



UNIVERSITY OF  
ILLINOIS LIBRARY  
AT URBANA-CHAMPAIGN  
STACKS



Digitized by the Internet Archive  
in 2011 with funding from  
University of Illinois Urbana-Champaign

<http://www.archive.org/details/selfperceptionof89cald>

## **Faculty Working Papers**

THE SELF-PERCEPTION OF INTRINSIC AND  
EXTRINSIC MOTIVATION; A CRITICAL REVIEW

Bobby J. Calder and Barry M. Staw

#89

**College of Commerce and Business Administration**  
**University of Illinois at Urbana-Champaign**



FACULTY WORKING PAPERS

College of Commerce and Business Administration

University of Illinois at Urbana-Champaign

February 22, 1973

THE SELF-PERCEPTION OF INTRINSIC AND  
EXTRINSIC MOTIVATION; A CRITICAL REVIEW

Bobby J. Calder and Barry M. Staw

#89





The Self-Perception of  
Intrinsic and Extrinsic Motivation:  
A Critical Review

Bobby J. Calder and Barry M. Staw  
University of Illinois at  
Urbana-Champaign

Self-Perception and Motivation



## Abstract

A distinction is commonly made between intrinsic and extrinsic motivation. It is argued here that, although the status of intrinsic motivation as an actual psychological process is unclear, it may be useful to investigate the self-perception of intrinsic versus extrinsic motivation. de Charms, for example, has hypothesized that increasing extrinsic rewards may lead individuals to perceive their behavior as under the control of these rewards and not intrinsically motivated. The consequences of such perceptions for organizational behavior are discussed. The purpose of this review is to sharpen some of the theoretical issues at stake in a self-perception approach to motivation and to critically review several relevant studies in order to direct future research.



The Self-Perception of Intrinsic Motivation;  
A Critical Review

Research on motivation has frequently drawn a distinction between intrinsic and extrinsic motivation (e.g., Atkinson, 1964; Hunt, 1965; Koch, 1956; Young, 1961). If a situation contains a specific goal which provides satisfaction independent of the actual activity itself, behavior is said to be extrinsically motivated. On the other hand, if the activity is valued for its own sake and appears to be self-sustained, behavior is said to be intrinsically motivated (Young, 1961, p. 171). An early description by Woodworth (1918) captures the phenomenon well:

. . . While a man may enter a certain line of business from a purely external economic motive, he develops an interest in the business for its own sake. . . and the motive force that drives him in the daily task, provided of course this does not degenerate into mere automatic routine, is precisely an interest in the problems confronting him and in the processes by which he is able to deal with those problems. The end furnishes the motive force for the search for means but once the means are found, they are apt to become interesting on their own account [italics added, p. 104].

Although this distinction is conceptually appealing, it raises difficult questions. The purpose of the present discussion of intrinsic motivation is to sharpen some of the theoretical issues at stake and to evaluate the methodological adequacy of a number of recent experiments.

There are two major problems confronting the account of any behavior in terms of intrinsic and extrinsic motivation (Cofer and Appley, 1967). The most serious is that the phenomenon is merely named, not explained. Labeling a behavior as intrinsically motivated begs the question of the theoretical nature of the process through which the behavior has become a motive. The second problem is that there are other theories which



might plausibly explain the phenomenon. No doubt the most common alternative explanation involves secondary reinforcement. Secondary reinforcement refers to a process by which an originally neutral stimulus acquires reinforcing properties through its association with a primary reinforcer. In these terms, an intrinsically motivated activity is simply one in which the reinforcement value of the goal has associatively rubbed off on the behavior itself.<sup>2</sup>

It is difficult then to use the notion of intrinsic motivation beyond the descriptive level. While the notion may fit our intuitions about labeling various motives, this does not constitute a psychological explanation of behavior. Researchers in the area of organizational behavior seem to have implicitly recognized this problem by employing intrinsic motivation mainly to denote a certain class of motives. Herzberg's (1966) motivational approach, for instance, literally postulates both intrinsic factors (e.g., recognition and achievement) and extrinsic factors (e.g., pay and working conditions) as determinants of job behavior. Any particular factor is simply labeled in an a priori manner as either intrinsic or extrinsic. Further research on the theory has continued along these lines. For example, Centers and Bugental (1966) classify self-expression, the interest value of the work, and feelings of satisfaction derived from the work itself as intrinsic sources of job satisfaction. Their findings indicate that white-collar workers value these sources of intrinsic motivation more than do blue-collar workers. The theoretical significance of such research remains unclear, however, as long as intrinsic motivation has no explanatory power and, indeed, such classifications are in themselves arbitrary.





