

REACTIONS TO POSITIVE AND NEGATIVE FEEDBACK: ENHANCEMENT AND CONSISTENCY EFFECTS¹

JAYNE E. STAKE
University of Missouri - St. Louis

Reactions of low, medium, and high self-esteem subjects to positive and negative feedback were explored in two studies of college undergraduates. Results indicated that feedback variables may be categorized along a continuum that includes affectively and cognitively mediated variables. Mood and satisfaction ratings were related to feedback and not to self-esteem level; attribution following failure feedback, source accuracy ratings, and performance improvement were related in some respects to both feedback and self-esteem level. Also, task importance ratings related to feedback and not to self-esteem, and changes in self-evaluations were unrelated to feedback or self-esteem.

Two approaches that attempt to predict reactions to feedback are consistency theory and self-enhancement theory. According to consistency theory (Cohen, 1959), the individual strives to maintain a consistent self-image; thus, high self-esteem individuals are predicted to reject negative (inconsistent) feedback and to be open to self-enhancing (consistent) feedback, whereas low self-esteem individuals are predicted to be accepting of negative (consistent) feedback and to be closed to self-enhancing (inconsistent) feedback. In contrast, self-enhancement theory holds that all subjects are motivated to enhance their self-evaluations; thus, all subjects are predicted to be more open to positive feedback than to negative feedback (Dittes, 1959). Reviewing the research in this area, Shrauger (1975) suggested that both of these theories may be useful in predicting some reactions to feedback. Shrauger noted that affective variables have tended to follow enhancement predictions whereas variables that are mediated by rational nonmotivational thought processes have tended to follow consistency predictions.

In considering the studies reviewed by Shrauger and other studies not in that review, it is not clear that all reaction variables studied fall into an affective/cognitive dichotomy. Instead, each of the variables seems to occupy a point along a continuum that includes at one end variables that are primarily based on affective states, at the other end variables that are cognitively mediated, and at the midpoint variables that are cognitively mediated, and at the midpoint variables that are derived from an interplay between affective states and cognitive processes.

Satisfaction and mood variables have generally followed self-enhancement predictions, so these variables appear to belong at the affective end of the continuum (Jones, 1973; Nicholls, 1975). Variables related to task recall (e.g., Aitkenhead, 1980; Silverman, 1964) and changes in self-evaluations (e.g., Shrauger & Rosenberg, 1970) have generally followed consistency predictions, so they appear to belong at the cognitive end of the continuum. Attribution and source

¹This research was supported by Grant MH 31044-01 from the National Institute of Mental Health.

assessment variables have confirmed some enhancement and some consistency predictions (see e.g., Aitkenhead, 1980; Schrauger & Lund, 1975; Zuckerman, 1978), so these variables appear to occupy a midpoint on the continuum.

Although past studies provide evidence for an affective/cognitive continuum of feedback variables, these studies differ in the size and nature of the subject sample, the self-esteem measures employed, and the number and type of feedback variables included. Studies are needed, therefore, to compare subjects' reactions with success and failure feedback within one methodological framework.

The purpose of the present set of two studies was to provide a more comprehensive test of subjects' reactions to feedback variables using the same design, the same definition of self-esteem, and the same type of subject sample to test all reactions. These studies were meant to provide an opportunity to further evaluate consistency and enhancement predictions for each variable and, therefore, to evaluate the validity of the cognitive/affective continuum as a means of organizing and understanding subjects' reactions to feedback.

STUDY 1 METHOD

SUBJECTS

Subjects were 123 female and 113 male undergraduates who received nominal credit for their participation.

PROCEDURE

Subjects were tested in groups of three to eight. Three females and one male served as experimenters. Two experimenters were present with each group to give instructions and to provide materials.

Prefeedback Measures and Procedures

The experimenters described the study's aim as improving students' ability to select educational and career goals in line with their abilities. Subjects evaluated their potential for college and career-related work on percentile scales and were then given a series of three tests that were described as a screening tool that was being devised to help students with educational and career planning.

After the testing, one experimenter collected the tests and went to a nearby room, ostensibly to score the tests. The remaining experimenter administered a set of questionnaires, including the Performance-Self-Esteem Scale (PSES). The PSES contains 40 items on which subjects rank themselves using a 7-point scale (e.g., "self-reliant," "makes mistakes when flustered"). Previous research indicates that the PSES is a reliable and valid measure of the ability/performance dimension of self-esteem (coefficient alpha = 0.90; see Stake 1979a, b; Stake & Stake, 1979).

