items was assessed. Sample items included: "Is the cause something inside of you (9) or outside of you (1)" (locus of causality), "... that is stable over time (9) or variable over time (1)?" (stability), "... manageable by you (9) or not manageable by you (1)?" (personal control), and "... manageable by others (9) or not manageable by others (1)?" (other control).

Employment. To assess participants' actual interview performance following the AR treatment, employment records were obtained from the Department of Co-operative Education at the start of the May to August work term for which they were being interviewed (0 = *not employed*, $n = 24$; 1 = *employed*, $n = 24$). Whereas the self-report measures completed immediately following the AR session represent a short-term assessment of intended psychological changes (i.e., manipulation checks), the year-end employment data comprises the critical, real-world outcome upon which longitudinal AR effects are hypothesized.

Procedure

At the start of the second academic semester (January), students completed an initial questionnaire including the self-esteem and causal attribution measures (Time 1). Students were then randomly assigned to either the treatment or control group during which the treatment (AR, $n = 24$) or control videotape (communication skills, $n = 24$) was presented, followed by the writing exercise. Immediately after the experimental activities, a second questionnaire was administered (Time 2) assessing interview-related attributions. Upon submitting the questionnaire, students were informed of two pamphlets concerning interview-related skills and workshops, and were subsequently dismissed. Employment interviews began one month after the treatment session (February) and employment data (acceptance of job offers) was obtained at the end of the semester just prior to the work term for which students were interviewing (May).

Results

Rationale for Analysis

The present study hypotheses were tested using OLS and logistic regressions in which background variables, baseline levels, independent measures, and an interaction effect were evaluated as predictors. Initial differences between AR conditions on the background variables of age, gender, GPA, and total previous job interviews were not significant. However, two background variables for which initial AR differences were significant or approached significance, namely prior work experience, $t(46) = -2.08$, $p = .044$, and the number of college semesters completed, $t(46) = -1.06$, $p = .296$, were evaluated as covariates to control for potential confounds. Despite a lack of significant initial differences due to AR on Time 1 attributions, $t_s(46) < |.52|$, $p_s > .60$, pre-treatment attributions were also included as covariates when analyzing the respective attributional dimension as a dependent measure to provide a suitably conservative analysis of the study hypotheses.

Main effects of attributional retraining (AR) and self-esteem (SE), and the AR x SE interaction effect were also assessed. All measures were centered prior to analysis as main or interaction effects

(Aiken & West, 1991). Consistent with our a priori hypotheses that self-esteem should predict better attributions and performance, and that AR should be beneficial only for students with lower self-esteem, all SE main effects and AR x SE interactions were evaluated using one-tailed significance tests. Predicted values for significant interactions were plotted using simple slopes tests at 1 SD above/below the mean for the continuous self-esteem measure.

Correlational Analyses

As outlined in Table 1, correlational analyses provided support for the construct validity of the attributional dimension measures. Internal attributions tended to be personally controllable (within Time 1/2 $r_s = .74/.70$) and not controlled by others ($r_s = -.52/-.39$), and personal and other-controllable dimensions were negatively correlated ($r_s = -.61/-.35$). Stable attributions at Time 1 were generally internally located ($r = .33$) and not controlled by others ($r = -.36$), yet at Time 2 were correlated negatively with personal controllability ($r = -.31$). This finding, as well as the lack of significant correlations between the Time 1 and 2 attributional dimensions, suggests considerable temporal variability in the attribution measures as would be expected given their open-ended format and anticipated AR effects. Although no significant correlations were observed for self-esteem or the Time 2 attribution dimensions, Time 1 stability correlated negatively with employment ($r = -.36$) thus supporting Weiner's (1985, 1995) theory in showing stable failure attributions (e.g., ability, prejudice) to correspond with performance deficits.

Regression Analyses

The results of the regression analyses are outlined in Table 2. Findings revealed a significant main effect for self-esteem showing greater self-esteem to predict lower levels of internal attributions ($\beta = -.49, p = .002$). Concerning the critical AR x SE interactions, this effect was significant for internal attributions ($\beta = -.33, p = .019$; Figure 1), other-controllable attributions ($\beta = .32, p = .036$; Figure 2), as well as employment (logistic regression; odds ratio = .24, $p = .036$; Figure 3). The results for the control condition thus support Hypothesis 1 in showing greater self-esteem to predict fewer attributions for poor interview performance to others' controllable behavior and a higher rate of interview success. Concerning the performance outcome, control participants with higher self-esteem ($M + 1$ SD) demonstrated a 32% greater chance of employment relative to their lower self-esteem counterparts ($M - 1$ SD). Moreover, these results were also consistent with Hypothesis 2 in showing students with lower esteem who participated in the AR intervention to report higher internal attributions and demonstrate more employment success relative to their counterparts in the control condition. More specifically, students with lower self-esteem who received AR had a 32% greater probability of employment as compared to their counterparts who did not (69.35% vs. 37.63%).