Although the status of intrinsic motivation as a psychological construct is unclear, we would argue that the concept is of considerable interest from still another perspective. Instead of asking what intrinsic motivation is and how it operates, it may be viewed as a perception on the part of individuals. That is, suppose that individuals attempt to label their behavior in motivational terms much as do motivational theorists. The seeds of such an approach have been developed by de Charms (1968) as part of his work on personal causation as an affective determinant of behavior. de Charms argues as follows:

As a first approximation, we propose that whenever a person experiences himself to be the locus of causality for his own behavior (to be an Origin), he will consider himself to be intrinsically motivated. Conversely, when a person perceives the locus of causality for his behavior to be external to himself (that he is a Pawn), he will consider himself to be extrinsically motivated [1968, p. 328].

For de Charms, the crux of the distinction between intrinsic and extrinsic motivation stems from the feeling or perception of personal causation. Satisfaction derives from an activity which is perceived as intrinsically motivated because of our need to feel a sense of personal causation in our actions.

de Charm's ideas may be readily extended to a more general approach to intrinsic motivation by means of Bem's (1967a, 1967b, 1970, 1972) self-perception theory. According to this theory, a person infers his internal states by observing his own behavior and the context in which it occurs. Thus a person may label his behavior as intrinsically motivated under some conditions and as extrinsically motivated under others. The environment provides cues as to whether one's internal motivation is intrinsic or extrinsic.



One such cue, for instance, might well be the nature of the goal-object. Although there is as yet little direct evidence to support a self-perception approach to intrinsic motivation, an experiment by Kiesler and Sakumura (1966) is illustrative. Subjects received either \$5.00 or \$1.00 (goal object) for stating a position known to be in agreement with their own thoughts about an issue. Subsequently, the opinions of subjects in the \$5.00 condition proved to be more susceptible to counter-communications. Evidently subjects in the \$5.00 condition could be less sure that their behavior really reflected their true attitude. In terms of the present discussion, one interpretation of this finding might be that the greater the monetary payment, the greater the self-perception that one's behavior is extrinsically motivated rather than based upon intrinsic satisfaction.

Taking a lead from Woodworth (1918), a convenient way of viewing the self-perception process is to assume that an individual performs an intuitive means-ends analysis of his behavior. As shown in Figure 1,

- - - - -  
Insert Figure 1 about here  
- - - - -

different self-perceptions may result according to the affect associated with the means and the ends of an action. Intrinsic motivation can be attributed most clearly when the means are positive and the ends are negative or neutral. Extrinsic motivation can be attributed when the means are negative or neutral and the ends are positive. When both are positive, the attribution may be unstable. In this last case, an individual may seek to clarify the issue or simply assume that he is either intrinsically



or extrinsically motivated. Which of these he assumes may well depend on personality factors such as Rotter's (1966) dimension of internal versus external control or on situational norms.

The self-perception of intrinsic motivation may lead to a number of consequences. A person might, for example, persist in the behavior even in the absence of a goal-object, simply because he has perceived his behavior as intrinsically rewarding. Likewise, actual performance of the activity may be enhanced through increased attention to the activity itself. Moreover, the self-perception of intrinsic motivation may directly produce satisfaction if it is correlated with other factors such as an increase in self-esteem, competence (White, 1959), or feelings of personal causation (de Charms, 1968).

de Charms' (1968) discussion of intrinsic motivation poses yet another interesting problem. Common sense would lead one to expect that intrinsic and extrinsic motivation summate to produce satisfaction, and most organizational theories of job attitudes have made this assumption (e.g., Porter and Lawler, 1968; Vroom, 1964). However, from a self-perception perspective, the combination of positive means and positive ends may be unstable. In fact, de Charms argues that intrinsic and extrinsic motivation may interact. Specifically, the introduction of extrinsic rewards for a behavior may decrease overall motivation rather than enhance it, because the rewards decrease the perception of intrinsic motivation. He also predicts, conversely, that motivation may be enhanced if a reward is withheld. Fortunately, there are several recent studies bearing on this interaction between intrinsic and extrinsic motivation. Since these studies are our major source of evidence about a self-perception



account of intrinsic motivation, they need to be examined carefully.

