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The General Causality Orientations Scale: Self-Determination in Personality

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This paper describes the development and validation of a general causality orientations scale. Causality orientations are conceptualized as relatively enduring aspects of people that characterize the source of initiation and regulation, and thus the degree of self-determination, of their behavior. Three orientations—autonomy, control, and impersonal—are measured by the three subscales of the instrument. Individuals are given a score on each orientation, thus allowing the use of the theoretically appropriate subscale (or, in some cases, a combination of subscales) to predict affects, cognitions, and behaviors. The scale was shown to have internal consistency and temporal stability. The orientations were shown to fit appropriately into a nomological network of constructs and to relate to various behaviors that were hypothesized to be theoretically relevant. © 1985 Academic Press, Inc.

Numerous researchers (e.g., Boggiano & Ruble, 1979; Harackiewicz, 1979; Koestner, Ryan, Bernieri, & Holt, 1984; Lepper & Greene, 1975) have contributed to the growing literature describing the effects of initiating or regulatory events (e.g., the promise of a reward, the imposition of a deadline, the opportunity for choice, success versus failure feedback) on intrinsic motivation and related processes. The research has highlighted two key dimensions that describe these events and predict their effects on motivationally relevant variables. The first dimension pertains to whether the event tends to allow autonomy versus control behavior; it affects people's perceived locus of causality (deCharms, 1968; Heider, 1958). The second dimension concerns whether the event tends to promote versus diminish people's sense of effectance; it affects their perceived competence.

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A recent organization of the experimental literature (Deci & Ryan, in press) revealed that events which are experienced as supporting autonomy and promoting or signifying competence—thus facilitating an internal perceived locus of causality and perceived competence—tend to increase intrinsic motivation as reflected, for example, by behavior that persists with a minimum of external support. We refer to these initiating or regulatory events as *informational*. Events that are experienced as pressure toward particular outcomes—thus co-opting choice and facilitating an external perceived locus of causality—tend to undermine intrinsic motivation, restrict creativity (Amabile, 1983), and impair cognitive flexibility (McGraw & McCullers, 1979). We refer to these events as *controlling*. Finally, events which are experienced as conveying that the person cannot master an activity—thus promoting perceived incompetence—undermine intrinsic motivation and tend to leave one feeling helpless (e.g., Boggiano & Barrett, 1984). We refer to these events as *amotivating*.

In our descriptions of initiating or regulatory events we have always emphasized that the effects of these events depend on the way they are experienced or interpreted by the recipient. Nonetheless, the bulk of the research has explored these issues by measuring or experimentally manipulating characteristics of the events in an attempt to facilitate their being experienced in one of the three ways, viz., as informational, controlling, or amotivating. For example, by measuring the orientation of people administering rewards or feedback (Deci, Nezlek, & Sheinman, 1981) or by experimentally manipulating the interpersonal context of rewards or feedback (Ryan, 1982; Ryan, Mims, & Koestner, 1983), researchers have successfully predicted differential effects of those events on the recipients' motivation. Presumably, this results from the recipients' tending to interpret the events differently.

A quite different and complementary approach to studying these issues focuses on characteristics of the recipient rather than (or in interaction with) the nature of measured or manipulated factors in the environment. We have noted, for example, that in spite of the significant between-group differences produced by the three types of events, different people seem to respond differently to the same events. In other words, there seem to be substantial individual differences in people's interpretations of, or orientations toward, initiating or regulatory events. Some poeple have a greater capacity to experience events as sources of information for initiating and regulating their own chosen behavior and to maintain a higher level of self-determination and intrinsic motivation regardless of the objective properties of the event. Others tend, to a greater degree, to be sensitive to or even search for extant controls in the environment by which to organize their behavior. They exhibit little self-determination though they might become quite competent once they have learned the operative contingencies or rules. Still others are quite easily shaken in

their perceived competence and sense of self; they evidence a tendency to experience a wide range of events as amotivating.

These observations have pointed out the importance of analyzing motivational phenomena from the perspective of people's orientations toward the initiation and regulation of behavior. We therefore hypothesize that everyone is, to some degree, oriented in each of the three ways just described, and that measuring the strength of each orientation will allow the prediction of relevant affects, cognitions, and behaviors.

Causality Orientations

Deci (1980) referred to the individual differences mentioned above as *causality orientations,* implying that these general, motivational orientations can be usefully characterized in terms of people's (explicit or implicit) understanding of the nature of causation of behavior. Following the work of Heider (1958) and deCharms (1968), he called the three orientations internal, external, and impersonal, since the perceived locus of causality for the first is internal, for the second, external, and for the third, impersonal. Although there is some intuitive appeal to these names, since they seem to reflect people's phenomenological experience of the locus of causality, there are two major shortcomings with the use of the terms "internal" and "external" to describe the first two orientations. First, the terms internal and external have been so extensively employed to refer to who or what controls one's outcomes or reinforcements (e.g., Garber & Seligman, 1980; Rotter, 1966; Weiner, 1972) that the use of those terms to refer to the experienced source of initiation and regulation of behavior would be confusing. Second, recent research by Ryan (1982) and Plant and Ryan (in press) has shown that some initiating events inside the person (e.g., the thought, "I *have* to do that to feel worthwhile") function more like external controls (from which, presumably, they were spawned) than like informational inputs to the choice process. Consequently, although the events are "internal" to the person, they do not represent the qualities nor produce the consequences that Deci (1980) ascribed to internal causality. Instead, they function much like the introjects of psychoanalytic theory (Meissner, 1981; Schafer, 1968). For these reasons we have changed the names of the first two causality orientations to terms that better convey the idea of orientations toward the initiation and regulation of behavior.

The *autonomy orientation* involves a high degree of experienced choice with respect to the initiation and regulation of one's own behavior. When autonomy oriented, people seek out opportunities for self-determination and choice, and accordingly they can be described as having a generalized tendency toward what deCharms (1968) described as an internal perceived locus of causality. Thus, for example, a strong autonomy orientation leads people to select jobs that allow greater initiative, to interpret their

existing situations as more autonomy promoting (i.e., as informational), and to organize their actions on the basis of personal goals and interests rather than controls and constraints. With a high level of autonomy orientation, people are more often intrinsically motivated, and they are more likely to be self-determined with respect to extrinsic rewards (Deci & Ryan, 1985). As such, they will be less controlled by extrinsic rewards and will tend to experience them more as affirmations of their competence or effectance.