In direct contrast to Hypothesis 3, however, were unexpected *negative* effects of AR for students with higher self-esteem. As shown in Figures 1 and 2, students with higher self-esteem who received AR were *more* likely to attribute unsuccessful interviews to external factors outside of themselves, and more specifically, the controllable behavior of others (e.g., interviewer questions) relative to their counterparts in the control group. Results also showed AR participants with higher self-esteem were significantly *less* successful in actual interviews as compared to their peers in the control condition. In contrast to the employment rates observed in the control group for students with higher self-esteem ($M + 1$ SD; 69.47%), students with higher self-esteem who received AR had a 36% lower chance of employment ($M - 1$ SD; 33.63%). In sum, whereas the expected benefits from AR were found for students with lower self-esteem on interview-related attributions and employment, unanticipated negative effects of AR on these measures were found for students with higher self-esteem levels.

Discussion

The present findings provide empirical support for *Hypothesis 1* in showing higher self-esteem among control participants to predict more adaptive attributions for unsuccessful employment interviews as well as better performance in an actual interview setting. More specifically, our results showed greater self-esteem to predict fewer attributions to the controllable behavior of others (e.g., the interviewer) and a higher probability of a successful employment interview among students who did not receive AR. These results are thus consistent with previous studies showing high self-esteem to correspond to more adaptive interview-related cognitions (e.g., perceived importance, control; Cook et al., 2000; Lorentz & Hintz, 1998) and behaviors (e.g., impression management; Delery & Kacmar, 1998), as well as better interview performance (e.g., Ellis & Taylor, 1983; Liden et al., 1993). Conversely, these findings also highlight the at-risk nature of students with lower self-esteem, whose tendency for *characterological* (internal/uncontrollable) failure attributions experiences are assumed to predispose them to repeated failure experiences (e.g., lack of ability; Campbell & Fairey, 1985; Hoyle et al., 1999; see also Cook et al., 2000).

To counter this negative prognosis, *Hypothesis 2* proposed that an attributional retraining intervention encouraging more adaptive, personally controllable attributions should lead to better interview-related outcomes for students with lower self-esteem. The present results provide support for this hypothesis in revealing significant interactions showing AR to contribute to more internal attributions as well as a 32% higher rate of employment among students with lower self-esteem ($M - 1$ SD) relative to their peers in the control group. These findings indicate that in addition to encouraging students with lower self-esteem to assume greater responsibility for their interview performance and blame others less for past failures, the AR intervention also contributed to a significantly higher probability of a successful employment interview for these at-risk students.

AR and High Self-Esteem: A Risky Combination

In addition to the benefits of AR for students with lower self-esteem, a consistent pattern of results also revealed unanticipated negative effects of AR for students with higher self-esteem. Similar to previous AR studies in which students with more adaptive characteristics showed no benefits following intervention (e.g., control strategies, Hall et al., 2006; locus of control, Menec et al., 1994; causal attributions, Struthers & Perry, 1996), *Hypothesis 3* suggested that students with higher self-esteem should not be impacted by the AR intervention. In stark contrast to this assumption, significant interactions showed AR participants with higher self-esteem to subsequently report *more* external and other-controllable failure attributions, as well as a substantially *lower* interview success rate relative to their peers in the control condition. These results thus indicate that following the AR intervention, students with higher self-esteem were more likely to blame past interview failures on external influences, and more specifically, the behavior of other individuals (e.g., the interviewers). These findings further suggest that students with higher self-esteem ($M + 1$ SD) who had participated in the AR intervention were about *half* as likely as their control counterparts to obtain job offers in employment interviews.