### Empirical Research

Several studies have explored the effects of extrinsic rewards on an individual's intrinsic motivation to perform a task. Deci, one of the more active researchers in this area, has followed de Charms in predicting that intrinsic and extrinsic rewards are not additive in their effect on motivation, and that the introduction of contingent monetary rewards or punishment reduces intrinsic motivation to perform an activity (Deci, 1971; Deci and Cascio, 1972). However, unlike de Charms, Deci has also predicted that verbal reinforcement increases intrinsic motivation to perform a task (Deci, 1971, 1972a), while non-contingent financial rewards leave intrinsic motivation intact (Deci, 1972b). We will examine the support for each of these propositions and their relationship to a self-perception account of intrinsic motivation. Table 1 provides a convenient summary of the studies reviewed.

-----  
Insert Table 1 about here  
-----

### Contingent Rewards

Research on the effects of contingent monetary rewards on intrinsic motivation is most relevant to the de Charms hypothesis. To explore these effects, Deci (1971, 1972a) had subjects work on a series of interesting puzzles. The experimental sessions were divided into work periods and free-time periods. During a free-time period subjects could read magazines,





remain idle, or continue to work on the puzzles; the amount of free time spent on the puzzles was taken on face validity as a dependent measure of intrinsic motivation. The results of these studies indicated that subjects who were paid contingent on their task performance (the number of puzzles solved) spent less free time on the puzzles than did unpaid controls. Deci interprets this finding as demonstrating that the contingently paid subjects lose intrinsic motivation for the activity. Their re-evaluation of the activity is produced by the perception that "it is motivated by the money" rather than "it is intrinsically motivated" (Deci, 1972a, p. 114).

Although these contingent reward studies do seem to support a self-perception account, there are problems with their interpretation which should be made explicit in order to direct further research. First, in none of the Deci studies are the performance data reported for the experimental task. It is thus unclear whether any change in free-time spent on the task is due to a change in perception or merely to a change in performance. That is, in terms of a causal model, the performance of the subjects is an uncontrolled variable which possibly mediates the relationship between the manipulated variable and the dependent measure of intrinsic motivation. One would expect, for example, that the introduction of contingent rewards increased effort in solving puzzles during the experimental sessions. Therefore, the decreased amount of free time spent on the puzzles after the experimental sessions could be due to factors such as satiation or fatigue rather than any cognitive re-evaluation of why one is performing the task.

A second ambiguity in the contingent reward studies is the magnitude



of the reward. Since the rewards were administered contingent on performance, we have no information about the amount of reinforcement which actually constituted the manipulated variable. This omission is unfortunate since Deci (1972b) later compares the data from a contingent reward experiment (Deci, 1972a) to data from a study using a fixed, noncontingent reinforcement. In a comparison of intrinsic motivation resulting from these two different manipulations, it is thus impossible to tell how much the measure of intrinsic motivation differs because of differences in the contingency of the payment or in the amount of reinforcement delivered.

A third ambiguity concerns the timing of the reward. In the contingent reward studies, extrinsic rewards decreased intrinsic motivation when subjects expected the reward but were not actually paid until after the completion of the entire experiment, including the free-time period. However, in one of these same experiments, Deci (1972a) reports data showing that intrinsic motivation increased when contingent payment was made after the task but before the free-time period. This latter finding was interpreted as supporting equity theory since increased free-time spent on the task could have provided a means of resolving over-payment inequity. Whatever the merits of this interpretation, it still should be noted that the data provide a relevant, albeit nonconforming, test of a self-perception account. That is, one would expect payment before the free-time period to have made the extrinsic reward even more salient, thereby increasing the self-perception of extrinsic rather than intrinsic motivation. In short, there does not seem to be any obvious theoretical rationale for limiting the self-perception effect to contingent rewards presented after the free-time period. Equity considerations provide only a post hoc



explanation for the absence of the effect when the reward was presented before the free-time period.<sup>3</sup>

