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*Competition; *Failure; Higher Education; *Success; Undergraduate Students *Intrinsic Motivation

Studies investigating intrinsic motivation and competition have supported the view that competition decreases intrinsic motivation. More recent studies suggest that the specific outcome of a competition (a win or a loss) differentially affects intrinsic motivation by highlighting the informational rather than the controlling aspect of the reward of winning. These studies showed that winning in a competitive situation increased intrinsic motivation relative to losing. To further understand the effects of competition on intrinsic motivation, a study was conducted which compared intrinsic motivation following competition with intrinsic motivation following an individualistic situation. Undergraduates (N=155) were randomly assigned to one of three groups: students who won in competition against a confederate in a puzzle-solving competition, those who lost in such competitions, and those who worked individually at solving the puzzles. All subjects were observed in a free-choice 8-minute interval after the experimenter and confederate had left the room. The measure of intrinsic motivation was the amount of time the subject played with the puzzle in a free-choice interval. The results indicated that competitive winners displayed more intrinsic motivation than did individualistic winners and winners in the individualistic situations displayed more intrinsic motivation than did competitive losers. (NRB)
Individualistic vs. Competitive Participation: 
The Effect on Intrinsic Motivation

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Running Head: INTRINSIC MOTIVATION

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Individualistic vs. Competitive Participation: 

The Effect on Intrinsic Motivation 

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Abstract 

The effects of competitive and individualistic participation with a task were compared for their effects on intrinsic motivation. Competitive participants who beat a confederate displayed significantly more intrinsic motivation than did individualistic participants, who, in turn, displayed more intrinsic motivation than competitive participants who lost to a confederate.
Intrinsic Motivation

Individualistic vs. Competitive Participation:
The Effect on Intrinsic Motivation

A number of studies conducted by Edward Deci and his colleagues have been concerned with intrinsic motivation. In 1980, Deci and Ryan (Deci & Ryan, 1980) defined intrinsically motivated behaviors as those behaviors which are prompted by the underlying need for competence and self-determination. The purpose of the present investigation was to examine how competition affects intrinsic motivation. Deci, Betley, Kahle, Abrams, and Porac (1981) proposed that competition -- the act of trying to win -- would reduce intrinsic motivation relative to competition. They hypothesized that in competition, the act of trying to win highlights the controlling aspect of the reward of winning.

To test the hypothesis that competition was controlling, Deci, et al (1981) devised two experimental conditions: competitive and noncompetitive. For the competitive condition, two individuals were induced to compete via instructions to try to beat the other person in a puzzle-solving contest. One of the individuals in each trial was an experimental confederate who had previously been instructed to lose the competition. On the other hand, the pair in the noncompetitive condition were instructed only to do the best they could in solving the puzzles. In this condition, the confederate also allowed the naive subject to solve the puzzle first. The results of the study did indeed support the Deci hypothesis that competition
Intrinsic Motivation decreases intrinsic motivation relative to competition.

Recently however, Reeve, Olson, and Cole at Texas Christian University (1985) performed studies which suggest that the specific outcome of a competition (i.e., a win or a loss) differentially affects intrinsic motivation by highlighting the informational, as opposed to the controlling, aspect of the reward of winning. Specifically, the Reeve group found that winning in a competitive situation increases intrinsic motivation relative to losing.

In these studies, both winners and losers were instructed to try to beat the opponent. Therefore, the controlling aspect of competition was held constant and the informational aspect became salient. When the informational aspect is salient, either competence or incompetence feedback is available to the individual. When competence feedback (i.e., winning) is received, intrinsic motivation increases relative to when incompetence feedback, or losing, is received. The two perspectives are illustrated in Figure 1.

