Chapter-II

Historical Resume

In the last chapter the effect of feedback on performance and self-confidence has been discussed. It was concluded that the feedback generally enhances the performance though the effect of negative and positive feedback may be different. It also appears from the discussion in the last chapter that some sex differences may be observed in the effect of feedback on self-confidence. A number of related studies and reviews that lead one to draw such conclusions will be reviewed chronologically in the present chapter. The first part of the chapter is related to the studies citing the effect of either positive or negative feedback. In the second part, the studies related to observed sex-differences in the effect of feedback on self-confidence will be reviewed.

Regarding the positive and negative feedback, there is hardly any study indicating the effect, directly on self-confidence. So the studies reporting the effect on performance will be emphasized here as Maccoby and Jacklin (1974) regards not only the performance expectancies but also completed performance to be a good and appropriate measure of self-confidence.
Deci (1971) conducted a series of experiments including two laboratory and one field experiment with 24, 24 and 8 undergraduates to investigate the effects of external reward on performance motivation. External rewards were given to the experimental subjects during the second period only while the control subjects received no reward. Results indicated that when verbal reinforcement or positive feedback were used, performance motivation tended to increase.

Amidon and Carey (1972) studied the ability of 50, 5.4-6.3 years old kindergarteners to carry out the command under a variety of training conditions. Findings on a post-test showed that international emphasis on before or after did not facilitate the task, but feedback as to the correctness of response greatly reduced the errors.

Further, Archer and Kagan (1973) investigated the effect of feedback on performance in an experiment where interpersonal communication skills were measured in a post-test design with personal orientation inventory, affective sensitive scale, and two measures of peer relationships. Participants in feedback groups (n=8 in each group) scored significantly higher than did the control group.
The feedback, however, not only improves the quantity of work. Even the qualitative changes as a result of feedback have been observed. One of such studies was conducted by Anima and Chitra (1973) in which feedback improved the quality of task performance. They presented two lists of 12 nonsense syllables each to 10 males and 10 females high school students under either a feedback or no feedback condition. The total number of trials to criterion was measured. Subjects in feedback condition made fewer errors than did the subjects in no feedback condition.

Newell (1974) performed an experiment on 140 junior high school boys. The use of peripheral feedback for movement control was precluded. Results supported that criterion performance was maintained during feedback withdrawal because a strong response-recognition mechanism had been established.

In a research by Fulmer and Rollings (1976), it was hypothesized that Ss receiving knowledge of correct answer to each item immediately after answering would exhibit superior test performance when compared to control group. 114 undergraduates were match-paired on the basis of their first examination scores. Scores on immediate feedback group were higher than those of the other group.
Simck and O'Brien (1978) also found similar findings when six golfers were given immediate feedback for head and body movement in a brief treatment session. Providing the immediate feedback of the inappropriate movement resulted in a statistically significant increase in the number of putts holed.

A study indicating the facilitating effect of feedback was conducted by Kalhavy, Yekovich and Dyer (1979). He selected 120 undergraduates who read a 25-frame programme on heart disease and either did or did not receive feedback after each frame response. Feedback enhanced post-test recall and reduced programme errors.

Hehr (1981) selected 60 educational students. Half of the subjects received cues directing their attention to certain trends in their teaching and the others remained completely on their own belief and were given no direction. Subjects who did not receive information could not improve the performance significantly.

Van Oudenhoven et al. (1982) reported that positive feedback led to achievement improvement.
He took 139 third graders who completed self-evaluations and four parallel versions of a spelling test before and after feedback. Subjects, in the control condition received non-individualized instructions in spelling while subjects in experimental condition received randomized positive feedback from teacher on spelling tests. As predicted positive feedback led to achievement improvement.

In an investigation related to positive verbal feedback, Vallerand (1983) took 50, 13-16 years old French speaking male hockey players, who performed at a task consisting of 24 slides that allowed the subjects to test their decision making abilities in simulated hockey situations. Students performed the task and received positive feedback in experimental condition and no positive verbal reinforcement in control condition. Results indicated that subjects receiving positive verbal feedback displayed higher level of internal motivation irrespective of the amount of feedback presented.

The hypothesis that feedback in the form of disclosure of cognitive style map information raises the academic achievement of college students
was investigated by Fourier (1983). Experimental subjects were administered a self-report inventory to obtain data to develop a cognitive style map, while control subjects were administered the Allport-Vernon-Lindzey study of values inventory. Semester grades were obtained from instructors. Experimental and control mean differences were statistically significant. It was concluded that disclosure of cognitive style map information had an important beneficial effect on academic achievement.

Decker (1983) also observed an enhancing effect of feedback on performance. Eight key behaviours for doing on job training were designed and 36 students were drawn from 2 evening business school courses. They were randomly assigned to three experimental conditions during the behavioral rehearsal position of the program. The presence of one observer and feedback increased reproduction scores.