Another issue relevant to the occurrence of rewards is whether they are expected or not. In the experiment just described, Deci manipulated the timing of the reward but subjects always expected to receive the reward. Lepper, Greene, and Misbett (1972) varied the expectation as well as the level of rewards. An extrinsic reward (a "Good Player Award" consisting of a gold star and red ribbon) was promised to some children before they performed an interesting task (playing with magic markers) while other children were not told of the award until after completion of the task. The extent to which the children played with the magic markers was later recorded in a free play situation. The amount of free-time spent on the markers was lowest for the group expecting the reward and highest for the group not expecting the reward, with a no-reward control group intermediate between the two extremes. Thus it is possible that any decrease in intrinsic motivation is limited to expected extrinsic rewards.

The Lepper, Greene, and Misbett finding suggests the possibility that it is not the self-perception of motivation that is the crucial factor but rather the perception of the nature of the reward. That is, it is possible that the extrinsic reward is perceived as a bribe or as conveying information that the experimenter does not view the activity as enjoyable enough to be performed without an extra reward. And, as Steiner (1971) points out, if an individual interprets a reward as a bribe, he may perceive his personal freedom as being threatened. Thus, it may be his reaction to this loss of perceived freedom which adversely affects his



subsequent performance (e.g., Brehm, 1966) rather than a change in intrinsic motivation. More research is needed on this possibility before we can be confident that the decline in performance is produced by a decrease in the self-perception of intrinsic motivation as opposed to a reaction to the offer of the reward.

#### Punishment, Verbal Reinforcement, and Noncontingent Rewards

Several other studies are also relevant to the interaction between intrinsic and extrinsic motivation. Deci and Cascio (1972) tested the hypothesis that punishment (a noxious buzzer) for poor task performance would decrease intrinsic motivation. The results showed that subjects who were threatened with contingent punishment spent (marginally significant) less free-time on a puzzle task than did controls. Again, consistent with a self-perception account, the introduction of an extrinsic force apparently reduced intrinsic motivation. However, unlike the previous studies of contingent rewards, it is also consistent with any alternative explanation based on stimulus generalization. The aversive stimulus, threat of punishment, may have generalized to puzzle-solving during the experimental session, with the negative association maintained for the same activity during the free-time period. The possibility of this alternative explanation must be eliminated before any study of punishment can be taken as clear evidence for a self-perception account.

Deci has also attempted to determine the effect of verbal reinforcement on intrinsic motivation. One experiment (Deci, 1971) manipulated verbal rewards using the same design employed for monetary rewards. Subjects again worked on a puzzle-solving task and then were exposed to a free-time period. Some subjects, but not others, were told that they





had performed much better than average on the puzzle task. The results of this experiment showed that the verbally reinforced subjects spent more free-time on the puzzle than controls. A second experiment (Deci, 1972a) combined the verbal reward variable with the previously discussed manipulation of the timing of the contingent monetary reward (money after the free-time period, money before the free-time period, no money). In this study, the effect for verbal reinforcement is nonsignificant by conventional standards. Nonetheless, Deci attempts to salvage the verbal reinforcement effect by interpreting a nonsignificant verbal reinforcement by sex interaction, and verbally reinforced male subjects do appear to spend more time on the puzzles during the free time period. In any case, Deci (1972a, 1972b) interprets these two experiments as indicating that verbal reinforcement is not phenomenologically distinct from intrinsic rewards and, therefore, adds to one's intrinsic motivation to perform a task. Certainly the evidence for this proposition is most ambiguous. Furthermore, as with punishment, stimulus generalization or secondary reinforcement appear to be alternative interpretations to any self-perception account.

