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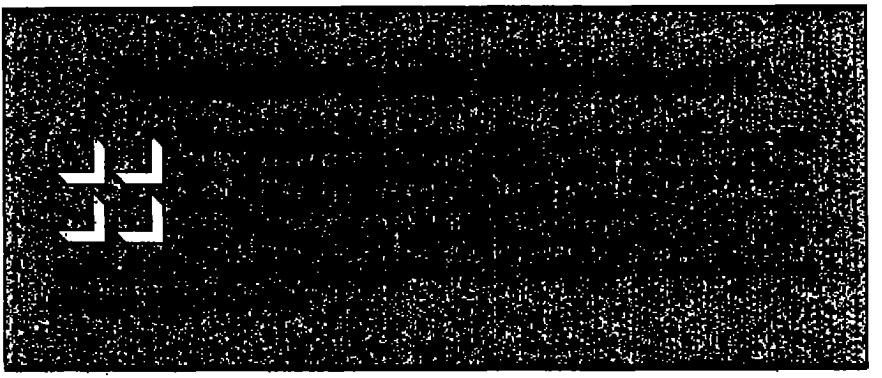

The Relationship Between Self-Esteem and Performance When Information Regarding Others' Performance Is Available

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CAMPBELL AND FAIREY (1985) ASKED university students to imagine performing either very well or very poorly on an anagram task and found that after students with low self-esteem imagined their own failure, their performance suffered. To extend Campbell and Fairey's study, we examined the relationship between self-esteem and performance when students had received information about peers' success or failure. To make the success or failure information salient to the participants personally, we required them to write an exact score that they expected themselves to attain in an upcoming "cognitive flexibility test of intelligence." Consistent with Campbell and Fairey's suggestion that people with low self-esteem are especially susceptible to the possibility of performance deficits

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under expectations of their own failure, we predicted a positive correlation between performance and self-esteem if information indicating past failure among peers was provided. For the success condition, we expected a nonsignificant correlation between participants' self-esteem and performance. The latter prediction was based on research showing that those with low self-esteem tend to be self-enhancing (e.g., Wood, Giordano-Beech, Taylor, Michela, & Gaus, 1994) and as willing to take risks as those with high self-esteem (Josephs, Larrick, Steele, & Nisbett, 1992) when it seems safe to do so. For comparison, a control group was given no information about success or failure rates.

Participants were Canadian undergraduate students. Informed consent was obtained. Participation was voluntary, anonymous, and confidential and had no effect on the students' academic standing. After the experiment, we explained fully to the participants the deception regarding the nature of the performance test.

At the start of the experiment, we randomly assigned 120 participants to one of three groups: success ($n = 34$), failure ($n = 39$), or control ($n = 38$). (We retained for analysis only questionnaires that participants had answered completely; the differing *n*s among the groups reflect missing data and participant refusals.) Initially, we told all participants that they would be completing a "cognitive flexibility test of intelligence." To ensure that the outcome of the test would be personally salient, we also told participants that they would receive feedback on their performance. They then completed the Rosenberg (1979) self-esteem scale (10 items, Cronbach's $\alpha = .91$).

Next, those in the success and failure groups were given different fictitious tables of frequencies of scores on a 10-item "cognitive flexibility test of intelligence" (see Jones & Regan, 1974) that was in reality a set of practice questions from the Graduate Record Examination (Brownstein, Weiner, & Weiner-Green, 1997). Supposedly based on the performance of 1,500 Canadian university students, norms had actually been designed to create the impression of either an easy test in the success condition (with a fictitious distribution of $M = 6.5$ out of 10, Mode = 7, $SD = 1.98$) or a difficult test in the failure condition (with $M = 3.5$ out of 10, Mode = 3, $SD = 1.98$). The distribution information was omitted from the control condition. Participants in the success and failure groups read the information and then wrote an exact score out of 10 that they expected to attain themselves. Participants in the control group didn't get any tables but also wrote their expected scores. Following this self-rating procedure, participants took the performance test, and the test session ended.

For a manipulation check, we used Tukey's HSD procedure to test for differences among the expected scores. We observed significantly ($p < .05$) lower mean expectations in the failure group ($M = 4.54$, $SD = 1.77$) than we observed in the success ($M = 6.78$, $SD = 1.24$) and control groups ($M = 6.24$, $SD = 1.21$). The last two groups did not differ from each other significantly. The grand mean ($M = 4.36$, $SD = 1.65$) of the performance scores was below the midpoint of the test (5 out of 10), suggesting that participants found the test difficult. The three

conditions did not show significant differences in mean test score, $F(2, 108) = 0.32$, *ns*. Self-esteem (overall $M = 66.4$, $SD = 13.9$) did not differ significantly among the three groups in either means, $F(2, 108) = 0.077$, *ns*, or variances, Levene's $F(2, 108) = 0.105$, *ns*.

The major results of this study show that self-esteem correlated positively with obtained score in the failure information group ($r = .32$, $p < .05$) and negatively with obtained score in the success information group ($r = -.38$, $p < .05$). Self-esteem did not correlate significantly with obtained score in the control group ($r = -.25$, *ns*). A test of differences among independent correlations shows that the correlation between self-esteem and obtained score was significantly different between the failure group and both the success group, $z = 2.97$, $p < .01$, and the control group, $z = 2.47$, $p < .02$. But that correlation was not significantly different between the success and control groups, $z = 0.59$, *ns*.

With recent interest in the conditions under which high self-esteem might be maladaptive (e.g., Baumeister, Heatherton, & Tice, 1993), the observation that self-esteem was negatively related to performance when students were led to expect success warrants further investigation. The observed similarity of results between the success and control conditions suggests that our participants tended to expect success, unless given a reason to expect otherwise. That observation might be relevant to methodologies that attempt to manipulate success and failure expectancies.

Although future research is required, the finding that self-esteem was negatively correlated with actual performance might best be explained in relation to the ambiguity of the "intelligence" test. Whereas participants in the failure and success conditions received information regarding the performance of other, ficticious students who had taken the test already, participants in all three groups had little information about the nature of the actual test items. This ambiguity about the performance test is important, given that those with high self-esteem have been shown to self-handicap in such situations (Tice & Baumeister, 1990). In the present study, a self-handicapping strategy might have been operating most strongly among participants with high self-esteem in the success condition. In that condition, after recording high expectations and then finding the test more challenging than expected, participants with high self-esteem might have reduced their effort relative to those with low self-esteem during the test. Such a reaction would have been an effective strategy to discount possible future negative feedback on their performance. Use of effort as a discounting factor would be expected among participants with high self-esteem because a transient, controllable, internal attribution fits their attributional style (Chandler, Lee, & Pengilly, 1997). In the failure condition, where participants tended to report lower expectations for success, difficulty with the test items would not be as threatening to the self. In that condition, a self-handicapping strategy would not be necessary for participants with high self-esteem; effort could be directed toward maximizing scores on the test rather than on strategies to protect the self.

The present study resembles a microcosm of the literature in which one might find positive (Campbell & Fairey, 1985), negative (Baumeister et al., 1993), and null (Chandler et al., 1997) correlations between self-esteem and performance. The present study demonstrates that beliefs about the self can have complex relationships with behavior—in this case, test performance—and that the effects of those relationships might relate to the ambiguity of the task at hand.

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