Preliminary testing had indicated that feedback as far as 15 points away from initial self-evaluations was believable; thus, subjects were given feedback that indicated their performance to be either 12-15 points above or 12-15 points below their self-evaluations. Subjects were assigned randomly to these feedback conditions.

Postfeedback Measures and Procedure

After feedback subjects again evaluated their potential for college and career-related work in percentile form. Subjects also indicated on 7-point Likert-type scales their satisfaction with their scores on the test, their general mood, the extent to which they attributed the test results to chance, ability, effort, and task difficulty, and the extent to which they thought the test provided an accurate measure of their potential for college and career-related work.

DESIGN

Subjects were divided into low, medium, and high self-esteem groups on the basis of their PSES scores. The variables of PSES level, feedback, and sex of

subject formed a 3 x 2 x 2 factorial design for testing subjects' affect and ratings of test accuracy. Changes in self-evaluation of potential were tested in 3 x 2 x 2 x 2 repeated measures analyses of variance that included a pre/ post factor (time of evaluation) in addition to PSES level, feedback condition, and sex.

STUDY 1 RESULTS

Satisfaction and Mood

Analysis of satisfaction ratings revealed a very strong main effect for feedback, $F(1,224) = 181.20, p < 0.0001$. As predicted from enhancement theory, subjects in the success condition were more satisfied ($M = 5.58$) than were subjects in the failure condition ($M = 3.92$). No other effects were significant in this analysis. Similarly, the analysis of mood scores indicated that subjects receiving success feedback reported a significantly more positive mood ($M = 5.17$) than did subjects receiving failure feedback ($M = 3.92$), $F(1,224) = 60.48, p < 0.0001$, and the interaction between self-esteem and feedback was not significant. These results support the view that variables primarily influenced by affective states will show enhancement effects but not consistency effects.

The only other significant finding for mood was that high PSES subjects indicated a more positive mood than did low PSES subjects ($M = 5.17$ vs. 3.92), $F(2,224) = 4.21, p < 0.05$.

Attribution

Mean attribution scores appear in Table 1. As expected from enhancement theory, success subjects tended to use chance less than the other three attribution categories to explain their success, $F(3,327) = 21.84, p < 0.0001$. No other effects were significant in the analysis of success attributions. The analysis of failure attributions revealed a main effect for attribution category that also followed enhancement predictions, $F(3,327) = 9.92, p < 0.0001$; subjects were more likely to attribute failure to chance than to the other three categories. Also, an interaction effect was found between PSES level and attribution category, $F(3,327) = 2.13, p < 0.05$. Tukey comparisons indicated that high PSES subjects attributed failure to chance more than to ability ($p < 0.05$) but that low and medium PSES subjects did not. This relationship between self-esteem and failure attribution is predicted from consistency theory. These findings indicate that attributions are derived from a process that is primarily influenced by affective states that produce enhancement effects, but that these effects are partially tempered by nonmotivational processes.

TABLE 1: ATTRIBUTIONS FOR OUTCOME BY PSES GROUP

	<i>Success Feedback</i>				<i>Failure Feedback</i>			
	<i>PSES Score</i>				<i>PSES Score</i>			
	<i>Low</i>	<i>Med</i>	<i>High</i>	<i>M</i>	<i>Low</i>	<i>Med</i>	<i>High</i>	<i>M</i>
Chance	3.17	2.93	3.03	3.04	3.65	3.40	3.79	3.61
Ability	4.58	4.13	4.07	4.26	3.87	3.44	2.86	3.37
Effort	4.25	4.30	4.26	4.27	3.12	2.74	3.13	2.99
Task difficulty	4.15	3.83	3.76	3.92	3.09	2.75	2.60	2.80
Test accuracy ratings	4.65	5.17	5.40	5.06	4.06	3.62	4.04	3.90
Performance improvement scores	5.73	4.97	7.03	5.96	6.91	7.61	6.06	6.86

Assessment of Test Accuracy

As predicted from enhancement theory, success subjects yielded higher ratings of test accuracy than did failure subjects, $F(1,224) = 54.87, p < 0.0001$ (see Table 1). Also, the significant interaction between PSES level and feedback indicated that this self-enhancement pattern was stronger for high PSES subjects than for low PSES subjects, $F(1,224) = 3.62, p < 0.03$. Tukey comparisons revealed

that, as expected from consistency theory, the difference between test accuracy ratings in the success and failure condition was significant for medium and high PSES subjects ($p < 0.01$) but not for low PSES subjects. These results support the notion that source accuracy ratings are based on a process that is substantially influenced by both affective and cognitive components.