Let us now turn to a study (Deci, 1972b) recently reported in this journal on the effects of noncontingent rewards on intrinsic motivation. As in earlier experiments, subjects participated in an experimental work session and free-time period. In this study, however, subjects in the experimental group were paid \$2.00 regardless of their performance on the puzzle task, while control subjects were not paid at all. The results indicated no significant difference in the free-time spent on the puzzle between the experimental and control groups. This failure to find a



significant difference was interpreted as demonstrating that noncontingent monetary rewards do not change intrinsic motivation, and that with noncontingent rewards subjects are less likely to perceive themselves as being motivated by the rewards. This conclusion is not justified by the data. Notice that Deci has essentially affirmed the null hypothesis. Because we can never know what factor, if any, accounts for a lack of change, it is logically impossible to prove the absence of an effect. Was the receipt of noncontingent rewards in this experiment the same as receiving no treatment at all, or were there other variables which caused subjects' intrinsic motivation to remain intact?

With respect to this same noncontingent reward study, we should also note that Deci attempts to make his results more meaningful by comparing them with two cells (money after-no verbal reinforcement and no money-no verbal reinforcement) from an earlier contingent monetary rewards experiment (Deci, 1972a). Unfortunately there are severe problems in comparing two studies in this way: Any changes in the two experiments could have produced the different results. Deci states in passing that the small, nonsignificant difference in the two no-reward (control) groups could be due "to the fact that a different experimenter conducted the two studies (1972b, p. 226)," but it is also clear that the difference in the two reward groups could be due to the same kind of factors. In any event, the more appropriate interaction test is not reported.

A recent experiment by Kruglanski, Friedman, and Zeevi (1970) provides better evidence about the effects of noncontingent rewards on intrinsic motivation. In this study, some children, but not others, were offered an extrinsic reward (an interesting laboratory tour) for



participating in an experiment. The reward, as in Deci's (1972b) experiment, was not contingent upon high performance but upon participation in the activity. Contrary to Deci's hypothesis, a decrease in intrinsic motivation was obtained for the extrinsic, noncontingent reward condition. Children who were offered the extrinsic reward were less satisfied with the experimental task and less likely (marginally significant) to volunteer for similar experiments. In addition, the extrinsically rewarded group did not perform as well on the experimental task (in terms of recall, creativity, and the Zeigarnik effect) as the nonrewarded children. While more research is needed to determine whether contingent and noncontingent rewards both decrease intrinsic motivation, this study and the Lepper et al. study discussed earlier indicate that they do. In terms of a self-perception theory, if contingency makes rewards more salient as extrinsic forces, perhaps the effect is actually an interaction such that both contingent and noncontingent rewards decrease intrinsic motivation, but contingent rewards produce the largest change.

#### Theoretical Implications

What then is the status of the de Charms hypothesis that intrinsic and extrinsic factors interact versus the traditional assumption of organization theory that they are additive? Obviously the present experimental evidence is inconclusive, though it does provide a basis for further research. The Deci (1971, 1972a) studies suggest that under some conditions the presence of an extrinsic reward may reduce behavior which we intuitively associate with being intrinsically motivated. In view of the Kruglanski et al. and Lepper et al. experiments, this effect does



not appear to be limited to contingent extrinsic rewards. We suggested rather that both contingent and noncontingent rewards decrease intrinsic motivation but, due to their greater salience, contingent rewards may have a larger effect. (Whether verbal approval can make a task more intrinsically motivating is really beside the point here.) However, even disregarding some of the methodological problems noted, these results only indicate that self-perception theory is relevant, not the form of such a theory. It may indeed be that extrinsic rewards lead individuals to perceive that they are not intrinsically motivated and that this perception affects their subsequent performance. On the other hand, the Lepper et al. finding that only expected extrinsic rewards decrease intrinsic motivation raises the possibility that it is the perception of why the reward is being offered (i.e., a bribe vs. a bonus) which affects performance. In short, the form of self-perception theory most relevant to these studies is by no means settled.

In this research, there also needs to be more attention given to the dependent variables appropriate for study. Deci and Lepper et al. used persistence on a task as their single measures of intrinsic motivation. Nonetheless, there are other indicators which can and should be utilized in assessing intrinsic motivation. Perhaps the most obvious indicator is reported task satisfaction, since one certainly should like a task if he is willing to perform it for no other apparent reward. Kruglanski et al. did report that task enjoyment of the non-rewarded subjects exceeded that of subjects who received an extrinsic reward. Deci reported that subjects rated the puzzle task for interest and enjoyment at the end of the experimental sessions in his 1971 study.





