Journal of Personality and Social Psychology
1975, Vol. 31, No. 4, 699–705

Effects of Task-Intrinsic Rewards upon Extrinsic and Intrinsic Motivation

Arie W. Kruglanski, Aviah Riter, Daniella Arazi, Raphael Agassi, Joseph Monteqio, Isaac Peri, and Mira Peretz
Tel-Aviv University, Tel-Aviv, Israel

This report contains three (conceptual) replications of an experiment designed to test the relation between the magnitude of task intrinsic rewards and the degree of intrinsic and extrinsic motivation toward the task. Based on an attributional analysis of task motivation, it was hypothesized that (a) the degree of intrinsic motivation will vary as a positive function and (b) the degree of extrinsic motivation, as a negative function of task-intrinsic rewards. Both predictions were supported within each of the separate replications. The discussion considered the theoretical and the practical significance of the findings.

The distinction between intrinsic and extrinsic motivation has been of long-standing interest within psychology. However, recent attributional analyses (e.g., Bem, 1967; Kelley, 1967, 1971; Jones, Kanause, Kelley, Nisbett, Valins, & Weiner, 1971) have brought about a recrudescence in the research activity on this topic (e.g., Deci, 1971, 1972a, 1972b; Kruglanski, Alon, & Lewis, 1972; Kruglanski, Friedman, & Zeevi, 1971; Lepper, Greene, & Nisbett, 1973).

Within the attribution theory, motivation toward a task or a behavior is assumed to follow from an inference (attribution) made by the actor regarding the locus of causality for his own behavior. Cast in these terms, intrinsic motivation is said to obtain whenever the actor's self-attributed cause for his activity inheres in that activity, and extrinsic motivation obtains whenever the cause is exogenous to the activity. Important implications for a theory of task motivation follow from the attributional principle of discounting (Kelley, 1971), whereby the person's magnitude of an attribution to any given cause varies inversely with the number of apparent causes. Thus, in an instance where both an extrinsic circumstance and an intrinsic aspect of the task appear as plausible causes for one's behavior, attribution will be weaker than in the case where no extrinsic cause was evident. By now there has accumulated in the literature substantial evidence in support of the foregoing proposition. The present reference is to research which demonstrates that the absence (vs. presence) of extrinsic rewards enhances the actor's intrinsic motivation for an activity. For example, workers in the area of forced compliance (e.g., Carlsmith, Collins, & Helmreich, 1966; Festinger & Carlsmith, 1959; Linder, Cooper, & Jones, 1967; Nel, Helmreich, & Aronson, 1969) reported repeatedly a negative relation between the magnitude of task-extrinsic inducement offered for the performance of a (counterattitudinal) task and subsequent liking for the task (assumed to constitute one index of intrinsic motivation). That the negative relation between extrinsic rewards and intrinsic motivation extends to tasks which are not counterattitudinal is suggested by several further experiments. For example, Weick (1964) found that the cancellation of credits for participation in an attractive concept-attainment experiment increased the rated interest in the task. Kruglanski et al. (1971) found that under extrinsic incentives (a promised visit to the university), the performance of high school students on (attractive) tasks of verbal skill was characterized by weaker intrinsic motivation (indexed by the Zeigarnik

This research was supported by Grant 7 from the Ford Foundation (through Israel Foundation Trustees) to the first author.

Requests for reprints should be sent to Arie W. Kruglanski, who is now at the Department of Psychology, University of North Carolina, Chapel Hill, North Carolina 27514.

ratios) as compared with a no-extrinsic-incentive condition. Similarly, Kruglanski et al. (1972) found that subjects led to believe that their participation in various team competitions had been prompted by attractive rewards reported a lower interest in the games as compared to subjects who had not been given or made aware of such rewards. Deci (1971, 1972a, 1972b) found that subjects who had been paid to solve geometric puzzles spent less time on these activities during a subsequent free-choice period as compared to subjects who had not been previously paid. Also, Lepper (Greene & Lepper, in press; Lepper, Greene, & Nisbett, 1973) showed that nursery school children who engaged in a novel activity for a prize (vs. no prize) spent less time on this activity during a test session conducted 1 to 2 weeks following the experimental treatments.