Changes in Self-evaluations

PSES level was related to self-evaluation, $F(2,223) = 10.18$, $p < 0.0001$; subjects increased their self-evaluations after success and decreased their self-evaluations after failure. No other effects were significant. Subjects in the two conditions moved their self-evaluations approximately the same distance toward the feedback (success subjects: 8.32%; failure subjects: 7.37%), so that post-feedback self-evaluations of both groups were midway between initial self-evaluations and feedback. Subjects had two sources of information from which to determine their postfeedback self-evaluations, their initial self-evaluations and the experimental feedback. Although one source of information was more favorable, subjects apparently made an equal compromise between the favorable and unfavorable sources. Further discussion of the results of Study 1 follow the presentation of Study 2.

Study 1 did not allow for a test of two feedback variables, recall of information and task importance ratings. Study 2 provided such a test.

STUDY 2 METHOD

SUBJECTS

Subjects were 93 female and 97 male undergraduates who received nominal credit for their participation.

PROCEDURES

Subjects were pretested on the Performance-Self-Esteem Scale several weeks prior to the experimental procedures. Subjects later met individually with one of four experimenters (two males and two females), who introduced subjects to Form A of a digit symbol test. Subjects were given directions for completion of the test, including a set of sample items, and were administered the first 60-second trial.

Following Trial 1, subjects received accurate feedback on the number of digits completed as well as bogus performance norms. Failure subjects were told that the average college student scored 1.15 times higher than they, so that the subjects were "definitely below average". Success subjects were told that the average college student scored 0.85 times the subjects' score, so that the subjects were "definitely above average."

Following the feedback, subjects were administered Form B of the digit symbol test, which constituted Trial 2. Subjects later indicated on a 7-point scale the extent to which it had been important to them to do well on the task.

Subjects were divided into low, medium, and high PSES groups on the basis of the same division points used in Study 1. PSES level, feedback condition, and sex of subject formed a $3 \times 2 \times 2$ factorial design.

STUDY 2 RESULTS

The mean performance improvement scores appear in Table 1. The interaction effect between PSES level and feedback condition was significant, $F(2,178) = 3.73$, $p < 0.03$. Low and medium PSES subjects improved more after failure feedback, whereas high PSES improved more after success feedback. No other effects were significant.

The analysis of task importance ratings indicated one effect, a main effect for feedback, $F(2,178) = 4.41$, $p < 0.04$. Subjects' ratings of the importance of the task were higher in the success condition ($M = 5.29$) than in the failure condition ($M = 4.84$), as would be predicted from enhancement theory.

DISCUSSION

The results of these studies and others indicate that subjects' responses to feedback differ in the extent to which they manifest affective and cognitive influences. On the affective end of the continuum were mood and satisfaction ratings. All subjects felt more satisfied and in a better mood with positive feedback than with negative feedback, regardless of initial self-estimates. In contrast, subjects' changes in self-evaluations indicated that subjects were not more influenced by positive feedback than negative feedback in changing their self-evaluations. Hence, while subjects liked the positive feedback and while the positive feedback put subjects in a better mood, subjects were not more inclined to trust the positive feedback in making changes in self-evaluations. This finding fits well with Jones' (1973) notion that, when subjects' responses have direct implications for subjects' future performance, enhancement effects do not occur.

The findings from Study 1 suggested that the derivation of accuracy and attribution ratings involved some interplay between what the subject wanted to believe (affective states) and what the subject believed to be consistent with initial self-appraisal (cognitive mediation). High self-esteem subjects rated the test as more accurate after success than after failure feedback, attributed failure to chance more than to ability, and attributed success to ability more than to chance, whereas low self-esteem subjects did not give significantly lower test accuracy ratings after success and failure and did not attribute failure to chance more than to ability. Thus, low self-esteem subjects responded somewhat more cautiously to success feedback than did high self-esteem subjects. That low self-esteem subjects were less likely to make enhancement ratings in these cases suggests that the low self-esteem subjects were more prone than the high self-esteem subjects to accept failure feedback as a guard against future disappointments. Although the low self-esteem subjects appear to give more rational ratings and although they may succeed in guarding against future disappointments, they may pay a price for these reactions in that they may limit their possibilities for future performance, thereby perpetuating a low self-esteem level.

