

# Intrinsic and Extrinsic Motivation

*The Search for Optimal  
Motivation and Performance*

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## Interest and Self-Regulation: The Relation between Having To and Wanting To

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Mary, Tony, and Robert are taking an English literature class on British writers. They have an essay due the next day on the topic of John Donne's influence as a metaphysical poet. That evening, Mary sits in her room and stares at the blank page in front of her. She flips on the television and starts watching Jerry Springer instead. Across the hall, Tony reminds himself that to maintain his grade point average (GPA), he needs to do a good job on his essay. He sits down and immediately begins working on the assignment. In the meantime, Robert arranges to meet up with a friend from the class at the student union. Over hamburgers, Robert and his friend talk about what a lame assignment it is, the meaning of *metaphysical*, John Donne's influence, and how much they like the class instructor. They then spend the next several hours alternating between writing their essays and continuing to talk.

Mary, Tony, and Robert are faced with the same ostensible activity: an essay due on John Donne. However, their responses to that assignment are very different. According to traditional approaches, none of these students would be considered to be intrinsically motivated to perform the activity. Whether and how they do the assignment, therefore, depends on their level

of extrinsic motivation. On the basis of their behavior, we would infer that Tony's is high, Mary's is low, and Robert's is somewhere in the middle.

Rather than considering behavior as either intrinsically or extrinsically motivated, however, we consider the behavior of these three students to demonstrate the alternatives when attempting to regulate motivation in day-to-day life. Self-regulatory perspectives typically focus on performance of an activity as a means to achieve some goal or end. In contrast, to qualify as intrinsic motivation, many researchers propose that performance of the activity needs to be an end in and of itself. As a result, intrinsic motivation is often discussed in terms of a particular class of activities, restricted to optimal conditions that are relatively rare in everyday life.

We consider intrinsic motivation to be a process as well as an outcome, however, and propose that it is a process embedded in our everyday regulation of behavior. Motivation to perform goal-directed actions at a given point in time may depend on whether we "feel like it"—that is, on the degree to which we experience interest and enjoyment. We expect that this phenomenological experience may become the more proximal motivator for persistence and subsequent engagement, particularly for activities that take place over the long term (Harackiewicz, Barron, Tauer, Carter, & Elliot, in press; Jacobs, Finken, Griffin, & Wright, 1998; Morgan, Isaac, & Sansone, 1999; Rathunde & Csikszentmihalyi, 1993). For example, although Tony is sufficiently motivated by the goal of maintaining his GPA to start work on the essay, will this motivation be sufficient to keep him reading, thinking, and writing about John Donne's poetry beyond this assignment, class, or degree?

Our perspective suggests that to maintain performance, we need to regulate both outcome-oriented motivation and process-oriented motivation. For example, Mary does not appear to be sufficiently motivated by either the potential outcome (her grade) or by interest in John Donne's poetry to work on her assignment. Tony is sufficiently motivated by his GPA to work on his essay but appears to have no interest in the topic. In contrast, of the three, Robert may in fact experience the greatest interest, because he has chosen to perform the activity in a way that makes the experience more interesting for him (discussing the essay and other topics with a friend). Robert may thus be the only one who is likely to voluntarily read John Donne, or other poets, in the future.

Our example illustrates several important points. First, it suggests that being motivated by the experience of interest can be important even when individuals see the activity as a means to some outcome. Moreover, interest may depend on aspects of the "activity" that are not an ostensible part of the task and that do not involve feelings of efficacy and control over the environment (e.g., White, 1959)—for example, discussing the essay and other topics with a classmate.

In this chapter, we describe our model that attempts to bridge research on self-regulation and intrinsic motivation. From our perspective, it is difficult to identify an intrinsically motivated "activity" or "person," because in addi-

tion to being an important outcome, intrinsic motivation can be part of the process of pursuing another goal, or multiple goals, over time. In contrast to definitions that focus on underlying needs (e.g., Ryan & Deci, chapter 2, this book) or a unitary relationship between a goal and activity (Shah & Kruglanski, chapter 5, this book), we consider individuals to be intrinsically motivated when their behavior is motivated by the *actual, anticipated, or sought experience of interest*. In our research, we examine how this motivation can be embedded in goal striving over time.