The research just reviewed demonstrates the applicability of attribution theory to the phenomena of task motivation with respect to a single relation, notably the negative one between the magnitude (or the presence) of extrinsic rewards and intrinsic motivation. As noted earlier, this tendency has been accounted for by the attributional principle of discounting, which suggests in this instance that the presence of an extrinsic cause for an activity lowers the actor's magnitude of attribution to an intrinsic cause. But the discounting principle has a symmetrical implication, namely, that the presence (vs. absence) of a plausible intrinsic cause for an activity should lower one's attribution to an extrinsic cause. In other words, this suggests the first hypothesis, a negative relation between the magnitude of intrinsic rewards and the degree of extrinsic motivation.

The lowering of attribution to an extrinsic cause under conditions in which a plausible intrinsic one is apparent should be accompanied by a concomitant enhancement in intrinsic attributions. Therefore, a second hypothesis is suggested: Intrinsic motivation should vary as a positive function of the intrinsic rewards contained in an activity. The foregoing hypotheses were tested in three separate experiments described below.

GENERAL PARADIGM

The three studies to be reported were based on the same conceptual paradigm and differed in theoretically irrelevant detail. Specifically, in all cases the subjects were solicited to perform an unspecified task for monetary pay. In one experimental condition (high intrinsic reward) the task turned out to be interesting and challenging. In the other condition (low intrinsic reward), it was dull. The dependent variables included (a) measures of intrinsic motivation (e.g., the degree of willingness to volunteer for similar tasks in the future) and (b) measures of extrinsic motivation (e.g., the importance attached to the monetary pay received). The description of the specific experiments follows.

EXPERIMENT 1

Method

Subjects

Forty boys and girls from Grades 6 and 7 of elementary school[1] served as subjects. They had volunteered for an experiment alleged to study the psychology of language in return for a 1 IŁ fee.[2]

Procedure

The experiment took place during regular class time at the subjects' school. Each subject in his (her) turn departed from his (her) class and was referred to a separate room which served as the experimental laboratory. Upon arrival, the subject was greeted by the experimenter (the sixth author), who reminded him (her) that the experimental task had to do with the psychology of language. The experimenter also stated that he had no interest in testing each subject's intelligence or personality and that only group averages would be considered. In addition, the experimenter reminded the subject that he (she) would be paid a fee of 1 IŁ upon the completion of the experimental task.

The high intrinsic reward condition. The task in this condition consisted of a verbal puzzle. The subject was presented with a list of five Hebrew words and was asked to construct the maximal number of meaningful words out of the letters of each word on the list. A pretest had indicated that children of the subjects' age and background found this task highly attractive and challenging.

The low intrinsic reward condition. Subjects in this condition were required to erase two Hebrew letters whenever encountered in a typed text. A pretest had indicated that the subjects' counterparts found this task quite dull.

[1] Appreciation is expressed to the staff of the Mevooth Eiron school for their gracious cooperation.

[2] 4.2 Israeli IŁ ≈ $1 U.S.

In both experimental conditions a clock was placed in front of the subject and he (she) was instructed to continue with the task for 10 minutes. The experimenter measured the time from the starting signal and until the subject stopped working of his (her) own accord. Subjects who continued past 14 minutes from their starting time were stopped by the experimenter. The amount of time the subject spent on the task beyond the designated 10 minutes was taken as an index of intrinsic motivation.

At this time the subject was asked to fill out a questionnaire ostensibly about his (her) linguistic background and habits. Included in this questionnaire was an item about the task's perceived degree of interest. A second questionnaire, allegedly about administrative details, contained a question about the perceived adequacy of the 1 IŁ monetary fee. After the subject had completed both questionnaires, he was given the promised 1 IŁ fee in four coins of .25 IŁ each. Just before leaving the room, a second experimenter (the seventh author) approached the subject and informed him (her) that a charity organization had asked for assistance in collecting donations for children in need. If the subject was willing, he (she) could place a donation in a box outside the door. This concluded the experiment. The subject was admonished not to discuss the research with the other students and was asked to return to his (her) class. After all the subjects had been tested, the experiment was fully explained to them and their donations were returned.