The *control orientation* involves people's behavior being organized with respect to controls either in the environment or inside themselves. When control oriented, people seek out, select, or interpret events as controlling. A central ingredient in the determination of their behavior, cognitions, and affect is the pressure of initiating or regulatory events. Thus, when highly control oriented, people tend to do things because they think they "should," and they tend to rely on controlling events such as deadlines, or surveillance to motivate themselves. When people are control oriented, extrinsic rewards play a more determinative role in their behavior. Thus, for example, factors such as pay and status are very important in determining what jobs they take, and other decisions tend also to be organized by these extrinsic factors. The control orientation most frequently leads to compliance with the real or imagined controls (whether they take the form of threats, inducements, or expectations), but in some instances it may involve rebellion against the controls and doing just the opposite of what is demanded. In instances of either compliance or defiance, the behavior is said to be controlled rather than chosen because both compliance and defiance have a quality of being pressured and conflicted.

The *impersonal orientation* involves people's experiencing their behavior as being beyond their intentional control. They tend to believe they are unable to regulate their behavior in a way that will lead reliably to desired outcomes. When high on the impersonal orientation, people see themselves as incompetent and unable to master situations. They experience tasks as being too difficult and/or outcomes as being independent of behavior. They may believe the sources of control to be unknown (Connell, in press) or to be the whims of some external agent. The pervasive sense of incompetence is described as impersonal causality because behavior is believed to be initiated and regulated by impersonal forces rather than personal intentions. The impersonal orientation is often in evidence as depressive feelings about one's current situation and strong anxiety about entering new situations. It might also be manifest in behaviors such as following precedents, not because people are controlled by the precedents but because they lack the intentionality to do differently.

We hypothesize that the strength of people's causality orientations will explain a significant amount of variance in their behaviors, cognitions,

and affects. We also hypothesize that there will be a parallel between the effects of the three types of environmental events and the three causality orientations, such that a high level of autonomy orientation would lead to the same types of behaviors, cognitions, and affects that tend to occur in informational environments; a high level of control orientations would lead to the same types of responding observed in controlling environments; and a high level of impersonal orientation would lead to phenomena similar to those found in amotivating environments.

This paper presents our initial efforts to assess the empirical utility of the causality orientations concept by describing the development and validation of a general causality orientations scale. Although we believe that the strength of one's causality orientations may be different in different domains (for example, in the domain of achievement versus that of interpersonal relations), the utility of the causality orientations concept depends in part on whether it captures sufficient variance to allow predictability across domains. Thus, we began with a general scale.

When Deci (1980) introduced the concept of causality orientations, he used it in a way that classified people as being one of the three types. Since preliminary empirical work revealed that everyone is to some extent oriented in each of the three ways, the scale was constructed to measure the level of each orientation within a person rather than to classify a person as being one of three types.

The causality orientations concept is motivational in nature and is hypothesized to describe general organizing processes for people's experience and behavior. Thus, for example, the causality orientations are believed to be related to a wide range of variables including the level of awareness of organismic needs and emotions, the style of interpreting or experiencing needs and emotions, the level and orientation of self-related cognitions and affects, the types and qualities of behavior that people engage in, and so on. As a way of explicating the constructs and making hypotheses for this research, we turn to a discussion of other constructs and concepts believed to be related to the causality orientations.

Locus of Control

The term locus of causality used in conjunction with causality orientations is *not* the same as "locus of control" as explicated by Rotter (1966). The term locus of control refers to whether people believe that outcomes are controllable, in other words whether outcomes are believed to be contingent upon behavior. Locus of causality, on the other hand, refers to the perceived source of initiation and regulation of behavior. Locus of control is concerned with what controls a person's outcomes; locus of causality is concerned with why a person behaves as he or she does (deCharms, 1981; Ryan & Grolnick, 1984). Although the locus of control of outcomes undoubtedly affects the initiation and regulation of behavior,

it is but one among many factors that does. Others include such things as people's needs for autonomy, feelings of competence, and personal values and goals.

Rotter distinguished between internal and external *control* on the basis of people's beliefs about the relation between behavior and reinforcements. Internal control was said to refer to the belief in behavior–reinforcement dependence; people are internal if they expect that certain behaviors will lead to desired reinforcements. External control, on the other hand, was said to refer to the belief in behavior–reinforcement independence; people are external if they expect that reinforcements are delivered by fate, luck, or the unpredictable decisions of some outside agent.

Rotter's internal control is not predicted to have a clear-cut relationship to either the autonomy or the control orientation. Having control over reinforcements, in the sense of believing that reinforcements will reliably follow certain behaviors, can, for example, refer to behaviors that are initiated autonomously and are experienced as chosen or to behaviors that are controlled by contingencies and experienced as pressured. Either is possible and both would involve internal control. But from our perspective the former would be associated with the autonomy orientation and the latter with the control orientation. Furthermore, much of the behavior that emanates from an autonomy orientation is intrinsically motivated (i.e., not reinforcement related), and that class of behaviors was not even considered in the locus of control conception.

On the other hand, Rotter's external control does bear some relationship to the impersonal orientation. Developmentally, for example, it is likely that the experience of behavior–outcome independence (i.e., an external locus of control) is one of the determinants of the impersonal orientation toward causality, and behavior–outcome independence represents one type of amotivating event. Consequently, we predict a strong relationship between external control and impersonal causality.

Self-Determination and Ego Development

Although the three causality orientations represent qualitatively different perspectives on the initiation and regulation of behavior, we suggest that the prototypes of the three constructs can be viewed as representing different degrees along a continuum of self-determination. In other words, if one took a prototypic instance of each orientation, as represented by an extremely high score on the corresponding subscale, the behavior associated with the three instances would be differentially self-determined. As we have said, the autonomy orientation is the embodiment of self-determination in personality, for it entails choices based upon information. Thus a high level of this orientation would lead to self-determined functioning. The control orientation does not support self-determination, for although one can have control over the attainment of outcomes, and

therefore can be intentional, one's behavior is perceived to be initiated and regulated by those outcomes (i.e., by *controlling* events) rather than by one's own choices. There is a relative absence of the experience of choice with respect to behavior, and a predominance of the experience of pressure toward particular outcomes. Thus, a high level of the control orientation would lead to functioning that would be considered less self-determined than that organized by the autonomy orientation. Impersonal causality represents the antithesis of self-determination, for the person has no experience of being able to attain needed outcomes, let alone being the initiator of goal-directed behavior. Thus, a high level of the impersonal orientation would lead to the least self-determined functioning. This "rank ordering" of the constructs according to the degree of self-determination suggests that if one had a measure of self-determination, it would be positively correlated with the autonomy orientation, slightly negatively correlated with the control orientation, and highly negatively correlated with the impersonal orientation.