### MODEL OF THE SELF-REGULATION OF MOTIVATION PROCESS

Figure 12.1 represents a schematic drawing of the theoretical model that has continued to evolve (Harackiewicz & Sansone, chapter 4, this book; Harackiewicz & Sansone, 1991; Sansone & Harackiewicz, 1996; Sansone, Sachau & Weir, 1989). In this model, we portray interest as an inherent and critical component of the self-regulation process.

The left-hand side of the figure illustrates the part of the self-regulation process that occurs within the individual. The right-hand side of the figure illustrates the potential impact of the context at various points in the process. In the middle lies the "activity," which encompasses an individual's actions over time (Vygotsky, 1978). As we have attempted to illustrate, we believe that the activity is composed of the actions resulting from the transactions among an individual's goals, task characteristics, and the context in which the person performs the activity at a particular point in time (e.g., Higgins, Lee, Kwon & Trope, 1995; Higgins, Trope & Kwon, 1999; Sansone, Sachau, & Weir, 1989). Thus, the "activity" is only partially defined by objective task characteristics.

Moreover, we propose that the nature of the activity can change over time, to incorporate individuals' subsequent actions that result from intentional strategies, emotional responses, feedback, and so on. The ostensible same activity can thus differ because of both the particular context and goals of the individual going into the activity, as well as because of processes that emerge once the activity has begun. To understand Mary's, Tony's, and Robert's motivation to write about John Donne, therefore, we need to locate the external demand of the essay assignment within their larger self-regulation process.

Characteristics of the individual and of the context are proposed to influence the goals that individuals bring to an activity. As first defined in Harackiewicz and Sansone (1991), the level of goals that are most proximal to performance of an activity are target goals and purpose goals. Target goals include behavioral referents specific to that activity at a given point in time (e.g., complete the essay on John Donne). Purpose goals operate at a higher level, representing the reasons for behavior (e.g., to achieve a good

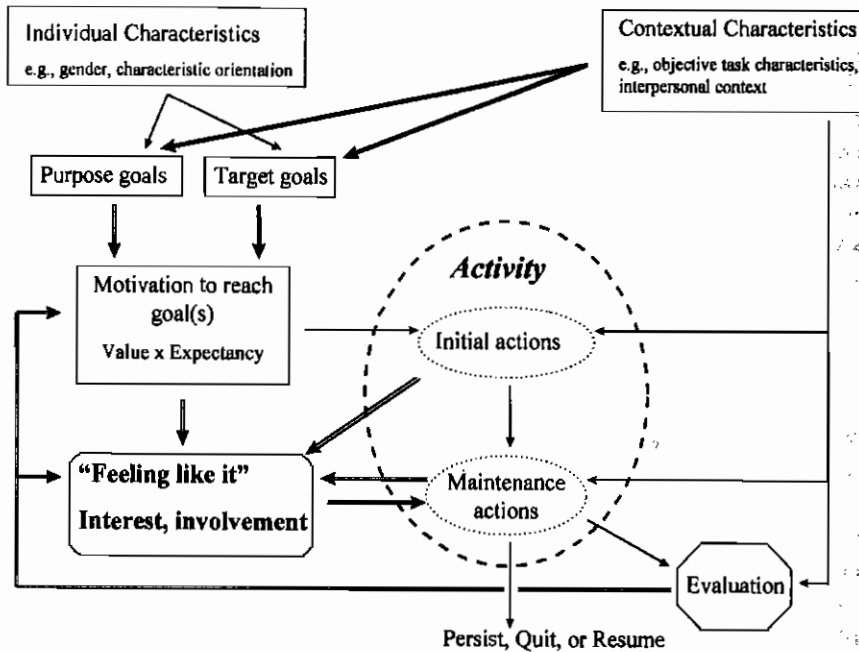


FIGURE 12.1

Self-regulation model. The left-hand side of the figure illustrates the part of the process that occurs within the individual; the right-hand side of the figure illustrates the role of the context at various points in the process. In the middle lies the "activity," which is composed of the actions resulting from the transaction among an individual's goals, task characteristics, and the context in which the person performs the activity at a particular point in time. Double lines indicate relationships that may be moderated by individual characteristics.

grade). Purpose goals can be relevant to multiple activities. These purpose goals could be different kinds of achievement goals (e.g., to master a skill, to outperform others) but can also include non-competence-related goals (e.g., to have fun, to connect to another person).

