A commonly investigated topic in psychology over the last 30 years has been goal setting (Locke & Latham, 1990a). A core finding of these studies asserts that there is a linear relationship between degree of goal difficulty and performance (Locke, Avengers, & Krumboltz, 1966; Locke, Latham, & Latham, 1990). These writers have also emphasized this effect to hard goals requiring greater effort and persistence than easy ones.

There has been, however, little research on the role of individual differences within the goal setting paradigm. Investigations that have been conducted (Locke & Latham, 1990a; Locke & Latham, 1990b; Martin & Murberger, 1994) characterize the results as inconsistent. Nowhere is this more evident than in the investigation of self-esteem and goal setting.

Self-esteem

Hall (1971) proposed a relationship among self-esteem, goal setting, and goal attainment. Hall's psychosocial success model suggests that high self-esteem individuals who have a generally high level of confidence will adopt more difficult goals than low self-esteem individuals. The much-supported relationship between goal difficulty and performance (Locke & Latham, 1990a) leads to the proposal that the high self-esteem individuals (having adopted more difficult goals) will then perform better than low self-esteem individuals which, in turn, reinforces their levels of self-confidence and, thus, the sequence repeats itself.

Research by Hall and Foster (1977), which tested the self-esteem/goal difficulty relationship, was supportive. However, an experiment by Hellenbock and Brief (1978) indicated a positive goal difficulty-performance relationship for all subjects who set goals, but only for high self-esteem subjects in an assigned goal condition. No relationship between goal difficulty and performance in the assigned goal group had been predicted for low self-esteem subjects, but an inverse relationship was found suggesting an interaction. Low self-esteem individuals assigned low goals had high performance, while those assigned difficult goals had low performance.

An additional study by Martin and Murberger (1994) examined the effects of self-esteem and two assigned goals (a “do your best” goal and a specific hard goal) on actual and perceived performance on a card sorting task. They found that there were main effects for self-esteem and type of goal on perceived performance such that high self-esteem subjects perceived higher self-performance than low self-esteem subjects, and “do your best” goal subjects perceived higher self-performance.
than subjects who received a hard goal. With regard to actual performance, the only significant finding was a main effect for self-esteem with high self-esteem individuals demonstrating higher performance. There were no self-esteem by goal interactions for either perceived or actual performance.

These results may not be limited to the complexity of the relationship between esteem and goal setting. The equinoval data may reflect inefficient sample size, inadequate selection between high and low self-esteem individuals, and inappropriate categorization of individuals. Hence, the present study recruited a large sample, categorized high and low self-esteem subjects into those failing in the top and bottom quartiles of the total distribution of ratings (as opposed to dividing at the median, as is typical), and involved the CooperSmith Self-Esteem Inventory, a well-known and validated measure of self-esteem.

Based on the above considerations, the following hypotheses were tested: (1) There will be a positive, linear relationship between difficulty of goal and performance when self-esteem differences are not analyzed; (2) Performance of high self-esteem subjects will increase more than that of low self-esteem subjects with more difficult tasks; (3) Hard goals will show higher performance than moderate difficulty goals and both will result in higher performance than easy goals regardless of self-esteem scores.

Method

Fives study to determine goal level.

The purpose of the pilot was to select goal difficulties such that 50% of the individuals given an easy goal would accomplish it, 50% of the subjects given a moderately difficult goal would reach it, and 10% of these individuals given a hard goal would achieve that goal. An iterative procedure was used which acquired successive approximations to the predetermined percentages expected above. Using this procedure, an easy goal was defined as a 10% increase in correct scores on the second recited, a moderately difficult goal was defined as a 20% increase, and a hard goal was defined as a 50% increase. These goals were then used in the main experiment which is described below.

Subjects

The subjects were 188 undergraduate students recruited from a small Southern university. A total of 116 subjects were introductory psychology students who participated in the experiment in partial fulfillment of their course requirements. 62 subjects were recruited from a college newspaper advertisement offering money for participation (M = 20.58, SD = 2.54).

Instruments

Self-esteem was measured with Cooper-Smith's 25 item Self-esteem Inventory (SEI). Form B (1967). Siegman and Tornoka (1974) provide data on the reliability and validity of this scale. Coefficient alpha for this measure in this study for all 188 subjects was .83 indicating satisfactory internal consistency.

Examples of some items are as follows: "I am a lot of fun to be with," "I often feel upset in school." "Most people are better liked than I am."

Employing position in the group was an index of relative self-ascription as is done by Coopersmith (1967). The present investigation designated the upper quartile of the sample as indicative of high self-esteem and the lower quartile of the sample as low self-esteem. Mean self-esteem scores on the SEI (for all 188 subjects participating in the experiment) was 63.6 (SD = 16.6). Individuals high in self-esteem (n = 47) had a mean score of 81.3 (SD = 4.4) on the SEI while the low self-esteem individuals (n = 47) had a mean score on the SEI of 41.0 (SD = 16.1).