The concept of self-determination bears some relationship to ego development. As discussed by Loevinger (1976) a high level of ego development refers to greater organismic unity and autonomous functioning. Similarly Deci and Ryan (in press) discussed the development of the autonomy orientation in terms of the development of a unified or integrated self. Given this similarity, we predict a positive correlation between the autonomy orientation and ego development, using Loevinger's measure. On the other hand, both the control orientation and the impersonal orientation represent aspects of the person that are not sufficiently integrated to promote self-determined functioning; they reflect lower levels of ego development. The impersonal orientation is hypothesized to be more deficient than the control orientation since the control orientation does involve intentional mediation of action. Consequently, we predict negative relationships between ego development and both the control orientation and the impersonal orientation, with the correlation between ego development and impersonality being the more highly negative.

Self-Esteem

Self-determined functioning, as represented by an autonomy orientation, is theorized to be based in a strong sense of self, and thus to be associated with a high level of self-esteem (Deci & Ryan, in press). The control orientation, however, involves one's self-esteem being based on success as viewed by the control elements of the external world (or its introjected counterparts). And the impersonal orientation involves a representation of self as inadequate and implies low self-esteem. Thus, we would expect a positive relationship between the autonomy orientation and self-esteem, and a negative relationship between the impersonal orientation and self-esteem. With the control orientation, since self-esteem is based on external

evaluations and since the normative nature of these evaluations would tend to yield both positive and negative outcomes, there should be no substantial correlation between the control orientation and self-esteem. We used the Janis & Field (1959) self-esteem measure to test these predictions.

Self-Consciousness

Fenigstein, Scheier, and Buss (1975) introduced an instrument to assess dispositional aspects of self-consciousness. They spoke of three: public self-consciousness, private self-consciousness, and social anxiety. Public self-consciousness involves being aware of oneself as if through the eyes of another. Conceptually, the dispositional tendency toward public self-consciousness would seem to be an important concomitant of the control orientation since the search for salient external controls would typically involve one's projection of or sensitivity to the viewpoints of others. Therefore, it is predicted that the control orientation will be correlated with public self-consciousness. Social anxiety, which involves anxiety and apprehension over other people's evaluations, is a characteristic of the impersonal orientation. Out of one's lack of confidence in one's ability to initiate effective action, one is anxious and self-deprecating. Consequently, we predicted a significant correlation between the impersonal orientation and social anxiety.

Other Constructs

There are several other psychological constructs that were predicted to be related to one or more of the causality orientations. We mention each briefly.

Supporting autonomy. Deci, Schwartz, Sheinman, and Ryan (1981) developed a measure of adults' orientations toward supporting children's autonomy versus controlling children's behavior. Since autonomy-oriented adults would be expected to recognize the importance of developing autonomy in children, we predicted a correlation between the adults' orientation toward being autonomous themselves and their tendency to support the autonomy of children.

Type-A behavior pattern. The orientation toward control is hypothesized to be associated with the experience of pressure and tension, just as being controlled by external events (Ryan, Mims, & Koestner, 1983) and being ego involved (Ryan, 1982) have been shown to be related to pressure and tension. This pressured, driven state bears similarity to the personality underlying the Type-A, coronary-prone behavior pattern (Jenkins, Rosenman, & Friedman, 1967) and was therefore predicted to be correlated with it.

Self-derogation. The impersonal causality orientation, which involves the inability to achieve desired outcomes and therefore to develop and

actualize intentionality, involves the experience of personal helplessness and the self-blaming that accompanies this. The self-derogation scale, developed by Kaplan and Pokorny (1969), is intended to assess this self-blaming process and was therefore predicted to correlate with impersonal causality.

Depression. The impersonal causality orientation is also implicated in the processes of depression. Our clinical work with depressed and anorectic patients in inpatient settings has suggested that these populations are characterized by a pervasive or generalized experience of ineffectiveness. As such, they are often amotivated with respect to active, positive behavioral change. Pilot data from these patient samples have indicated high levels of impersonal causality orientations when compared with other subject groups. Extending these tentative results we predicted that even within a nonclinical, college sample the degree of impersonal causality orientation would be directly related to depressive symptomatology. To investigate this hypothesis we administered the Beck Depression Inventory (BDI) (Beck & Beamesderfer, 1974), a widely used clinical assessment tool, along with our new measure. We predicted a positive correlation within this population between the BDI and impersonal causality subscale. The magnitude of this correlation was expected to be moderate, however, since depressive symptomatology is only one possible outcome of impersonal orientations, and because we were looking within a nonclinical, relatively homogeneous group.

Behaviors

Finally, we predicted that the nature and quality of behaviors will be related to the three causality orientations in a way that parallels the relationship of behaviors to the three classes of environmental events. Thus, for example, since research review by McGraw (1978) has shown that controlling events such as rewards tend to impair performance on heuristic activities such as conceptual learning, we predicted that the control orientation would be negatively related to performance on the same types of heuristic activities. This would be particularly so when there is enough ambiguity in the environmental forces to allow personality factors to influence behavior.

METHOD

To develop the scale, we began with a pool of 96 items, written by persons familiar with the theory. These were structured as follows: a short vignette would present some situation (e.g., having just been turned down for a job or going to a party), and this would be followed by three responses to that situation: one that was believed to be autonomy oriented (A), one control oriented (C), and one impersonally oriented (I). Each response had a 7-point scale upon which a respondent could rate the extent to which that response—whether a behavior, thought, or feeling—would be characteristic of him or her in that situation. Each respondent rated each item—the autonomy, the control, and the impersonal—for each vignette.

The preliminary set of items was administered to more than 200 University of Rochester undergraduates, and their responses were factor analyzed. From the pool of vignettes and items, we selected the 12 vignettes, with their 36 items, that emerged from a factor analysis with the appropriate factor loading pattern. In the factor analysis, the first three factors were an A factor, a C factor, and an I factor. A good vignette was one in which all three responses loaded on the correct factor. Following this factor analysis, 5 of the 36 items from the 12 vignettes, whose loadings on the correct factor were less than .4, were rewritten in an attempt to improve their loadings.