Higher-level individual differences such as personality characteristics (e.g., conscientiousness [Costa & McCrae, 1991]), characteristic motivational orientations (e.g., approach- and avoidance achievement orientation [Elliot & Church, 1997]), cognitive beliefs (e.g., entity or malleable theories of intelligence [Molden & Dweck, chapter 6, this book]), and individual interests (Renninger, chapter 13, this book), contribute to the purpose and target goals adopted in a particular situation. Similarly, broad, higher-level contextual factors, such as culture and socioeconomic status, as well as lower-level contextual variables, such as a class assignment or the presence of other people,

can prompt adoption of particular purpose goals and target goals at a given point in time. Mary, Tony, and Robert may thus have different goals even though they face the same situation (an essay due in their class).

Even if they do have similar goals, however, whether these goals motivate behavior depends on the degree to which the individuals value the goals and believe that it is possible to reach these goals. Like other expectancy-value formulations (e.g., Bandura, 1986; Eccles, 1983; Jacobs & Eccles, chapter 14, this book), therefore, this level of the model suggests that goals may differ in their motivating potential across individuals or within individuals across time. In our example, Mary and Tony may both have the goal of getting a good grade in their class, but the goal is more important to Tony. Thus, the motivation to reach this goal was of sufficient magnitude for Tony but not for Mary to begin work on the essay.

A critical difference from other self-regulation perspectives is our hypotheses about the process once the activity has begun. As noted in our initial example, we expect that the experience of interest and enjoyment may become the more proximal motivator for persistence and subsequent engagement, particularly for activities that take place over the long term. Like many researchers, we define *interest* as a phenomenological experience involving both cognitive and affective components. Attention is directed and focused, and the general affective tone is positive. At its extreme, this may be experienced as "flow" (Csikszentmihalyi, 1975). As such, our definition of interest is closer to "situational" (see Hidi, chapter 11, this book) than "individual" (see Renninger, chapter 13, this book) interest.

The motivation to reach the goals is one factor that can directly contribute to this experience of interest (Renninger, chapter 13, this volume). For example, Tony may actually find thinking about John Donne's poetry more interesting because his concern about the assignment led him to become more involved in the task. The experience of interest also arises from the actions associated with performance of the activity. As illustrated in the figure, these actions are influenced by contextual characteristics, such as objective task demands. However, these actions are also influenced by the individual's goals, which can lead an individual to perform the activity in goal congruent ways.<sup>1</sup>

<sup>1</sup> Although we have focused on the case of approaching a desired outcome, we would expect a similar process to work when individuals are striving to avoid a negative outcome (e.g., Elliot & Church, 1997; Higgins, 1997). For example, greater motivation to reach the goal of avoiding a negative outcome could negatively affect interest both directly (because of greater anxiety [e.g., Elliot & McGregor, 1999]) and indirectly (through actions that correspond to an avoidance regulatory focus [e.g., Shah, Higgins, & Friedman, 1998]). Moreover, for clarity's sake we have illustrated only the goal-mediated effects for individual characteristics. However, these characteristics could affect actions directly (e.g., people may engage in habitual behaviors in a given situation that are not specifically or consciously goal directed. See Bargh and Chartrand, 1999). Even when initial actions are not goal directed, however, we suggest that they can affect the phenomenological experience and, thereby, the self-regulation process.

The degree of interest experienced while performing can influence subsequent actions ("maintenance actions"). For example, if interest level is not sufficient, individuals may actively engage in strategies that make performance more interesting (Sansone, Weir, Harpster & Morgan, 1992), even if they are not required by the task. In our example, Robert's decision to meet with a classmate might have made performing the assignment more interesting. However, Robert might not have been as thorough or as quick in completing the essay as he would have if he were working alone. Individuals may thus engage in strategies to regulate interest even when they come at a cost to immediate performance (Sansone et al., 1992). On the other hand, had Robert *not* chosen to meet with his classmate, he might have been more likely to choose Mary's option and watched Jerry Springer instead.

Figure 12.1 also illustrates the multiple points at which the context can affect this process. In addition to influencing individuals' goals, the context can directly constrain or shape individuals' initial actions as well as their maintenance actions. In our example, the instructor's assignment created the initial demand and defined the task as an analytical approach to understanding John Donne's poetry (i.e., his influence as a metaphysical poet). The instructor might also monitor progress (e.g., have students meet with him or her weekly) and provide evaluative feedback on the essay once it is completed.