Task and Procedure

Due to logistical considerations the exper-
intent was conducted during two sessions. In session 1, the SRT scale was administered. Number of cards sorted was the performance measure and was obtained from subjects during a second session which took place one to eight days after the first. The number of subjects varied from one to eight per session but in most sessions there were at least four. Each subject was given an individual card-sorting board with a stack of cards to be sorted. The card-sorting boards were circumscribed by 36 in. high partitions that prevented subjects from viewing one another.

Subjects were assigned to a specified partition, introduced to the card-sorting board, and told that the task was an information sorting exercise. Each 3 in. x 5 in. card contained information about an individual's sex (male, female), education (BA, no BA), and income ($5,000-$7,000, $7,000-$10,000, $10,000+). Thus, 12 configurations of information (2 x 3 x 3) were possible. The subject's task was to read the card and place it on one of 12 piles which corresponded to that portion of information.

The task was structured so that performance could vary only along the quantity dimension. This was accomplished by punching three holes on the cards the subjects sorted with one hole corresponding to the sex data on the card, another hole corresponding to the education data on the card, and the last hole corresponding to the income data on the card. Thus, 12 unique patterns of three holes were generated, one pattern for each possible configuration of data. Also, 12 corresponding patterns of metal spikes were attached to a 24 in. x 36 in. sorting board. To sort one card correctly, the subject was required to identify the pattern of data on the card and then place the card on the three spikes corresponding to the same information on the board. If the subject made an error, the card did not fit on the spikes. Thus, no variation in quality was possible.

After a standardized explanation of the task, each subject was given a stack of 24 well-shuf

fled practice cards, two for each of the 12 possible positions, and asked to sort them to become familiar with the task. After answering questions, the subjects were given a large stack of cards and asked to sort them as fast as possible for 10 minutes. Then, the subjects were asked to stop and the cards were removed and taken to another room to be counted.

At this point, subjects were randomly assigned to one of three experimental manipulations: easy goal (n=29; 10% increase over Trial 1 performance); moderately difficult goal (n=36; 20% increase over Trial 1 performance); hard goal (n=33; 50% increase over Trial 1 performance). Subjects were told by the experimenter that these percentages were obtained by other participants. Thus, difficulty was conveyed by merely giving subjects relevant norm data. This procedure has been employed in numerous gest setings investigations (Locke & Latham, 1990a). Verbal commitment to the goal was then obtained from all subjects. A large stack of cards was again given to each subject. This stack was seen by all subjects as clearly impossible to sort in the second 10 min period and was given so subjects would not set a goal of trying to sort the entire stack of cards. At this point subjects began card-sorting a second time and were stopped exactly 10 min later.

In a post-task questionnaire goal acceptance was measured by response to a single item ("For your second card-sorting try, did you set a performance goal? If you marked yes, please describe your goal.") Subjects were then debriefed, paid (if appropriate), and then dismissed.

A three-way factorial ANOVA (self-esteem x goal difficulty level x pay) was used to test the hypotheses. Pay was included only to determine if it affected the two research variables of interest.

Results and Discussion

All groups were compared on their Trial 1
card sorting scores and no differences were found (p > .05). Because some subjects were paid while others were not it was decided to determine if payment of subjects had an effect on performance. To evaluate this, a 3-factor (pay, goal difficulty level, self-esteem) unequal n ANOVA design employing Trial 2 performance as the dependent measure was used. There was no main effect for pay (F < 1) and no significant interactions containing the pay factor (Fs < 1). Therefore, the pay versus no pay groups were combined in all subsequent analyses.

Additionally, a series of one-way analyses of variance indicated that low and high self-esteem subjects in the three goal difficulty groups did not differ significantly (Fs < 1) in their response to an item indicating whether they accepted the assigned goal. All subjects reported accepting their designated goals.

The performance criterion was the number of cards sorted on Trial 2. Means, standard deviations, and as for high and low self-esteem individuals for each goal are provided in Table 1. Note that Trial 2 card sorting performance was highest for high self-esteem subjects given a moderately difficult goal yet lowest for low self-esteem subjects given the same goal.

Hypothesis 1 predicted a linear relationship between difficulty of goal and performance when all subjects were included in the analysis. This is the typical goal setting effect. For all 188 subjects combined, under the easy goal, 87% of the subjects assigned the goal attained it, while under the moderate goal condition 52% of the subjects attained the goal; and 10% of the subjects assigned the hard goal were able to accomplish it. Thus, the choice of difficulty used in the experiment yielded the anticipated difficulties of 10%, 50%, and 90% quite well.