Although Deci found that rated task satisfaction did not differ between the experimental and control groups or among the experimental sessions, he does not mention the apparent inconsistency of this attitudinal data with his observed behavioral change.

A much less direct indicator (or perhaps product) of intrinsic motivation would be any changes in actual performance on a task. The Deci and Lepper et al. experiments present data on task persistence and not on task performance. It is plausible that intrinsic motivation may be related to organizational variables such as absenteeism and turnover, and the Kruglanski et al. data suggest a relationship between intrinsic motivation and qualitative aspects of performance. It should be stressed, however, that the linkage between task persistence and quantitative aspects of performance is virtually unknown. Any implication that the process which makes people intrinsically motivated to perform an activity is the same process which causes people to perform well (in terms of quantity and quality) may contain the same pitfalls as the early hypotheses linking satisfaction and productivity (cf. Prayfield and Crockett, 1955).

As already noted, all of the dependent variables in the studies discussed were designed to measure intrinsic motivation. de Charms, however, originally stated his interaction hypothesis with overall task motivation as the dependent variable. Along these lines, an alternative research strategy is to follow de Charms and treat both intrinsic and extrinsic factors as independent variables, measuring their effects on overall motivation. It seems to us that such a design might provide a fruitful test of the interaction hypothesis.

Finally, one last point is particularly crucial for future research.



As pointed out earlier, there appear to be many problems confronting explanations of behavior based on the phenomena of intrinsic motivation. Although the concept seems descriptive, it is difficult to characterize as a psychological process. This is, in fact, why we argued that self-perception theory provides a valuable new perspective on intrinsic motivation. However, researchers have not always maintained this distinction between intrinsic motivation as a perception and as a phenomenon. Deci implicitly contends that extrinsic rewards decrease the perception of intrinsic motivation and this in turn decreases actual intrinsic motivation. We would argue that a clear distinction should be made between the two. Too little is known about intrinsic motivation as a psychological process even to assume a direct relationship with the perception of intrinsic motivation. The attributed cause of a behavior need not be veridical with its objective cause. Thus, research should attempt to relate the self-perception of intrinsic motivation to task performance and attitudes without making any premature assumptions about the actual existence or nature of intrinsic motivation.<sup>4</sup>

#### Applications

Based upon a review of his experiments, Deci has proposed that organizations should abandon contingent reward schemes and substitute noncontingent rewards in their place.

The importance of the present noncontingent payment study is that money does not decrease intrinsic motivation if it is paid noncontingently. It is possible to pay workers and still have them intrinsically motivated. Hence, the writer favors the prescription that we concentrate on structuring situations and jobs



to arouse intrinsic motivation, rather than trying to structure piece-rate and other contingency payment schemes. Workers would be intrinsically motivated and would seek to satisfy their higher order needs through effective performance [Deci, 1972b, p. 227].

Interestingly enough, existing data indicate that organizations do not in fact use money as an incentive linked to performance (e.g., Haire, Ghiselli, and Gordon, 1967). Even so, in view of our discussion of the limitations of Deci's findings on contingent versus noncontingent rewards, Deci's prescription for policy makers is definitely premature.

Beyond the specific merits of Deci's findings, however, it is important to realize that the results of any study in this area should be applied with extreme caution. Any advice must be based not only on data regarding task persistence but also on multiple measures of task performance. Instead of more assumptions that the intrinsically motivated, happy worker is a productive worker, we must have information on the relationship between the perception of intrinsic motivation and performance under various task demands.

It would appear plausible that intrinsic motivation is associated with the qualitative aspects of performance (cf. Kruglanski et al., 1970) and that the intrinsically motivated worker might provide surveillance over his own output (Katz, 1964). However, the intrinsically motivated worker may not be the most productive in terms of his quantity of output or effort expenditure (cf. Lawler, 1971). As a result, if research on a self-perception theory of motivation is to be applied constructively, we need both a theory and data on relevant task demands. A reasonable prediction is that the organization may require both the intrinsically motivated and the extrinsically motivated worker to function effectively.