Coria, Maria and Gonzalez (1984) conducted an investigation to verify whether the presentation of feedback was necessary for increasing the performance. 120, 7 yrs old® were divided into four groups. Results showed that both experimental groups presented a significantly higher number of correct answers in matrices tasks than control groups.
Schunk (1984) determined how the sequence of ability and effort attributional feedback influenced task motivation, attribution for success, self-efficacy and skill performance in 80 elementary school subjects in two experiments. In Exp. I, 40 Ss lacking subtraction skills received training and problem solved over 4 sessions. During problem solving, group I received periodically ability feedback, Group II received little effort feedback. Group III was given ability feedback during first 2 sessions and effort feedback during last 2; Group IV had the sequence reversed. Results for both experiments showed that Ss in group 1 and 3 developed higher ability attribution self-efficacy and subtraction skills compared with subjects in Group 2 and 4.

The effect of varying the frequency of feedback on performance in an applied setting—in the area of industrial safety was studied by Jagdeep S. Chhokar, and Jerry A. Wallin (1984). The behavioral safety of all the 58 employees in heat exchanger manufacturing and repair plant was monitored over 10 months period. The effect of varying the frequency of feedback along with some other interventions,
training and goal settings, was studied. The results indicated that more frequent feedback did not result in more effective performance than less frequent feedback.

Though it is clear from the above studies that the feedback generally improves the performance, the effect of positive feedback, however, differs from the effect of negative feedback. Such a comparison has been made by Hafner (1973). He conducted an experiment of verbal conditioning on 66 undergraduates. He scaled 20 words according to their reinforcing value. Undergraduates rated the words according to whether they would like or dislike to have a respected person. One each of positive, negative and neutral reinforcers was then used in the verbal conditioning experiment. Results indicated that the positive reinforcement produced a rapid progressive increase in the rate of responding. The neutral reinforcer produced at first an increasing rate of responding then a decreasing reinforcing characteristic.

Jacobs et al. (1973) pointed out that the positive feedback was consistently rated as being more credible than negative feedback. He divided 48 undergraduates in six program sensitivity training groups who received feedback that was either behavioral, emotional or combined-behavioral-emotion. The feedback was either positive
Schaible and Jacobs (1975) compared 4 sequences of positive and negative feedback and measured the effect of desirability and sequence of feedback on Ss perception of group attractiveness. 60 female undergraduates were assigned to 5 member groups which performed two consensus seeking exercises. Positive or negative feedback was given in varying order after each exercise. Positive feedback in general was perceived as more acceptable and desirable ($P < .001$) than negative feedback.

A study showing the comparison between positive and negative feedback, was also conducted by Jacobs (1977). He selected 96 undergraduates and divided into 12 groups. The feedback provided either positive or negative in nature and was delivered either publicly or anonymously. Positive feedback was rated as more credible and it produced greater cohesiveness. The credibility of negative feedback, as well as the cohesion of the group, suffered from the disclosure of negative emotional reactions.

McDonald (1980), however, concluded somewhat opposite to the above explained findings about positive and negative feedback. In this study, 96 female undergraduates received either positive or negative feedback on creativity task prior to being
given an opportunity to write a response to visual cue. Results indicated that Ss who received negative feedback wrote more in response to visual cue than did those who received positive feedback.

Castro et al. (1983) assigned 40 over weight 18-48 years old subjects to one of three conditions to study the effect of positive and negative feedback. Subjects were first trained in behavioral self-control methods for losing their weight. Ss in positive feedback were paid for weight loss while the subjects receiving negative feedback had to send money to either least preferred ideological group and were paid for weight gains and those in no feedback condition self-monitored their eating behavior. Subjects in all conditions produced significant weight losses; the negative feedback resulted in significantly more weight reduction than the other two procedures, but through treatment and maintenance.

The declining effect of praise was reported by Horn and Medway (1984). Eighty 1st and 2nd graders were assigned to eight experimental cells. They received either positive or negative feedback. Results indicated that negative feedback as well as
praise had divergent effect on task performance of boys and girls.

In the following section of Historical Resume, the studies related to the sex-differences in the effect of feedback on self-confidence would be discussed. The effect of feedback on self-confidence of males and females is different in feedback and no feedback condition. One of the no feedback studies were conducted by Rychlak and Eacker (1962). Subjects were asked to predict their performance at a novel manual dexterity task when no feedback had been given to them. Female college students anticipated doing less well than boys in that task.

Similarly Crandall (1969) found no sex-difference in changes in expectancy under varying reinforcement schedules either when eight-grade boys and girls performed a novel digit symbol matching task or when young adults performed a recall task.

Sex difference in changes in expectancy was not found among fifth grade students in a study by Montanelli and Hill (1969). They gave Ss either repeated praise or criticism on a task of marble dropping game.
Feather (1969) told his subjects that in order to pass a test, they must solve 5 out of 10 anagrams. Women's confidence in passing the test was lower than men's confidence.