Figure 1 presents the mean number of cards sorted on Trial 2 for all subjects participating in the investigation as well as for subjects classified as low and high in self-esteem. A positive linear relationship between performance and goal setting is clear when all subjects participating in the experiment were examined. A one-way analysis of variance among the three difficulties of goal yielded an overall F(2, 185) of 3.15 (p < .05). Planned comparisons among the three means indicated that only the easy versus hard conditions differed significantly (p < .05). These results are consistent with predictions from goal-setting theory of a linear function relating goal difficulty and performance.

Hypothesis 2 suggested that performance would increase for high self-esteem subjects relative to low self-esteem subjects as the task goal becomes more difficult. Essentially, this hypothesis predicts an interaction between goal level and self-esteem. Figure 1 also contains plots of the mean Trial 2 performance on each

<table>
<thead>
<tr>
<th>Goal Difficulty Level</th>
<th>High Self-esteem</th>
<th>Low Self-esteem</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
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<tr>
<td>Hard</td>
<td>168.6</td>
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<td>Moderate</td>
<td>180.1</td>
<td>36.8</td>
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<tr>
<td>Easy</td>
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Table 1
Means, Standard Deviations, and n for High and Low Self-esteem Subjects on Trial 2 Card Sort
of the goal difficulties for the two self-esteem groups. The data were subjected to a 3 (goal level) x 2 (self-esteem) analysis of variance for unequal n, S. Main effects for goal difficulty or self-esteem were obtained (Fs < 1). An interaction between goal level and self-esteem was observed (F(2,88) = 3.14, p < .05) although not in the manner expected (it was anticipated that both high and low self-esteem subjects would show a positive linear relationship, with the high self-esteem score having a steeper slope). For low self-esteem individuals a U-shaped function was obtained with performance poorest when the moderately difficult goal was assigned, while for high self-esteem subjects an inverted U-shaped function was seen, i.e., performance was higher for the moderately difficult goal.

Hypothesis 3 predicted that for both self-esteem groups, hard goals would be associated with higher performance than moderately difficult goals which would have showed higher performance than easy goals. As indicated in Figure 1, the data do not confirm this hypothesis. The interaction suggests that the relationship between goal difficulty and performance is moderated by the subject's generalized self-esteem. Performance for the high self-esteem group tended to be best for the moderately difficult goal while the low self-esteem group performed better at easy and hard goals than the moderate one. This interaction is consistent with a number of studies by Broderick and his colleagues who have found that self-esteem is related to the dependent variables of interest in a curvilinear fashion (Broderick, 1988; Broderick, Daly & Carter, 1985; Broderick & Elkind, 1985; Broderick, Heilman & Phas, 1985). The consistent finding in Broderick's studies is that low self-esteem
individuals respond differently from high self-esteem subjects.

This interaction is also partially consistent with Hollenbeck and Brief (1987) who found that assigning low goals to low self-esteem subjects resulted in high performance, however the finding that low self-esteem individuals performed better than high esteem individuals for difficult goals is not consistent with the Hollenbeck and Brief (1987) research study of Martin and Murberger (1994) investigation.

Another explanation for the findings may be that the individuals in this study are simply varying in their conformity to the experimental demands to work hard. Research has shown that individuals relatively low in self-esteem are often easier to persuade than those high in self-esteem (Janss, 1954). Lacking in self-confidence, low self-esteem individuals are more susceptible to social influence form others. If this were the case then one would expect to find that low self-esteem subjects performing higher than high self-esteem subjects. This is clearly not the case for moderately difficult goals where high self-esteem subjects performed substantially better than their own self-esteem counterparts.

It may be that the larger sample size of the present study the use of only male subjects, the great differentiation between high and low self-esteem individuals, or the use of Cooperstein's SEI may have accounted for these differences. An additional consideration concerns when self-esteem is measured. In the Hall and Ivester (1977), Hollenbeck and Brief (1987), and Martin and Murberger (1994) studies self-esteem was measured immediately prior to subjects beginning the task. It is possible that when self-concept is made salient, the results will be based on context effects (Schwarz & Struman, 1992). This is particularly true for self-esteem given that most self-esteem measures are quite transparent (Broockner, 1880). In the current study, self-esteem was measured in a totally different context (a large lecture hall) 1-8 days before subjects returned to a psychological laboratory for completion of the experimental task thereby making self-esteem less salient when the dependent variable was assessed.

In summary, goal setting has been shown to be effective in various industrial settings (Locke & Latham, 1990a). Perhaps investigation of individual differences measures in an applied setting may maximize performance further by better tailoring goals or tasks assigned to a specific person. This means that no single work situation is optimal for everyone; no type of personality is most productive in all situations, and that no single generalization about the effects of strength of motivation apply to all tasks.

Other individual differences variables to be investigated might include self-efficacy, need for achievement, and Type A/B. Further studies might explore sex differences and various personality variables within the goal-setting paradigm using a no-goal control group. Additionally, research could focus on a replication of this study using multiple tasks varying in complexity and/or interest. It is possible that there is an interaction between some aspect of the task itself (e.g., task complexity) and self-esteem.

References


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