Results

A Check on the Experimental Manipulation

Subjects answered the questions: "Different people show different degrees of interest in language tasks. To what extent did you find the task you have just performed interesting?" The answers were registered on a 5-point Likert-type scale ranging from very interesting to not at all interesting. The relevant means are displayed in Table 1. As expected, subjects in the high intrinsic reward condition rated their task as more interesting than did those in the low intrinsic reward condition, $t(38) = 6.41$, $p < .001$.[3]

TABLE 1

TASK INTEREST, INTRINSIC AND EXTRINSIC MOTIVATION, EXPERIMENT 1

Measure	High intrinsic reward	Low intrinsic reward
Mean interest ratings	4.20_{AB}	2.0_{A}
Mean extra time (in minutes) spent on the task	3.75_{B}	1.5_{B}
Mean pay (in Israeli IL judged adequate	1.45_{C}	4.0_{C}
Mean donation to charity	3.70_{d}	2.95_{d}

Note. Means with the same uppercase subscript differ at the .001 level of significance, and those with the same lowercase subscript, at the .05 level. Higher figures denote a greater interest.

Intrinsic Motivation

The subjects' degree of intrinsic motivation was inferred from the amount of time he (she) spent on the task beyond the required 10 minutes. Accordingly, the index of intrinsic motivation was constructed as a 5-step scale in which the lowest score was 0 additional minutes and the highest one 4 additional minutes[4] (beyond which the subject was stopped). The mean measures of intrinsic motivation for the two experimental groups are included in Table 1. Consistent with the previously stated hypothesis subjects in the high intrinsic reward condition spent more time on the activity, thus exhibiting a higher degree of intrinsic motivation than their counterparts in the low intrinsic reward condition, $t(38) = 5.89$, $p < .001$.

Extrinsic Motivation

Subjects' degree of extrinsic motivation was inferred from two separate indices. One was the amount of pay the subject deemed adequate for the task. Specifically, subjects answered the following question: "The management of the present research should like to remunerate the subjects for their participation. However, there exist differences of opinion as to what might be equitable pay. In your opinion, what would constitute adequate payment for the task you have just completed?" The answers were recorded on a 5-point forced-choice scale ranging in .5 IŁ steps from 0 IŁ to 2.00 IŁ. The means for these results are also included in Table 1. Consistent with the hypothesis under test, subjects in the high intrinsic reward condition recommended lower pay than did subjects in the low intrinsic reward condition, $t(38) = 7.25$, $p < .001$.

A second operational definition of extrinsic motivation has been the magnitude of the subjects' tendency to keep their fee to them-

[3] Unless indicated otherwise, all p values reported are two-tailed.

[4] Intermediate times were rounded off to the nearest minute.

selves versus to donate it to charity. A 5-point scale was constructed ranging from 0 donated quarters to 4 donated quarters (or 1.00 IL). The pertinent means are included in Table 1. In line with the hypothesis, subjects in the high intrinsic reward condition donated more (thus displaying a lower degree of extrinsic motivation) than did subjects in the low intrinsic reward condition, $t(38) = 2.13$, $p < .05$.

EXPERIMENT 2

Method

Subjects in this experiment were 40 female undergraduates who had offered to assist in a research on teenage girls in return for a fee of 3 IL per hour. Initially, the experimenter (the third author) had ascertained the subjects' reasons for participating in the project. It turned out that only three subjects gave an intrinsic reason (interest in the issue investigated) and the rest an extrinsic one (the promised fee). To keep constant the subjects' initial motivation, the three intrinsic subjects were a priori excluded from the analyses.

Subjects in the *high intrinsic reward* condition sorted authentic letters sent by teenage girls to a psychologist of a women's magazine into various problem categories (conflicts with the parents, love difficulties, etc.). Subjects in the *low intrinsic reward* condition checked IBM cards, allegedly containing data about teenage girls for (actually nonexistent) punching errors.

At the time of recruitment, it had been ascertained that each subject had at least 3 free hours at her disposal. However, before the commencement of work, the experimenter explained that because of budgetary problems and the need to employ as many girls as possible, any one subject could be paid for only 2 hours of work but could contribute an additional hour without pay. After the two designated hours had elapsed, the experimenter recorded whether the subject did or did not wish to volunteer extra time and asked her to fill out a set of rating scales regarding various aspects of the job. In addition, the subject was asked to state whether the pay was adequate for the job and, in case it was not, what might be an equitable amount of increase. This concluded the experiment. The purpose of the deception involved was fully explained to the subject and she was enjoined to secrecy.