To further understand the effects of competition on intrinsic motivation, our group compared intrinsic motivation following competition with intrinsic motivation following an individualistic situation. In the latter condition, only one person works at the task and receives equivocal feedback. Thus, the present study compares the effects of individualistic and competitive participation on
intrinsic motivation. If the Deci, et al (1981) group is correct in their assumption that competition decreases intrinsic motivation relative to no competition, and if the decrease in intrinsic motivation follows from the fact that the informational aspect is not salient when the controlling aspect is salient, then persons in the individualistic situation should show no less intrinsic motivation than persons in competition, regardless of their competitive outcome. If, on the other hand, Reeve, et al (1985) are correct, then winners should show the highest level of intrinsic motivation while losers should show the least intrinsic motivation. Moreover, those persons in the individualistic situation should show intrinsic motivation which is lower than that for winners, but higher than that for losers.

Method

Participants were 155 undergraduate students (81 females and 74 males) at Texas Christian University. Contestants were randomly assigned into one of three groups: students who won in competition, those who lost in competition, and those who worked individualistically.

For the competitive condition, subjects were informed that the present experiment involved puzzle-solving in a
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competitive environment and that the object of the task was
to complete the solutions of the puzzle before the other
person. The confederate either won or lost three
competitive trials. When the confederate won, he or she
found each solution within a minute; when the confederate
lost, solutions were not completed for any of the three
puzzles, and the naive subject was allowed to win.

Participation in the individualistic situation was
identical to the competitive conditions except that the lone
subject was informed that the object of the task was to do
the best that they could at solving the puzzles.

In all three conditions, the subject was
surreptitiously observed in a free-choice 8 minute interval
after the experimenter and confederate had left the room,
preumably for an interview.

Results and Discussion

The measure of intrinsic motivation was the amount of
time the participant played with the puzzle in the
free-choice interval, within a range of 480 possible
seconds. Means and standard deviations for each condition
by gender are presented in Table 1.

Planned comparisons on the data showed that, as
predicted, competitive winners showed more intrinsic
motivation than did individualistics and individualistics showed more intrinsic motivation than did competitive losers. Significance was at the .04 level.

The pattern of means of the three experimental conditions was also tested. A test for linear trends among the conditions was significant at the .001 level. Thus, the competitive winners exhibited the greatest amount of intrinsic motivation, the competitive losers the least, and the individualistic participants were intermediate.

The results of the present study not only supported the hypothesis that winners receive informational competence feedback and losers receive informational incompetence feedback, but took a further step in examining the effects of competition on intrinsic motivation. If, in individualistic situations it is assumed that individuals' feedback is either ambiguous, equivocal, or uninterpretable, then their intrinsic motivation measures should fall between that for individuals who receive competence feedback, and individuals who receive incompetence feedback. The results of the present study supported this hypothesis in that winners showed more intrinsic motivation than individualistics who, in turn, showed more intrinsic motivation than losers.

So the present study did not support the Deci, et al (1981) assumption that competition decreases intrinsic
motivation relative to no competition. Moreover, and in conjunction with the Reeve, et al (1985) study, it rejects the proposition that in a competitive situation the controlling aspect is salient and dominates over the informational aspect.
Two Perspectives on the Effect of Competition on Intrinsic Motivation

PERSPECTIVE

A (Deci): Competition is Controlling \(\rightarrow\) Intrinsic Motivation Is Always Decreased

If Win: Intrinsic Motivation Increases

If Lose: Intrinsic Motivation Decreases

B (Jones): Competition is Informational

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Figure 1
Table 1
Means and Standard Deviations of Puzzle-Playing Time
in Seconds for Experimental Condition by Gender

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>GENDER</th>
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<tbody>
<tr>
<td></td>
<td>FEMALES</td>
</tr>
<tr>
<td>WINNERS</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>214.8</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>(192.9)</td>
</tr>
<tr>
<td>N</td>
<td>22</td>
</tr>
<tr>
<td>INDIVIDUALISTICS</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>182.8</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>(181.9)</td>
</tr>
<tr>
<td>N</td>
<td>29</td>
</tr>
<tr>
<td>LOSERS</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>105.2</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>(140.1)</td>
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<td>N</td>
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References