In order to have the intrinsically motivated worker, though, attention must be given to the worker's perception of organizational rewards as well as to the job itself.





## References

- Atkinson, J. W. An introduction to motivation. Princeton, N. J.: Van Nostrand, 1964.
- Bem, D. J. Self-perception: The dependent variable of human performance. Organizational Behavior and Human Performance, 1967, 2, 105-121. (a)
- Bem, D. J. Self-perception: An alternative interpretation of cognitive dissonance phenomena. Psychological Review, 1967, 74, 183-200. (b)
- Bem, D. J. Beliefs, attitudes, and human affairs. Monterey, California: Brooks/Cole, 1970.
- Bem, D. J. Self-perception theory. In L. Berkowitz (Ed.), Advances in experimental social psychology. Vol. 6. New York: Academic Press, 1972. Pp. 1-62.
- Bolles, R. C. Reinforcement, expectancy, and learning. Psychological Review, 1972, 79, 394-409.
- Brehm, J. W. A theory of psychological reactance. New York: Academic Press, 1966.
- Centers, R. and Bugental, D. Intrinsic and extrinsic job motivations among different segments of the working population. Journal of Applied Psychology, 1966, 50, 193-197.
- Cofer, C. N. and Appley, M. H. Motivation: Theory and research. New York: Wiley, 1967.
- de Charms, R. Personal causation: The internal affective determinants of behavior. New York: Academic Press, 1968.
- Deci, E. L. The 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, 1972a, 22, 113-120.
- Deci, E. L. The effects of contingent and noncontingent rewards and controls on intrinsic motivation. Organizational Behavior and Human Performance, 1972b, 8, 217-229.
- Deci, E. L. and Cascio, W. F. Changes in intrinsic motivation as a function of negative feedback and threats. Paper presented at the Eastern Psychological Association Convention, April, 1972.
- Haire, M., Ghiselli, E. E., and Gordon, M. E. A psychological study of



- pay. Journal of Applied Psychology Monograph, 1967, 51.
- Herzberg, F. Work and the nature of man. Cleveland, Ohio: World Publishing Co., 1966.
- Hunt, J. McV. Intrinsic motivation and its role in psychological development. Nebraska Symposium on Motivation, 1965, 13, 189-282.
- Katz, D. The motivational basis of organizational behavior. Behavioral Science, 1964, 9, 131-146.
- Kiesler, C. A. and Sakumura, J. A test of a model for commitment. Journal of Personality and Social Psychology, 1966, 3, 349-353.
- Koch, S. Behavior as "intrinsically" regulated: Work notes towards a pretheory of phenomena called motivational. Nebraska Symposium on Motivation, 1966, 4, 42-87.
- Kruglanski, A. W., Freedman, I., and Zeevi, G. The effects of extrinsic incentives on some qualitative aspects of task performance. Journal of Personality, 1971, 39, 606-617.
- Kruglanski, A. W., Alon, S., and Lewis, T. Retrospective misattribution and task enjoyment. Journal of Experimental Social Psychology, 1972, 8, 493-501.
- Lawler, E. E. Pay and organizational effectiveness: a psychological view. New York: McGraw-Hill, 1971.
- Lepper, M. R., Greene, D., and Nisbett, R. E. Undermining children's intrinsic interest with extrinsic rewards: A test of the "overjustification" hypothesis. J. of Personality and Social Psychology, in press.
- Porter, L. W. and Lawler, E. E. Managerial attitudes and performance. Homewood, Illinois: Irwin-Dorsey, 1968.
- Osgood, C. E. Method and theory in experimental psychology. New York: Oxford University Press, 1953.
- Rotter, J. B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80.
- Steiner, I. D. Perceived freedom. In L. Berkowitz (Ed.), Advances in experimental social psychology. Vol. 5, 1970. Pp. 187-249.
- Wernimont, P. F. A systems view of job satisfaction. Journal of Applied Psychology, 1972, 56, 173-176.
- Vroom, V. H. Work and motivation. New York: Wiley, 1964.
- White, R. W. Motivation reconsidered: The concept of competence.



Psychological Review, 1959, 66, 297-333.