Results

Checks on the Manipulation

The several job ratings made by subjects in the two experimental conditions are summarized in Table 2. As expected, subjects in the high (vs. the low) intrinsic reward condition rated their job as more enjoyable, stimulating, and challenging ($p < .002$ in all instances). In addition, subjects in the high (vs. the low) intrinsic reward condition rated their job as requiring more intelligence and personal judgment ($p < .001$) but did not differ in the rated degrees of responsibility or concentration required for the job. Finally, subjects in the high intrinsic reward condition rated their job as more tiresome ($p < .001$) than did subjects in the low intrinsic reward condition.

TABLE 2

MEAN RATINGS OF THE TASKS ON VARIOUS DIMENSIONS, EXPERIMENT 1

Rating dimension	High intrinsic reward	Low intrinsic reward
Enjoyable	5.7895_A	1.8333_A
Challenging	3.5263_B	1.5556_B
Stimulating	5.6842_C	1.8333_C
Tiresome	5.7368_D	3.6667_D
Requiring intelligence	5.1579_E	1.6111_E
Requiring concentration	5.1053	5.1111
Requiring responsibility	5.7368	5.7222
Requiring personal judgment	5.4737_F	2.0000_F

Note. All ratings were recorded on 7-point bipolar scales anchored appropriately at their ends, for example, from 1 (not enjoyable) to 7 (very enjoyable) for the enjoyability measure, etc. Higher figures denote higher rating on the specific dimensions. Means with the same subscript differ at the .002 level of significance.

Intrinsic Motivation

Table 3 presents the proportions of subjects who volunteered for additional work at the experimental task without pay. Consistent with the hypothesis, subjects in the high intrinsic reward condition tended to volunteer more than did subjects in the low intrinsic reward condition ($z = 3.48$, $p < .001$).

TABLE 3

DEGREES OF INTRINSIC AND EXTRINSIC MOTIVATION, EXPERIMENT 2

Measure	High intrinsic reward	Low intrinsic reward
Proportion of volunteering without pay for additional work[a]	.736	.166
Mean pay increase (in Israeli IL) recommended[b]	.6842	1.7778
Proportion of subjects recommending *any* pay increase[c]	.2105	.6111

[a] Proportions differ at the .001 level of significance.
[b] Means differ at the .05 level of significance.
[c] Proportions differ at the .02 level of significance.

Extrinsic Motivation

The pay increases that the subjects recommended as appropriate for their jobs are summarized in Table 3. Subjects recommending no increase were assigned the score of 0, and the remaining subjects, the amount of increase (in IL) that they had recommended. As predicted, subjects in the high intrinsic reward condition recommended on the average a lower pay increase than did subjects in the low intrinsic reward condition, $t(35) = 1.82$, $p < .05$, one-tailed.

The extent of extrinsic motivation present in each experimental condition may be inferred alternatively from the proportions of subjects who recommended any (vs. no) increase in pay. The relevant figures are included in Table 3. Consistent with the previously stated hypothesis, the proportions of subjects recommending an increase in pay was higher in the low versus the high intrinsic reward condition ($z = 2.48$, $p < .02$).

EXPERIMENT 3

Method

Subjects in this experiment were 40 male and female undergraduates from the social science division at the Tel-Aviv University. They had volunteered to participate in an experiment in return for a 4 IL fee.

In the present study the magnitude of task-intrinsic rewards was operationally defined as the subject's degree of involvement (i.e., a sense of participation and a stake) in the research. Accordingly, subjects in the high intrinsic reward condition were given a meticulous explanation of the scientific background and the significance of the (fictitious) research on memory processes in which they were about to participate. By contrast, subjects in the low intrinsic reward condition were given no introductory explanation regarding the nature of this research. Subjects in both conditions then read a brief passage from a history text and answered 10 questions about dates and events contained in the passage. Then subjects in the high intrinsic reward condition were given feedback regarding the number of questions they had answered correctly, while no such feedback was provided their low intrinsic reward counterparts.

In the adjoining room an experimenter (the fourth author), unaware of the subject's experimental condition, administered to him (her) a questionnaire which inquired, among other things, about the task's perceived degree of interest and whether the subjects would be willing to volunteer without pay for similar research in the future. At this point, the subject was paid the promised 4 IL fee in eight .5 IL coins and was seemingly discharged from the experiment. Outside the laboratory he (she) was met by an accomplice posing as a student allegedly unconnected with the memory research. This person (also unaware of the subject's experimental condition) introduced himself as a representative of a student group which collected donations allegedly needed, "in order to send a lecturer's child for a medical operation abroad." After the subject made (or did not make) the requested donation, he (she) was reinvited into the laboratory and was given a full explanation regarding the purpose of the experiment. The subject's donation (if any) was returned, and he (she) was enjoined to secrecy.