Despite the highly atypical nature of this negative finding for “non-risk” AR participants (Perry et al., 2005), such results are consistent with social-psychological research showing individuals with high self-esteem to react defensively to negative feedback posing a perceived ego threat (e.g., Hewitt & Goldman, 1974; Lecky, 1945; Swann, 1983). According to self-consistency theory, individuals with high self-esteem are especially motivated to maintain positive perceptions of their abilities and feel confused, distressed, and threatened by failure (Cohen, 1959; Stake, 1982). In response to or in anticipation of failure, high-self-esteem individuals have been shown to exhibit various maladaptive behaviors aimed at maintaining their positive self-views such as exaggerating effort, making excuses, blaming others, downplaying motivation, or self-handicapping (e.g., Brown & Smart, 1991; Dodgson & Wood, 1998; Kernis, Cornell, Sun, Berry, & Harlow, 1993; Kernis, Greenier, Herlocker, Whisenhunt, & Abend, 1997; Lobel & Teiber, 1994; McGregor & Marigold, 2003; Newman & Wadas, 1997; Schutz, 1998; Silvester et

al., 2002; Smith, Gerrard, & Gibbons, 1997; Smith & Petty, 1995; Taylor & Brown, 1988; for a review, see Baumeister, Campbell, Krueger, & Vohs, 2003). High self-esteem has also been found to predict defensive responses to negative feedback in interpersonal interviews such as discounting the credibility of evaluation methods or evaluators (Averill, 1982; Crocker, 1993; Kernis et al., 1993; Shrauger & Lund, 1975; Smalley & Stake, 1996; Stake, 1982).¹

Therefore, although the AR intervention simply provided students information concerning the benefits of controllable attributions for unsuccessful job interviews, it is possible that its failure-oriented nature prompted defensive reactions in high-self-esteem students (making excuses, blaming others). Moreover, these findings also showed poorer *performance* in actual job interviews among students with higher self-esteem who participated in the AR intervention. As such, this present study findings are unique in that whereas previous studies have found high (defensive) self-esteem to predict maladaptive behaviors such as cheating, aggression, substance abuse, and unsafe sex (see Baumeister et al., 2003 for a review), these results further indicate that negative consequences of failure-oriented feedback on actual *achievement outcomes* are also possible as a result of high self-esteem levels (cf., Valentine, DuBois, & Cooper, 2004).

Strengths and Limitations

Several aspects of the present study underscore the internal and external validity of the findings observed. First, this study is unique in administering a motivational intervention based on attribution theory to individuals in the process of actual employment interviews. Despite the increasingly competitive nature of the professional job market (Greenhouse, 2006; Weller, 2006) and declining employment opportunities even for college graduates (Goodman, 2010; TICAS, 2009; Tuna, 2008), programs aimed at preparing individuals for the motivational challenges of job interviews are not common. Second, the effectiveness of AR was assessed in relation to actual, real-world interview performance (i.e., job placements) in addition to a multidimensional, self-report measure of interview-related causal attributions. Moreover, these findings were observed controlling for critical background variables such as prior interview experience and academic performance, thus minimizing the effects of confounding factors.

Third, by demonstrating the significant moderating influence of students' self-esteem on the effectiveness of AR, this study contributes to AR research in highlighting the benefits as well as *risks* of the intervention in an employment interview setting. Moreover, our interaction findings also contribute to research on self-esteem in showing an otherwise beneficial *intervention* to elicit ego-threat responses as well as *performance* deficits in individuals with high self-esteem (cf., manipulated failure feedback; Stake, 1982). Finally, our results showing AR to help undergraduates with lower self-esteem from various faculties when administered in a *preventative* manner suggest that AR can help at-risk students to not only recover from initial failures (e.g., Hall et al., 2006) but may also prevent poor job interview performance in multiple employment domains (e.g., Engineering, Computer Sciences, Applied Health Studies).

With respect to study limitations, the first concerns sample characteristics in that our small sample size and co-operative education focus may have contributed to exaggerated findings. As students who enrol in a co-operative education program have invested considerable effort toward obtaining employment after graduation, they may also perceive failure-oriented information as more ego-involving than other students. Future studies aimed at replicating the effects of AR on job interview success based on a larger and more *normative* sample of upper-level undergraduates is warranted. Second, our study assessed self-report measures before and immediately after the AR treatment, but did not administer additional follow-up sessions. Whereas students with higher self-esteem may have perceived the AR information as insulting before interviews began (e.g., "how dare they say I might fail"), they may instead appreciate its utility following actual failure experiences (e.g., "this could help me avoid failing again").