The resulting questionnaire has 12 vignettes and 36 items; there are 12 autonomy items, 12 control items, and 12 impersonal items. Each item is rated on a 7-point scale, and subscale scores were created by summing the 12 responses for that subscale. Higher scores on each subscale indicate that the person has more of that orientation.

The content of the vignettes varied considerably across the domains of achievement and interpersonal relationships. They involved being a supervisor, applying for a job, and failing an exam. They also included being a parent, going to a party, relating to a friend, and organizing a picnic. An example of a vignette with its three items follows:

> You have been offered a new position in a company where you have worked for some time. The first question that is likely to come to mind is
> (A) I wonder if the new work will be interesting?
> (C) Will I make more at this position?
> (I) What if I can't live up to the new responsibility?

The responses in this vignette show the orientations operating in terms of the factors that determined whether one takes the job. The concern with interest suggests intrinsic motivation and the opportunity for self-involvement with the job. The concern with money, a factor that has been so frequently shown to undermine intrinsic motivation and self-determination, suggests being controlled by money or other external factors. Finally, the concern with not living up to the new responsibility suggests a belief in one's inability to be effective in producing desired results.

Another vignette concerns responses to failing an exam. The autonomy response involves an interested "wondering about why I did so poorly" (as a basis for more effective learning and test taking). The control response involves a blaming of the bad test (implying that the test caused or controlled the failure). And the impersonal response involves a self-deprecatory blaming of oneself (suggesting a belief that one is unable to regulate one's behavior in a way that would lead to passing).

The revised scale was given to 923 undergraduates and 193 nonstudent subjects. Some completed it once; some completed it twice; some completed this questionnaire and one or more other questionnaires; and some completed this questionnaire and also provided some other type of data. Thus, the reported statistics have varied sample sizes. The administrtation procedures were also varied. In the majority of cases the scale was administered to students in a group setting, often allowing partial fulfillment of an introductory psychology requirement; in other cases students completed the questionnaire individually before beginning an experiment. Some nonstudent subjects were mothers who participated in a mother–child research project; some were corporate employees; and some were hospitalized cardiac patients.

RESULTS AND DISCUSSION

Internal Consistency

The data from 636 students were used to assess the reliabilities of each of the three subscales, using the Cronbach α procedure. The α values, nonstandardized, were autonomy, .744; control, .694; and impersonal,

.741. The standardized values were slightly higher. Further, each item was correlated with its own subscale total (minus itself) as well as the subscale totals of the two subscales to which it does not belong. Table 1 displays the results of those correlations by presenting the minimum, maximum, and mean of the 12 correlations in each category (e.g., each of the 12 A items with the A subscale total minus the item itself; each of the 12 A items with the C subscale total; each of the 12 A items with the I subscale total. As shown in the table, the three mean correlations of items with the rest of their own subscale totals are .522 for A; .483 for C; and .508 for I. These are considerably higher than any of the average correlations of items with subscales to which they do not belong, the highest of which was .147 for I items with the C subscale total.

The lowest of any single item correlation with its own subscale total was .355 for one of the I items, and the highest single item correlation with a subscale total to which it does not belong (an I item with the C total) was .301. Thus, there is no overlap of the two distributions of r values; the first distribution being for r values of items with their own subscale totals and the second being for r values of items with other subscale totals.

Temporal Stability

Fifty-one of the subjects who completed the questionnaire completed it a second time approximately 2 months later. The test–retest reliabilities, which were autonomy, .749; control, .711; and impersonal, .778, indicate good stability for the three subscales over the 2-month period.

Relationships among Subscales

The subscale scores for 636 subjects were correlated to determine the relationship among subscales. The autonomy orientation was unrelated to the control orientation (r = .034); however, it was modestly negatively related to the impersonal orientation (r = −.248; $p < .001$). The control orientation was modestly positively related to the impersonal orientation (r = .273; $p < .001$). These correlations suggest a relative independence of the three orientations, although there is some shared variance between

TABLE 1

THE RANGE AND THE AVERAGE OF CORRELATION COEFFICIENTS ($\bar{r}$) BETWEEN THE ITEMS FROM EACH SUBSCALE AND THE THREE SUBSCALE TOTAL SCORES (n = 636)

	A total score	C total score	I total score
Items from A subscale	.428–.603 $\bar{r}$ = .522	−.087–.151 $\bar{r}$ = .018	−247–.032 $\bar{r}$ = .117
Items from C subscale	−.108–.296 $\bar{r}$ = .023	.368–.590 $\bar{r}$ = .483	−.034–.251 $\bar{r}$ = .131
Items from I subscale	−.334–.040 $\bar{r}$ = −.134	−.054–.301 $\bar{r}$ = .147	.335–.593 $\bar{r}$ = .508

control and impersonal, and impersonal is somewhat antithetical to autonomy.

Relationships to Other Constructs

As mentioned, it is believed that the various subscales of the causality-orientations measure have conceptual relationships to other personality constructs. Therefore, some subjects who completed the scale also completed other questionnaire measures.

Fifty-one subjects completed a *social desirability scale* (Crowne & Marlowe, 1964). This was done primarily to ensure that autonomy scores—which might be considered the most attractive response set—would not simply reflect people's desire to provide socially desirable answers. As can be seen in Table 2, social desirability did not correlate significantly with any of the subscales, although there was a nonsignificant negative correlation (r = −.18) with the I scale, possibly indicating a tendency for people who are concerned about self-presentation to respond with low ratings on the I scale.