Evidence also indicated that women did not have lower self-confidence than men in the presence of positive feedback. Feather and Simon (1971) found no sex-difference in confidence on passing a subsequent anagram test when the subjects had been given information on their task - specific abilities in the form of either a clear passing or failing scores on practice anagrams.

Another study using anagrams presented similar results McMahon (1973) tested sixth grade, tenth grade and college students on a series of anagrams whose difficulty level was manipulated to insure clear success on each. After they had solved or failed to solve each anagram, the subjects were asked to state how confident they were that they would solve the next. Again, no sex-differences in confidence were found.

House and Perney's (1974) findings were rather interesting and different from the above discussed
results. These findings led to an idea that women might have higher self-confidence than men when performance feedback is provided. Their subjects were first asked to solve five practice anagrams, insuring clear success or failure experience. When asked how many of 20 anagrams on the actual test they expected to solve, women predicted better scores for themselves than men in both success and failure conditions.

Further, college women expected to be less successful than their male peers. The subjects were asked to imagine themselves practicing in seven professions. These professions also included the relatively female-oriented fields of pediatrics. While anticipating for success in each profession, they expected to be inferior to men (Feldman-Summers and Kiesler, 1974).

Similarly Nicholls (1975) gave fourth grade students both practice and test-sessions on angle matching task, asking them to state their performance expectancies before each session. The subjects were told how many problems children of their age usually solved, and their own scores were manipulated to fall either far above or far below that norm. After the practice session, boys did expect to do better than girls but after the additional experience and
clear feedback provided by test session, this effect was eliminated.

Dweck and Bush (1976) reported that the effect of feedback is influenced by the source of feedback. He conducted two experiments with 105 female and 111 male 4th and 5th graders. The subjects were given failure feedback in the experimental condition. Among girls failure feedback from adults led to little improvement in performance on a series of digit letter substitution problems, but the failure from peers led to immediate and sustained improvement. Among boys, however, the failure feedback from adults led to rapid improvement but failure from peers led to no improvement over trials.

In another interesting study Stake (1979) discussed the role of one more variable i.e. advancement in the effect of feedback on self-confidence among men and women. She reported that college women may not develop as much confidence in their abilities as men. He administered the performance-self-esteem scale (PSES) to a cross-section of undergraduates. She found that more advanced male students had high PSES scores than less advanced male students, but that more advanced women did not have high PSES scores.
than less advanced women.

In a study by Dean B. McFarlin, and Jim Blascovich (1980) sex-differences in expectancies to work were related to self-esteem and not to feedback on performance. A 3x3 completely randomized factorial design was employed. High, moderate and low-esteeem female Ss were given either success, failure or no feedback regarding the performance "analogies test". Subjects preference for performance perceived ability for performance- and predictions for actual performance was assessed. Subjects with high and low levels of self-esteem perceived ability for future performance and expected actual future performance in a manner consistent with their levels of self-esteem rather than consistent with feedback on current performance.

Corbin, Stewart and Blair (1981) studied 20 males and 20 females (aged 6-10 years) to determine if self-confidence of young females in their motor performance abilities was affected by feedback. Results indicated that when performing a task perceived to be neutral in sex-orientation, in non-competitive, non-comparative environment the self-confidence of girls didn't differ from that of boys. In the absence of sex orientation of task and social comparison, girls did not seem to lack self-confidence nor did they seem to be more dependent on
performance feedback than boys.

Richard Lippa, and Cheryl Beanvais (1982) worked on sixty-one female and 62 male subjects who assessed on the feminity and masculinity scales of the Ben Sex Role Inventory. They answered multiple-choice question in a three-trial computerized quiz game. Subjects could modify the experimental situation in two ways: (a) They could choose questions' difficulty levels, (b) on trials 2 and 3 they could choose among sterotypically "feminine" "masculine" and "gender-neutral" question topic areas. Between trials 2 and 3 subjects were given either success/failure feedback. Results indicated that women chose less difficult questions and estimated their performance lower than did men.

Instone et al. (1983) investigated whether men and women in positions of equal power differ in the strategies they are to influence subordinates. Males and females were placed into a supervisory role in a simulated organizational settings and were compared on the frequency, ranges and types of influence strategies, they used to direct the work of three subordinates. Although gender differences consistent with general sex-
role were found, most differences were weak and only of marginal significance. Relative to males, females tended to make fewer influence attempts, used a more limited range or influence strategies and fewer rewarding strategies. Overall, females displayed lower levels of self-confidence than did males.

Schunk et al. (1984) conducted an experiment to study the sex-differences under feedback condition. Equal number of male and female students in grade 6th and 8th judged their self-efficacy for learning a novel mathematical task. Subjects received performance feedback by checking answers to problems. Although females initially judged self-efficacy lower than males, no sex-differences were obtained on any measure following training.

The above review of literature clearly indicates that women otherwise, have a lower level of self-confidence in social situations. The feedback especially the positive feedback, however, equalises or raises women's confidence above the self-confidence of men. The specific relationship between feedback and self-confidence must be verified empirically before using the feedback as facilitator.