Implications for Future Research

Concerning improvements to the intervention *content*, research by Steele, Spencer, and Lynch (1993, Study 2) suggests that reminding high-self-esteem individuals of their high self-esteem prior to ego-threatening feedback may prevent maladaptive responses.² Conversely, defensive responses may also be prevented by informing these students of the *risks* associated with defensive or unstable high self-esteem prior to the intervention (as outlined by Baumeister et al., 2003; Kernis et al., 1997). Consistent with studies showing high-self-esteem individuals to respond more positively to success-oriented feedback (e.g., Shrauger & Lund, 1975; Stake, 1982; see also Kernis et al., 1993), it is also possible that restating the failure-oriented AR message as promoting adaptive attributions for *success* (e.g., “sustained effort helps keep you successful”) and discouraging detrimental success attributions (e.g., “ability attributions can appear arrogant and do not help you improve”) may be more effective for students with higher self-esteem levels.

Finally, AR *methods* could be modified to minimize defensive reactions. Studies evaluating the preventative use of informational interventions often have detrimental consequences when administered in ego-involving educational contexts (e.g., school programs for eating disorders; O’Dea, 2000). Alternatively, interventions that are more *co-operative* in nature – allowing for feedback and positive interactions through small-group discussions – have been shown to improve health behaviors in students with low self-esteem while not adversely affecting their high-self-esteem counterparts (O’Dea & Abraham, 2000; see also Wade et al., 2003). This research thus suggest that AR methods involving group exercises (e.g., Ruthig et al., 2004; Struthers & Perry, 1996), rather than independent activities (e.g., Hall et al., 2006, 2007), may reduce negative effects for students with higher self-esteem by allowing them to observe less defensive reactions or clarify their interpretations of the intervention content.

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Footnote

¹The negative effects of high self-esteem are observed predominantly among a particular subgroup of high-self-esteem individuals who show considerable variability in self-esteem levels ("unstable" or "fragile" self-esteem; e.g., Kernis et al., 1993, 1997; Paradise & Kernis, 2002) or base their self-esteem on evaluative feedback ("defensive" or "contingent" self-esteem; e.g., Lobel & Tieber, 1994).

²This suggestion is contradicted by studies showing self-esteem enhancement programs to *negatively* impact academic self-concept in adolescents (Wade, Davidson, & O'Dea, 2003) and academic performance in unsuccessful college students (Forsyth, Lawrence, Burnette, & Baumeister, 2007).

Figure Captions

Figure 1. Attributional Retraining (AR) by Self-esteem on Attributional Locus of Causality.

Figure 2. Attributional Retraining (AR) by Self-esteem on Other-controllable Attributions.

Figure 3. Attributional Retraining (AR) by Self-esteem on Employment.

Table 1
Zero-order Correlations and Descriptive Data

* $p \leq .05$

Variables	1	2	3	4	5	6	7	8	9	10
1. <i>Self-esteem</i>	--									
<i>Attributions (Time 1)</i>										
2. Locus	-.07	--								
3. Stability	.00	.33*	--							
4. Personal control	.13	.74*	.17	--						
5. Other control	-.11	-.52*	-.36*	-.61*	--					
<i>Attributions (Time 2)</i>										
6. Locus	-.28	.00	-.35*	-.19	.22	--				
7. Stability	-.12	-.04	.03	.12	-.22	-.10	--			
8. Personal control	.05	.03	-.29	-.11	.25	.70*	-.31*	--		
9. Other control	-.05	.12	.33*	-.06	.04	-.39*	.23	-.35*	--	
10. <i>Employment</i>	.13	-.12	-.36*	.00	.13	.06	.30	-.19	.12	--
<i>M</i>	6.76	6.28	4.86	6.88	4.77	5.65	3.62	6.37	4.23	.53
<i>SD</i>	1.14	1.63	1.70	1.76	1.63	1.82	1.53	2.05	1.82	.50
α	.86	.76	.80	.91	.91	.83	.69	.92	.84	--

Table 2
OLS and Logistic Regressions

Outcomes	AR (β)	Self-esteem (β)	AR x self-esteem (β)	R^2
<i>Attributions</i>				
Locus	-.13	-.49**	-.33*	.34
Stability	.10	-.07	.07	.03
Personal control	.11	-.03	-.19	.12
Other control	.31	.06	.32*	.16
<i>Employment</i>	0.91	0.96	.24*	.36

Note. AR = attributional retraining. All regressions included prior work experience and number of college semesters completed as covariates. Time 1 levels were included as covariates in regressions on attribution measures. Adjusted odds ratios and Nagelkerke R^2 values provided for the logistic regression on employment.

* $p \leq .05$ ** $p \leq .01$