TABLE 4

TASK INTEREST, INTRINSIC AND EXTRINSIC MOTIVATION, EXPERIMENT 3

Condition	High intrinsic reward	Low intrinsic reward
Mean interest ratings[a]	4.97	4.76
Proportions of volunteering without pay for future research[b]	.85	.50
Mean amounts of money (in Israeli IL) donated to charity[c]	1.50	.79

[a] Higher figures denote a greater interest.
[b] Proportions differ at the .02 level of significance.
[c] Means differ at the .001 level of significance.

Results

A Check on the Manipulation

The subjects' ratings of the task's perceived interest are summarized in Table 4. As shown, subjects in the high intrinsic reward condition rated the task as slightly more interesting than did subjects in the low intrinsic reward condition. However, this difference was not statistically significant. The foregoing result raises the possibility that the manipulation of task rewards was not fully successful in this experiment. Note, however, that inasfar as the treatments were designed to produce differential levels of *involvement* in the research, a question about an interest in the specific task may not have been appropriate as a check on the efficacy of these treatments.

Intrinsic Motivation

The proportions of subjects volunteering without pay for future research are included in Table 4. Consistent with expectation, subjects in the high intrinsic reward condition volunteered more, thus exhibiting a higher degree of intrinsic motivation as compared

with subjects in the low intrinsic reward condition ($z = 2.33$, $p < .02$).

Extrinsic Motivation

The subjects' donations of their pay are also summarized in Table 4. Consistent with the hypothesis, subjects in the high intrinsic reward condition donated more on the average, thus manifesting a lower degree of extrinsic motivation, than did subjects in the low intrinsic reward condition, $t(38) = 5.03$, $p < .001$.

GENERAL DISCUSSION

The results above provide strong support for the hypothesis that (a) the extent of intrinsic motivation varies positively and (b) the extent of extrinsic motivation varies negatively with the magnitude of task-intrinsic rewards.[5] Especially the second proposition is not a priori obvious, as it is possible to advance a plausible opposite prediction, that is, that the degree of extrinsic motivation will vary positively (rather than negatively) with task rewards. The latter proposition follows, for example, from the prevalent cultural norm whereby the more challenging and interesting jobs are accorded higher pay as well as prestige than the less exciting ones.

The confidence in the validity of the present findings is abetted by the fact that they held for three separate experiments varying in a multitude of procedural details and in the operational definitions of the theoretical constructs investigated. In addition, the procedural variations of this research provide a basis for deciding among alternative interpretations of the results which could be advanced with respect to some (but not other) experiments in the present series. For instance, one could argue that the observed negative relation between task intrinsic rewards and extrinsic motivation may be derived from the equity principle (Adams, 1965) insofar as the investments of labor, the tedium endured, etc., are greater in the case of a dull versus an interesting task. Such an argument is weakened by the results of Experiment 2, where the intrinsically rewarding task was rated as requiring the greater investment of effort (it was perceived as more tiresome) as well as intellectual acumen and personal judgment.

Alternatively, from the standpoint of the dissonance theory (Festinger, 1957), it could be reasoned that a person who expects an exciting experience suffers dissonance when required to perform a dull, unrewarding task (as in the low intrinsic reward condition). Such dissonance could possibly be abated by attaching a greater importance to the monetary pay. But the dissonance argument seems less cogent when viewed against the circumstances of Experiment 2, where all subjects reported to have volunteered for the task because of the promised pay rather than the expectation of a pleasurable experience. Thus, while no direct measurement of causal attributions was attempted in this research, the attributional analysis advanced earlier still seems to fit the data better than do possible alternative explanations. To reiterate, according to this analysis, the attribution that the extrinsic pay caused one's performance of the task was lower when a plausible alternative cause, notably task intrinsic rewards, was present versus absent. In other words, task intrinsic rewards may have pulled causal attributions away from the monetary reward and, hence, the observed lower level of extrinsic motivation and a higher one of intrinsic motivation in the high versus the low task-reward condition.