The same subjects were given the *adults' orientations toward supporting*

TABLE 2

CORRELATIONS BETWEEN A, C, AND I SUBSCALE TOTALS AND SCORES ON A VARIETY OF OTHER PERSONALITY MEASURES

	A	C	I
Social desirability (n = 51) (Crowne & Marlowe, 1964)	−.02	−.03	−.18
Supporting autonomy in children (n = 51) (Deci, Schwartz, Sheinman, & Ryan, 1981)	.55***	−.04	.09
Type-A coronary-prone behavior pattern (n = 73) (Jenkins, Rosenman, & Friedman, 1967)	.16	.26*	.00
Locus of control (n = 73) (Rotter, 1966)	−.16	.29**	.52***
Self-derogation (n = 73) (Kaplan & Pokorny, 1969)	−.20*	−.06	.38***
Depression (n = 87) (Beck & Beamesderfer, 1974)	−.12	.09	.28**
Private self-consciousness (n = 70) (Fenigstein et al., 1975)	.21*	.23*	.24*
Public self-consciousness (n = 70) (Fenigstein et al., 1975)	.11	.22*	.41***
Social anxiety (n = 70) (Fenigstein et al., 1975)	−.16	.06	.58***
Ego development (n = 42) (Loevinger, 1976)	.43**	−.22	−.32*
Self-esteem (n = 70) (Janis & Field, 1959)	.35***	.01	−.61***

* $p < .05$.
** $p < .01$.
*** $p < .001$.

the autonomy versus controlling the behavior of children scale (Deci, Schwartz, Sheinman, & Ryan, 1981). This measure, which assesses the degree to which adults support autonomy in children, is coded with higher scores, indicating a stronger orientation toward supporting autonomy. As predicted, Table 2 shows a very strong relationship between scores on the A subscale and the adult orientation toward supporting autonomy in children ($r = .55$, $p < .001$). Although conceptually one might also expect a negative relationship between the control subscale of the causality orientation scale and the tendency to support autonomy in children, the A and the C subscales of the causality orientation scale were developed to be independent factors, whereas the supporting children's autonomy versus controlling children's behavior scale was designed to be ipsative. Therefore the positive correlation between the autonomy orientation and the tendency to support autonomy in children would tend to preclude a negative relationship between the control orientation and the tendency to support children's autonomy. Table 2 shows no relationship between the C subscale and the tendency to support autonomy in children.

The *Type-A coronary-prone behavior pattern* (Jenkins et al., 1967), which involves pressure, tension, and aggressive achievement, was predicted to be related to the C subscale. As expected, data from 73 subjects showed a relationship between Type-A and the C subscale, but not between Type A and either the A or I subscales. The relationship with C is modest, $r = .26$, although it is significant ($p < .05$) and therefore does provide support for our analysis.

Rotter's locus of control scale is scored for external control which, one will recall, parallels most closely our I subscale. As predicted, there was a strong correlation between Rotter's external control and the I subscale ($r = .52$; $p < .001$). Also apparent was a modest correlation ($r = .29$; $p < .01$) between external control and our control orientation. It appears that Rotter's scale not only measures external control in the behavior–outcome independence sense, but also to some degree measures the experience of being controlled (or pressured) by external sources. It is perhaps this fact that led researchers such as Levenson (1973) and Connell (in press) to add a powerful other's subscale (i.e., outcomes being controlled by powerful, though predictable, external agents) to the locus of control assessment.

The meaning of an external locus of control or external perceived control has in fact been somewhat confused in the recent literature. Attribution theorists have tended to speak of external control when an external agent makes someone do something by threatening punishment, for example. In Rotter's theory, however, this instance would be classed as internal control since the behavior and outcomes are linked. It appears that although the concept of control has been useful in the reinforcement and cognitive–behavioral literature, it does not adequately address the

important issues in the motivation literature (see Deci & Ryan, in press, for more on this matter).

Seventy-three subjects completed an adapted version of a *self-derogation scale*. Whereas the original (Kaplan & Pokorny, 1969) involved 10 questions, each with a binary response, our version involved the same 10 questions, each with a 7-point rating scale. We adapted it to allow for more variability in responses, since the original scale had been designed for use with pathological populations and was therefore expected to result in a nondiscriminating "floor effect" with our nonclinical subject population. It was predicted that this scale would be strongly related to I, which in fact it was ($r = .38$; $p < .001$). There was also a significant negative relationship with A ($r = -.20$; $p < .05$). The more autonomy oriented one is, the less self-derogating.

Eighty-seven subjects completed the Beck Depression Inventory (Beck & Beamesderfer, 1974) so we could examine the relationship between the impersonal causality orientation and depression within a nonclinical sample. As predicted there was a significant, though modest correlation between I and the BDI ($r = .28$, $p < .05$). There was no expected or obtained relationship between the BDI and either A or C. Thus impersonality is related to increased reports of depression-related features.

Seventy subjects who completed the causality orientations scale also completed the *self-consciousness scale* developed by Fenmigstein et al., (1975). Our prediction was that the control orientation would be related to a concern for what others think, in other words, to public self-consciousness. Further, impersonality was predicted to be associated with a high (sometimes crippling) degree of social anxiety. The results, presented in Table 2, bear this out, although the relationship between the control orientation and public self-consciousness was moderate. There was a considerably stronger relationship between the impersonal orientation and public self-consciousness, suggesting that the self-deprecating anxiety of the impersonal orientation is based in part in people's strong concern with (perhaps projections about) what other people think of them. Finally, the results also show a modest relationship between each causality orientation subscale and the private self-consciousness factor. Apparently, the stronger one's orientation toward any type of causality, the more one is aware of the inner conditions that accompany it (e.g., relaxed interest for autonomy; pressure and tension for control; and helplessness for impersonal).

Research reported by Plant and Ryan (in press) is congruent with the set of above predicted relationships between causality orientations and self-consciousness. In their experimental research they found a negative relationship between public self-consciousness and intrinsic motivation. Public self-consciousness, tending to be "controlling" in nature, seems to undermine intrinsic motivation, just as controlling extrinsic events do. Social anxiety was also found to be negatively related to intrinsic mo-

tivation, as would be expected. Finally, private self-consciousness did not affect intrinsic motivation, since as the above reported data suggest, private self-consciousness is equally related to a high level of each of the causality orientations (and thus, presumably, to all types of motivation).

Ego Development

We hypothesized that the concept of an autonomy orientation represents the highest level of self-determination, which should be evidenced in a positive correlation between autonomy orientation and ego development (Loevinger, 1976). On the other hand, the concepts of a control orientation and an impersonal orientation, both of which represent lower levels of self-determination, should be negatively correlated with ego development. Impersonal was predicted to be more strongly negatively related than control. Weil and Ryan (1983) had 42 subjects respond to the Loevinger (1976) sentence completion measure of ego development.

The correlations between the causality orientations and the ego-development measure, which appear in Table 2, indicate that, as predicted, ego development correlated positively with the autonomy orientation and negatively with the control and impersonal orientations, although the negative relationship with the control orientation was not quite significant. These correlations, therefore, support the view that high levels of the three causality orientations can be differentially described in terms of the degree to which they reflect self-determined functioning.