Subjects' performance was facilitated more by feedback consistent with their self-concept than by inconsistent feedback. This finding suggests that feedback that is inconsistent with the individual's self-esteem level is somewhat confusing and disruptive to cognitive processes required for task performance, even when the feedback is positive. That information recall followed consistency predictions means that this variable belongs at the cognitive end of the proposed affective/cognitive continuum.

The task importance ratings showed enhancement effects only. Since subjects were asked to rate the importance of doing well on the experimental task and not the importance of doing well on any other intellectual tasks, these ratings probably did not carry implications for future tasks. Had subjects been asked to rate the importance of intellectual tasks in general, a rating that could carry future implications, then indications of cognitively mediated ratings may have occurred.

In summary, it appears to be useful to categorize variables on the basis of the extent to which they are influenced by affective states and cognitive mediation and to conceptualize feedback variables as ordered along an affective/ cognitive continuum. Variables on the affective end (e.g., satisfaction ratings) yield strong enhancement effects. Variables at the cognitive end that have explicit implications for future performance (e.g., self-evaluations) appear to be equally influenced by success and failure feedback. At these two extremes, subjects at each self-esteem level responded similarly.

Differences between self-esteem levels seem to occur for variables in the middle of the continuum (e.g., source accuracy ratings). For these variables, high self-esteem subjects made self-enhancing ratings that probably served to maintain their high self-esteem level, while perhaps raising expectations for future performance. In contrast, low self-esteem subjects were more cautious about their ratings, which probably served to reduce the possibility for future disappointments, but also contributed to the maintenance of their low self-esteem.

REFERENCES

- Aitkenhead, M. (1980). Consistency and self-enhancement: Coexistent or mutually exclusive? *British Journal of Social and Clinical Psychology*, **19**: 41-8.
- Cohen, A. R. (1959). Some implications of self-esteem for social influence. In C. I. Hovland and I. L. Janis (Eds.), *Personality and Persuasibility*. Yale University Press, New Haven.
- Dittes, J. L. (1959). Attractiveness of group as a function of self-esteem and acceptance by group. *Journal of Abnormal and Social Psychology*, **59**: 77-82.
- Jones, S. C. (1973). Self- and interpersonal evaluations: Esteem theories versus consistency theories. *Psychological Bulletin*, **79**: 185-99.
- Nicholls, J. G. (1975). Causal attributions and other achievement-related cognitions: Effects of task outcome, attainment value, and sex. *Journal of Personality and Social Psychology*, **31**: 379-89.
- Shrauger, J. S. (1975). Responses to evaluations from others, *Psychological Bulletin*, **82**: 581-95
- Shrauger, J. S.; Lund, A. K. (1975). Self-evaluation and reactions to evaluations from others. *Journal of Personality*. **43**: 94-108.
- Shrauger, J. S., Rosenberg, S. E. (1970). Self-esteem and the effects of success and failure feedback on performance. *Journal of Personality*, **38**: 404-17.
- Silverman, I. (1964). Self-esteem and differential responsiveness to success and failure. *Journal of Abnormal and Social Psychology*, **69**: 115-9.
- Stake, J. E. (1979a). The ability/performance dimension of self-esteem: Implications for women's achievement behavior. *Psychology of Women Quarterly*, **3**: 365-77.
- Stake, J. E. (1979b). Women's self-estimates of competence and the resolution of the career/home conflict. *Journal of Vocational Behavior*, **14**: 33-42.
- Stake, J. E., Stake, M. N. (1979). Performance-self-esteem and dominance behavior in mixed-sex dyads. *Journal of Personality*, **47**: 71-84.
- Zuckerman, M. (1978). Attribution of success and failure revisited, or: The motivational bias is alive and well in attribution theory. *Journal of Personality*, **47**: 245-87.

Requests for reprints and an extended report of this study should be sent to

JAYNE E. STAKE,
Department of Psychology,
University of Missouri-St. Louis,
St. Louis, Missouri 63121,
USA.