Evaluation is illustrated in the lower right-hand corner of Figure 12.1. We suggest that whether evaluation comes from the context (e.g., the instructor's feedback) or through the person's own behaviors, the evaluation outcome can feed back into both the motivation to reach the goal as well as the phenomenological experience. This cycle can continue until the person decides to quit, continue, or resume the activity. This cyclic process contributes to the situational and individual characteristics that operate at a later time, including potential individual interest in the activity. For example, although Robert might have begun with no interest in John Donne's poetry, after discussing the poetry with his classmate he might develop both sufficient knowledge and value of the subject matter to develop a more enduring individual interest in John Donne's poetry or in poetry more generally (Renninger, chapter 13, this volume).

The double lines in Figure 12.1 illustrate another important dimension that accounts for variability in the process. Specifically, these lines indicate relationships among these variables that may be moderated by individual differences. For example, individuals with an incremental theory of intelligence may respond to feedback that they had received a grade of B on the essay with an increase in motivation to do well in the subject, whereas individuals with an entity theory may respond to the same feedback with lowered motivation. These students may consequently experience different interest and engage in different motivational strategies in response to the same competence feedback.

Our model thus suggests that motivation to reach some outcome goal and motivation to experience interest may both be necessary for an activity to be performed on a regular basis. The prototypic "extrinsically motivated" activity may be one entirely motivated by the desire to achieve some outcome goal; in contrast, the prototypic "intrinsically motivated" activity may be one motivated entirely by interest. In reality, however, most of our everyday activities are motivated by both kinds of motivation, and these motivations can work together or in opposing ways to direct and energize our behavior. We thus believe it is essential to understand the relation between outcome-focused and process-focused motivation over time.

## GOAL CONGRUENCE AND INTEREST

Goals direct individuals' orientation toward the activity. In our perspective, intrinsic motivation can potentially occur with a variety of goals and is not necessarily limited to those times when individuals approach an activity with the process goal of experiencing interest (Csikszentmihalyi, 1975) or to satisfy needs for autonomy (deCharms, 1968; Deci & Ryan, 1985a) or competence (Bandura, 1982; Deci & Ryan, 1985a; White, 1959). The key to a particular goal's effect is whether it is associated with performing the activity in a way that is involving and interesting for the person.

There is a potential motivational dilemma implied by this orienting feature of goals, however. If goals are not congruent with each other, or if goal-relevant actions are constrained by the environment, interest may be reduced (e.g., Harackiewicz & Elliot, 1998; Sansone et al., 1989). We next review evidence for the role of goal congruence when goals are defined in terms of achievement and when goals are defined in terms of other people.

### Empirical Support for Goal Congruence and Interest: The Case of Competence Goals

Many theories about intrinsic motivation propose that positive competence feedback will enhance interest in the activity because feeling competent is an important basis of intrinsic motivation (e.g., Bandura, 1982; Deci & Ryan, 1985a; White, 1959). Sansone and colleagues suggested that being and feeling competent at an activity might be a necessary but not sufficient factor to create or enhance interest in an activity. That is, although incompetence may make an activity uninteresting, being or feeling competent may enhance interest only if attaining competence was the primary goal of the person's engagement.

For example, in several studies Sansone and colleagues employed activities that could be interesting because they allow satisfaction of skill



goals *and/or* because they allow satisfaction of other goals (satisfying curiosity, becoming involved in fantasy adventures). They then systematically varied whether the skill component was highlighted and whether individuals received competence-related feedback (e.g., normative standards showing good performance, tips on how to score more points). They found that competence-related feedback was associated with greater interest primarily when skill goals were emphasized at the outset. When nonskill goals were salient (e.g., getting involved in a computer fantasy adventure), the same competence-related feedback could have no effect or even a negative effect compared with receiving no feedback (Sansone, 1986; 1989; Sansone et al., 1989).

These results suggested that the match between individuals' primary activity goals and the feedback they received from the context was a better predictor of interest than was the nature of the goals themselves. Sansone et al. (1989) also found that this matching effect on subsequent intrinsic motivation was mediated by the degree of positive affect (e.g., excitement) experienced while performing the task. These studies did not examine whether match or mismatch affected individuals' actions as they performed the activity, though Sansone et al. (1989) found that individuals became more likely to define the activity in terms of competence-related dimensions when the context emphasized skill goals. These findings suggest that the "activity" can change even when presumably objective task demands remain constant. Moreover, they imply that what is "intrinsic" to an activity can change as a function of individuals' goals as they approach and begin to perform the activity.