Self-Esteem

Self-esteem (Janis & Field, 1959) was predicted to be positively related to autonomy scores, unrelated to control scores, and negatively related to impersonal scores. These correlations, which appear in Table 2 are exactly as predicted. The autonomy orientation seems to be based in a positive sense of self and the impersonal orientation in a negative sense of self. The sense of self involved with the control orientation, we suggest, is based in external evaluations.

To summarize, the correlations with several personality scales indicate the nomological validity of the subscales of the causality orientations measure. All of the predicted relationships appeared; all the relationships that did appear were readily interpretable; and no relationship appeared that did not make good sense in terms of the theory.

Emotions and Attitudes

There was a total of 293 subjects who completed the causality orientations scale and also the *differential emotions scale* (Izard, Dougherty, Bloxom, & Kotsch, 1974). This scale consists of 30 individual emotional descriptors (e.g., downhearted, contemptuous, shameful, joyful), and subjects indicate, on a 5-point scale, the extent to which they feel (or felt) each. The 30 items are arranged into 10 a priori factors (Izard et al., 1974), though

alternatively they can be organized into factors that emerge empirically from a factor analysis of the data set under consideration.

Data from the 293 subjects were contained in three different data sets. Two of the sets were composed of subjects who completed the emotions questionnaire subsequent to an experimental induction. The other set was made up of subjects who had not received an experimental manipulation, so their data reflect emotions in a situation that was relatively free of an externally provided set.

In this latter data set (Ryan, Connell, Plant, Robinson, & Evans, 1984) the causality-orientations scale was administered to 86 subjects who were later asked to read an expository passage as part of a spontaneous learning task. These subjects were then given the emotions questionnaire and asked to describe how they felt while reading the passage. The emotions data were treated in terms of the a priori factors, and correlations revealed that the autonomy orientation was positively associated with the emotion of interest ($r = .24$; $p < .05$) and negatively associated with shame ($r = -.34$; $p < .01$). The control orientation was positively associated with distress ($r = .22$; $p < .05$) and guilt ($r = .24$; $p < .05$).

There were 128 of the 293 respondents who were subjects in a laboratory experiment (Ryan, 1982) and who completed the emotions questionnaire toward the end of the experiment. Their responses were then factor analyzed to give emotional factors. From these data, eight factors emerged: two hostility factors, labeled hostility A and hostility B; enjoyment; fear; shame; interest; surprise; and guilt. These factor scores were then correlated with the A, C, and I scores, and Table 3 presents the significant relationships.[1]

Interestingly, it was the so-called negative emotions that correlated with the subscales in this data set. The strongest relationships were with the I subscale. The impersonal causality orientation is based in ineffectance and the belief that one cannot reliably attain desired outcomes. Associated with this ineffectance, as one would expect, is a generally negative emotional tone. Impersonality involves some hostility, though it involves primarily fear, shame, and guilt—the feelings that can be interpreted as hostility directed inward, toward oneself. The C subscale, on the other hand, is correlated with only one of the hostility factors, and is hostility directed outward, although this relationship is somewhat less strong than might be expected. Finally, the A subscale shows a tendency toward an inverse relationship with the negative emotions; hostility and guilt both correlated negatively with the A subscale.

In the Ryan (1982) study, subjects also filled out a postexperimental attitude questionnaire. Their responses on this questionnaire were also

[1] Doing correlations on data that were obtained from different cells of an experiment is a tenuous procedure since either (or both) variable(s) could be affected by the various manipulations. Nonetheless, since these data came from eight different cells, the correlations are likely to be reasonably representative.

TABLE 3

SIGNIFICANT CORRELATIONS BETWEEN THE A, C, AND I SUBSCALES AND BOTH FACTORS FROM THE DIFFERENTIAL EMOTIONS SCALE AND ITEMS FROM A POSTEXPERIMENTAL QUESTIONNAIRE IN THE RYAN (1982) LABORATORY EXPERIMENT (n = 128)

	A	C	I
Hostility A		.21**	
Hostility B	−.16*		.19*
Shame			.29**
Fear			.38***
Guilt	−.26**		.21*
How relaxed were you			−.36***
How pressured did you feel			.30**
How important was it for you to do well		.27**	
How hard did you try		−.19*	

* $p < .05$.
** $p < .01$.
*** $p < .001$.

correlated with their A, C, and I scores. The results, also shown in Table 3, revealed that the I subscale was negatively related to the degree of being relaxed (−.36) and positively related to felt pressure (.30). The C subscale was positively related to the item, "it was important for me to do well on the puzzle activity," though, interestingly, the C score was negatively related to reports of "how hard I tried." The sense of its being important to do well is conceptually related to the control orientation; doing well at an achievement task assigned by someone else (the experimenter) would seem to be a characteristic of the control orientation. However, the negative relationship of C with "try hard" seems at first blush to be anomalous. It is probable that this correlation reflects a characteristic of the control orientation, namely, a defensive, ego-oriented self-presentation. In being control oriented, people want to look good to the controllers or evaluators, so they might report low effort to enhance or protect themselves. Then, if they do well, people will think they are highly competent, and if they do poorly, not trying hard provides an excellent excuse.

Kernis (1983) also reported an experiment in which subjects completed both the causality-orientation scale and the differential emotions scale. Kernis' results were very similar to those of Ryan (1982) in that there was a very strong relationship between people's impersonality subscale scores and their reports of experiencing the negative emotions. In his study, Kernis also created an informational, a controlling, and an amotivating experimental condition (Deci & Ryan, in press) and related the A, C, and I subscale scores to the emotions in each of the three conceptually relevant conditions. He reported evidence of an interaction between

personality (i.e., causality orientations) and environment (i.e., the three conditions). This was evidenced by a negative relationship between the control orientation and joy and a positive relationship between the control orientation and fear in the informational context, but a positive relationship between the control orientation and joy and a negative relationship between the control orientation and fear in the controlling context. If people are high on the control orientation they seem to be happier and less fearful in controlling environments than in informational, autonomy-supporting environments.