But besides offering theoretical support for an attributional analysis of task motivation, the present results seem to have a significant practical implication: Thus far, arguments in favor of intrinsic (vs. extrinsic) modes of inducing work motivation have rested on notions regarding (a) the qualitative support of performance under intrinsic (vs. extrinsic) motivation (e.g., see Kruglanski et al., 1971; Lawler, 1969) and (b) the economic inefficiency of extrinsic motivation, based on the idea (e.g., discussed by Herzberg, 1966) that since workers quickly adapt to extrinsic rewards, their constant elevation is required to sustain work motivation. Insofar as it demonstrates that a rise in intrinsic motivation is accompanied by a decline in an extrinsic one,

[5] Following the completion of this research, we became aware of a recently completed survey with kibbutz workers in which the negative relation between intrinsic and extrinsic motivations toward work has been consistently replicated.

the present research adds an economic reason for preferring the former mode of motivating people in their jobs.

REFERENCES

Adams, J. S. Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 2). New York: Academic Press, 1965.

Bem, D. D. Self-perception: An alternative interpretation of cognitive dissonance phenomena. *Psychological Review*, 1967, *74*, 183–200.

Carlsmith, J. M., Collins, B. E., & Helmreich, R. G. Studies in forced compliance: I. The effect of pressure for compliance on attitude change produced by face to face role playing and anonymous essay writing. *Journal of Personality and Social Psychology*, 1966, *4*, 1–13.

Deci, E. L. Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 1971, *18*, 105–115.

Deci, E. L. Intrinsic motivation, extrinsic reinforcement and inequity. *Journal of Personality and Social Psychology*, 1972, *22*, 113–120. (a)

Deci, E. L. The effects of contingent and noncontingent rewards and controls on intrinsic motivation. *Organizational Behavior and Human Performance*, 1972, *8*, 217–229. (b)

Festinger, L. *The theory of cognitive dissonance.* Stanford, Calif.: Stanford University Press, 1957.

Festinger, L., & Carlsmith J. M. Cognitive consequences of forced compliance. *Journal of Abnormal and Social Psychology*, 1959, *58*, 203–210.

Greene, D., & Lepper, M. R. Effects of extrinsic rewards on children's subsequent self-interest. *Child Development*, in press.

Herzberg, F. *Work and the nature of man.* New York: World, 1966.

Jones, E. E., Kanause, D. E., Kelley, H. H., Nisbett, R. E., Valins, S., & Weiner B. *Attribution: Perceiving the causes of behavior.* New York: General Learning Press, 1972.

Jones, E. E., & Nisbett, R. E. *The actor and the observer: Divergent perceptions of the causes of behavior.* New York: General Learning Press, 1971.

Kelley, H. H. Attribution theory in social psychology. In D. Levine (Ed.), *Nebraska Symposium on Motivation* (Vol. 15). Lincoln: University of Nebraska Press, 1967.

Kelley, H. H. *Attribution in social interaction.* New York: General Learning Press, 1971.

Kruglanski, A. W., Alon, S., & Lewis, T. Retrospective misattribution and task enjoyment. *Journal of Experimental Social Psychology*, 1972, *8*, 493–501.

Kruglanski, A. W., Friedman, I., & Zeevi, G. The effects of extrinsic incentive on some qualitative aspects of task performance. *Journal of Personality*, 1971, *39*, 606–617.

Lawler, E. E. Job design and employee motivation. *Personnel Psychology*, 1969, *22*, 426–435.

Lepper, M. R., Greene, D., & Nisbett, R. E. Undermining children's intrinsic interest with extrinsic rewards: A test of the overjustification hypothesis. *Journal of Personality and Social Psychology*, 1973, *28*, 129–137.

Linder, D. E., Cooper, J., & Jones, E. E. Decision freedom as a determinant of the role of incentive in attitude change. *Journal of Personality and Social Psychology*, 1967, *6*, 245–254.

Nel, E., Helmreich, R., & Aronson, E. Option change in the advocate as a function of the persuasibility of his audience: A clarification of the meaning of dissonance. *Journal of Personality and Social Psychology*, 1969, *12*, 117–125.

Weick, K. E. Reduction of cognitive dissonance through task enhancement and effort expenditure. *Journal of Abnormal and Social Psychology*, 1964, *68*, 533–539.

(Received September 24, 1973)