Woodworth, R. S. Dynamic psychology. New York: Columbia University Press, 1918.

Young, P. T. Motivation and emotion. New York: Wiley, 1961.



## Footnotes

- <sup>1</sup>Requests for reprints should be sent to Bobby J. Calder, Organizational Behavior Program, Department of Business Administration, University of Illinois, Urbana, Illinois 61801. The ordering of authors is alphabetical.
- <sup>2</sup>We should note that secondary reinforcement is not without its own problems as an explanation. In its crudest form, secondary reinforcement leads us, as Osgood puts it, "to believe that, somehow, a poker chip as a stimulus can strengthen behavior, to believe that, somehow, a buzzer as a pattern of auditory sensations can now modulate the organism's energy systems. This is, indeed, strong magic, stronger by far than invoking a collection of instincts (1953, p. 431)." For more recent reservations, see Bolles (1972).
- <sup>3</sup>A field experiment reported by Deci (1971, Experiment II) was not discussed since it provides evidence neither for or against a self-perception account. The experiment showed a marginally significant decrease in the dependent measure of intrinsic motivation when subjects were paid on a piece-rate basis, but the sample was extremely small ( $n = 4$ ) and there was a 50% mortality rate among the unpaid control group. Also, it is not clear theoretically how the dependent measure (the speed of writing headlines) is related to intrinsic motivation.
- <sup>4</sup>From a quite different prospective, Wernimont (1972) has also posited that intrinsic motivation should be interpreted as a perception or "feeling" about the objective situation, extrinsic factors being the causes of intrinsic factors.





Table 1

Manipulated Variables and Their Reported Effects  
on Intrinsic Motivation

Manipulated Variable	Experiment	Reported Effect on Intrinsic Motivation
Expected Contingent Rewards	Deci (1971) (Experiment I)	Decrease
	Deci (1972a)	No Change
Unexpected Contingent Rewards	Lepper, Greene, and Nisbett (1972)	Decrease
Noncontingent Rewards	Deci (1972b)	No Change
	Kruglanski, Freedman, and Zeevi (1971)	Decrease
Verbal Reinforcement	Deci (1971) (Experiment III)	Increase
	Deci (1972a)	No Change
Punishment	Deci and Cascio (1972)	Decrease



		<u>Affect of Ends</u>	
		negative or neutral	positive
<u>Affect of Means</u>	negative or neutral	Avoidance	Extrinsically Motivated Behavior
	positive	Intrinsically Motivated Behavior	Unstable

Figure 1. A means-ends analysis of the self-perception of motivation.







FACULTY WORKING PAPERS

College of Commerce and Business Administration

University of Illinois at Urbana-Champaign

February 22, 1973

THE SELF-PERCEPTION OF INTRINSIC AND  
EXTRINSIC MOTIVATION: A CRITICAL REVIEW

Bobby J. Calder and Barry M. Staw

#89

THE UNIVERSITY OF CHICAGO

PH.D. THESIS

DEPARTMENT OF CHEMISTRY

BY

DR. J. H. VAN VLECK

THE UNIVERSITY OF CHICAGO

PH.D. THESIS

DEPARTMENT OF CHEMISTRY

BY

DR. J. H. VAN VLECK

1928



The Self-Perception of  
Intrinsic and Extrinsic Motivation:  
A Critical Review

Bobby J. Calder and Barry M. Staw

University of Illinois at  
Urbana-Champaign

Self-Perception and Motivation



## Abstract

A distinction is commonly made between intrinsic and extrinsic motivation. It is argued here that, although the status of intrinsic motivation as an actual psychological process is unclear, it may be useful to investigate the self-perception of intrinsic versus extrinsic motivation. de Charms, for example, has hypothesized that increasing extrinsic rewards may lead individuals to perceive their behavior as under the control of these rewards and not intrinsically motivated. The consequences of such perceptions for organizational behavior are discussed. The purpose of this review is to sharpen some of the theoretical issues at stake in a self-perception approach to motivation and to critically review several relevant studies in order to direct future research.







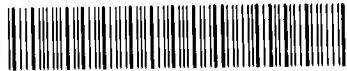








UNIVERSITY OF ILLINOIS-URBANA



3 0112 060296859