Behavioral Relationships

The general causality-orientations measure included items from various domains of activity and was hypothesized to predict behavioral outcomes across domains. Part of the external validation procedure, therefore, involved an assessment of the utility of the scale for such predictability. For this purpose we employed three sets of data from highly varied situations. Each data set included causality orientations scores as well as some type of behavioral data that was believed to be theoretically relevant to the orientations. Analyses of these data can, therefore, be used for a preliminary assessment of the behavioral predictability of a scale that has been shown to be valid in its relationship to other psychological constructs.

Exam performance. Eighty-eight of the subjects who completed the causality orientations scale were students in a personality lecture course. During the semester, they took an exam which had both short answer questions and an unstructured essay, asking students to "select a topic from the course which interests you and write an essay about it." Their exams were graded and returned to them and then they completed a short questionnaire about the perceived fairness of the two parts of the exam. Table 4 presents the correlations between the subscale scores and grades on the exam. As can be seen, there is a significant negative correlation between the control orientation scores and grades. The more

TABLE 4

RELATIONSHIPS OF THE A, C, AND I SUBSCALE SCORES WITH GRADES ON A PERSONALITY EXAM, AND WITH SUBJECTS' PERCEPTIONS OF FAIRNESS OF BOTH THE SHORT ANSWER PORTION OF THE EXAM AND THE ESSAY PORTION OF THE EXAM

	A	C	I
Grades for the exam (r values)	−.04	−.25**	.01
Rated fairness for short answers (B values)	.16	−.13	−.29*
Rated fairness for essay (B values)	.51*	−.13	−.08

Note. The A, C, and I relationships with fairness appeared in a multiple regression analysis after the grades had been removed from the fairness ratings (n = 88).

* $p < .07$.
** $p < .02$.

control oriented people were, the poorer they performed. This finding is congruent with research showing that the introduction of extrinsic rewards into a learning situation can lead to poorer performance (e.g., McGraw, 1978), in that a focus on controls, whether in the form of extrinsic rewards or because people are control oriented, leads to decrements in performance. A surprising thing about the results is that there was not a negative relationship between I scores and performance, a result that we had also expected.

The students' ratings for fairness of the structured short answers and the unstructured essay were subjected to a hierarchical multiple regression procedure, in which the variance in fairness ratings attributable to grade was removed, and then subscale scores were entered. Six separate analyses were done, one for each of the three subscales, predicting each of the two fairness ratings. These results also appear in Table 4.

The variance in fairness ratings attributable to grades on the exam was very large—F values in the double digits with p values well beyond .001. This, of course, is quite expected; however, our interest was in the fairness as influenced by causality orientations rather than by grades. Here we found interesting tendencies. The more control or impersonally oriented the students were, the less fair they rated the exam, whereas the more autonomy oriented they were, the more fair they rated it. Only two of the six B weights approached significance ($p < .07$), so the findings are quite weak, but the consistency in the pattern of findings, since all six B values were in the predicted direction, is suggestive.

The strongest of the relationships is between A scores and fairness ratings on the unstructured part. The more autonomy oriented the student was, the more the student found the unstructured question fair. With a strong autonomy orientation, students were apparently more comfortable taking the initiative to demonstrate their knowledge about a topic that interested them.

To summarize, the largest portion of variance in students' ratings of fairness of the structured and unstructured parts of an exam was accounted for by their grades. Beyond that there was a weak tendency for A scores to predict perceived fairness, especially on the unstructured part of the exam, as would be expected, and for the C and I scores to be negatively related to perceived fairness.

Attachment patterns. A recent study by Bridges, Frodi, Grolnick, and Spiegel (1983) employed the causality orientations scale in an exploration of mother–child attachment patterns. Ainsworth, Blehar, Waters, and Wall (1978), as well as numerous other investigators, have studied attachmnents using the "strange-situation" paradigm and the A, B, C classification. The classification system describes three general types of attachment patterns: the A pattern is based in an insecure attachment in which the baby tends to avoid contact with the mother; the B pattern

is based in a secure attachment; and the C pattern is based in an insecure attachment in which the baby is resistant and ambivalent toward the mother. The strange-situation paradigm, used with the 1-year-olds in the Bridges et al. study, involves a series of separations and reunitings of mother and baby.

In the Bridges et al. study, mothers completed the causality orientations scale and participated in the strange-situation paradigm. Mothers were classified in terms of their attachment relationships and then the averages of the A, C, and I scores were computed by attachment classifications. These appear in Table 5. The mothers of avoidant babies (A) had higher scores on the impersonal subscale than the mothers in the other two classifications; the mothers of the securely attached babies (B) had higher scores on the autonomy subscale than the mothers in the other two categories; and the mothers of the resistant babies (C) had higher scores on the control subscale than the mothers in the other two classifications. The overall significance of the pattern of results was marginal ($p = .06$), perhaps because of the very small cell sizes for the A and C attachment patterns. Nonetheless, they suggest some interesting speculations. It may be that mothers' tendencies toward impersonality and its associated anxiety and passivity is related to their babies' avoidance. The tendency toward control may lead mothers to be intrusive and controlling in their interactions with the babies, resulting in the babies' being ambivalent and resistant.

Coping with surgery. King (1984) studied 50 cardiac patients who were undergoing voluntary surgery in a university hospital. She assessed the degree to which these patients were focused on the potential benefits of the surgery (thus viewing it as a challenge) versus the degree to which they were focused on their fears and negative expectations (thus viewing it as a threat). Analyses revealed that the patients' scores on the autonomy scale of the causality orientations measure were predictive of their viewing their operation as a challenge rather than a threat. It similarly accounted for their postoperative attitudes toward the surgery.

TABLE 5

AVERAGE A, C, AND I SUBSCALE SCORES FOR MOTHERS WHOSE ATTACHMENT PATTERNS WITH THEIR 1-YEAR-OLDS WERE CLASSIFIED AS A, B, OR C, USING THE AINSWORTH STRANGE-SITUATION PROCEDURE

	n	A	C	I
A (baby is avoidant)	4	66.8	45.8	**44.0**
B (baby is secure)	31	**72.0**	44.9	35.6
C (baby is resistant)	6	69.0	**53.0**	36.5

Descriptive Statistics

Each item was rated on a scale ranging from 1 to 7. The three subscale scores were formed by summing the ratings of the 12 items belonging to that subscale. Thus, the subscale scores could range from 12 to 84. Table 6 presents the descriptive statistics for the three subscales for 636 undergraduates. As can be seen, the undergraduates had scores on the A subscale that were highest, the C subscale that were second highest, and the I subscale that were lowest. All three scales were reasonably normally distributed though the autonomy scale was slightly negatively skewed and slightly leptokurtic. An inspection of the three distributions showed no evidence of unusual outliers.

Table 6 also shows the means and standard deviations for samples of males and females. While the relationships among the subscale scores for males, for females, and for the combined sample parallel each other, there is some evidence of sex differences on the subscale scores. Females scored significantly higher than males on autonomy orientation while males scored significantly higher on control orientation. It seems premature to interpret these modest differences, though their existence points to the importance of considering sex effects in research on causality orientations.

The causality orientations scale was also given to 102 professionals in a large corporation. Nineteen of them were research scientists who worked

TABLE 6
MEANS, STANDARD DEVIATIONS, SKEWNESS, AND KURTOSIS FOR SUBSCALE SCORES FOR A LARGE SAMPLE OF UNDERGRADUATES (n = 636)[a]

	A	C	I
Combined			
Mean	70.54	49.05	39.03
Standard deviation	6.62	8.13	8.99
Skewness	−.51	−.18	.20
Kurtosis	−.49	.07	.03
Males			
Mean	68.83	50.51	38.94
Standard deviation	6.21	7.52	8.99
Females			
Mean	71.89	47.83	39.25
Standard deviation	6.29	8.01	8.76
Sex differences			
t (males–females)	−5.51*	3.89*	−0.40

[a] Only 512 of the 636 subjects were used in the separate sex analyses because the other 124 subjects were not identified by sex: for males, n = 234; for females, n = 278.
* $p < .001$.

in a "think tank" and 83 were engineers who worked in the manufacturing operation. We examined the causality orientations profiles of the two groups of professionals to provide normative data for nonstudents and to see whether there might be a trend toward greater self-determination in the think tank scientists than in the engineers. Table 7 shows the means for the A, C, and I scores for the two groups of professionals. The scientists do tend to be higher on autonomy and lower on control and impersonal than the engineers, though the differences were small and only the control subscale scores of the two groups are significantly different ($p < .02$).

A comparison of means in Tables 6 and 7 suggests that although the patterns of means are similar for the students and professionals, the students appear to have higher scores on the control and impersonal subscales. Again, we do not offer an interpretation of this; we merely point to it for normative purposes.

SUMMARY AND GENERAL DISCUSSION

The causality orientations scale assesses three different modes of functioning in terms of the source of initiation and regulation of behavior. The scale is composed of 12 vignettes and 36 items. One item following each vignette measures each of the three orientations—autonomy, control, and impersonal. A person who completes the scale will have a score on each of the three subscales that can be used separately or in combination to predict the behaviors, cognitions, and affects that are theoretically related.

Thus far, the scale has been shown to be internally consistent and temporally stable. Furthermore, relationships have been confirmed between the subscales and other constructs in the literature that are theoretically related. The subscale scores have also been related to emotions, attitudes, and behaviors in various circumstances and domains, although, as one might expect, the behavioral relationships were the least strong.

This version of the scale was constructed to be a general scale, one that cross cuts domains and includes a wide range of responses and reactions. This was done to assess the general utility of the construct.

TABLE 7
MEANS AND STANDARDS DEVIATIONS FOR THE A, C, AND I SCORES OF ENGINEERS AND RESEARCH SCIENTISTS

	A	C	I
Engineers (n = 83)	70.2	45.6	34.3
	(6.9)	(8.1)	(8.4)
Research scientists (n = 19)	72.0	40.8	32.5
	(7.6)	(7.3)	(7.8)

Having established its validity as a construct we have begun the construction of more specific scales—ones that deal with specific domains and narrower classes of responses (see Deci & Ryan, in press, for a validation of the causality orientations at work scale). These, we hypothesize, will allow greater predictability of behaviors, since the construct will be assessed with respect to the particular class of events under investigation. The theoretical implication of this, of course, is that one's general orientations are, in essence, a kind of average of orientations across domains. Thus, the general nature of the scale introduces a degree of variability that makes prediction of specific actions rather difficult. Behavior is multi-determined and the general scale lacks sufficient specificity to capture much variance among these varied determinants. A recent investigation by Paulhus (1983) revealed that when perceived control was partitioned into domains and instruments were developed to assess each, the specific scales predicted their own domains well, relative to scales that measured the same construct in other domains. This suggests that predictions of behavior will be enhanced by domain-specific causality orientation scales.

The causality orientations concept is one aspect of a general, organismic theory of human motivation (Deci & Ryan, in press). The theory, called self-determination theory, is organized around three sets of motivational processes—intrinsic, extrinsic, and amotivational—and their relationships to the concept of self-determination. According to the theory, there are two types of self-determined behaviors: intrinsically motivated behaviors and those extrinsically motivated behaviors that are regulated by integrated internalizations (Ryan, Chandler, Connell, & Deci, 1983). In the latter case, the behaviors are experienced as self-initiated and choiceful because they are part of a self-selected goal sequence. The person has taken them on as his or her own; in other words they have been integrated into and are congruent with the self. Behaviors motivated in this way are manifestations of an autonomy orientation. Purposive behavior also can be nonself determined as suggested by the concept of control orientation. Here, although there is a belief in the relationship between one's behavior and outcomes, and thus there is intentionality, the integrated self plays a relatively passive role in the organization and regulation of action. The experience of the behavior's being choiceful is absent, since behavior is shaped by external controls or by introjects of the external controls. Finally, impersonal causality is the least self-determined, for there is little experience of either choice or competence. When impersonally oriented, people are passive with respect to forces operating on them, which they may experience as uncontrollable.

The general organismic theory classifies initiating and regulatory events as being informational, controlling, and amotivating, and it classifies personality orientations as being autonomy, control, and impersonal. Considerable research has confirmed that informational events facilitate

self-determined behaviors (i.e., intrinsically motivated behaviors and chosen extrinsically motivated behaviors), while controlling events facilitate control-determined behaviors (i.e., nonintegrated, extrinsically motivated behaviors), and amotivating events undermine motivation of both types and decrease the likelihood of a behavior's recurrence (Deci & Ryan, in press). The present research provides the first evidence that the autonomy orientation also promotes self-determined functioning, while the control orientation is more related to pressured compliance (or rebellion) and the impersonal orientation promotes self-derogation and amotivation. Thus, the research not only provides initial support for the concept of causality orientations, it also provides additional support for self-determination theory.

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