Rather than focus on the presence or absence of competence-related goals, research by Harackiewicz, Elliot, and colleagues examined goal congruence among different kinds of achievement goals (performance goals and mastery goals), and as moderated by individual differences in achievement orientation (Elliot & Harackiewicz, 1994; Harackiewicz & Elliot, 1993; 1998). In contrast to research suggesting that mastery goals are associated with intrinsic and performance goals are associated with extrinsic motivation, they found that congruence among achievement goals was a more important predictor of interest in the activity than was the type of achievement goal. For example, Harackiewicz and Elliot (1998) examined the effects of match between performance purpose goals and performance target goals on intrinsic motivation. They found that mastery target goals enhanced interest relative to performance target goals in a neutral achievement context (playing pinball, with no additional information). When the context cued performance purpose goals for playing pinball, however, performance target goals were associated with greater interest than were mastery target goals. Moreover, this matching effect on interest was mediated by participants' degree of competence valuation and task involvement while playing.

### Empirical Support for Goal Congruence and Interest: The Case of Interpersonal Goals

Given the emphasis on competence and effectance in many motivation theories (Harter, 1981; White, 1959), a number of rich models have developed that describe the complex motivational processes associated with different kinds of competence or achievement goals (e.g., Butler, chapter 7, and Linnenbrink & Pintrich, chapter 8, this book; Dweck & Leggett, 1988; Elliot & Church, 1997; Harackiewicz, Barron, & Elliot, 1998; Thorkildsen & Nicholls, 1998). In contrast, relatively little is known about how interpersonal goals may affect motivational processes in achievement situations (Urda & Maehr, 1995), although our model suggests that interpersonal goals could be just as relevant to interest in achievement-related activities.

In the education literature, interpersonal goals have been examined primarily in terms of a domain of competence that parallels achievement (i.e., interpersonal competence; see Pintrich & Garcia, 1991; Wentzel, 1991) or in terms of strategies in the service of achievement (e.g., help seeking [Butler & Neuman, 1995]) or collaborative problem solving (e.g., Ames, 1992; Brown, 1985). In the intrinsic-motivation literature, the interpersonal context is typically considered extrinsic to achievement activities. The role of other people has been examined primarily in terms of the context they establish for the activity. For example, research examines whether the interpersonal context interferes with or facilitates the processes that are proposed to be more directly related to interest (e.g., whether others provide competence feedback in a controlling or autonomy-supportive way, whether achieving competence is defined in terms of outperforming another person). In addition, other researchers have discussed "social" motivation as involving similar but parallel processes to intrinsic motivation for an activity (e.g., Boggiano, Klinger, & Main, 1986; Kunda & Schwartz, 1983; Pittman, Boggiano, & Main, 1992; Vallerand, 1997).

Because in our perspective the "activity" is fluid, we proposed that interpersonal factors may become part of any achievement activity, depending on the characteristics of the individual and the context. For example, in a cross-sectional life span study, we found that when individuals described their everyday experiences and problems in achievement domains (school and/or work), they spontaneously cited *both* interpersonal goals and competence goals to a significant degree (Morgan & Sansone, 1995; Sansone & Berg, 1993; Sansone & Morgan, 1992; Strough, Berg, & Sansone, 1996). Moreover, these interpersonal goals were not always parallel to competence goals, or in service of competence goals. In some cases, the competence goals appeared to be in service of interpersonal goals (e.g., wanting to achieve in a particular career so as to be able to help people). In other cases, the goals that individuals described as their own goals were in fact goals for other people (e.g., a daughter's matriculation; see Strough et al., 1996). This

suggested that interpersonal goals are often inextricably bound to competence goals and that the relation between them and the context can be complex. Furthermore, though the importance of interpersonal goals was true for everyone in our sample, certain individuals (females) were even more likely to have this interpersonal focus in their achievement domains.

We thus proposed that individuals may approach achievement activities with interpersonal goals *and* competence goals. According to our model, therefore, match with interpersonal goals should influence interest while performing the activity, as well as the subsequent likelihood of performing the same or similar activity. Moreover, we expected that match might have this effect at least partially through the effect on how individuals performed the activity.

To start to examine this possibility, Isaac, Sansone, and Smith (1999) first identified individuals who should be most likely to approach activities with an interpersonal focus and then operationalized potential "match" by manipulating the actual presence of other people. To separate gender from interpersonal focus, we used Swap and Rubin's (1983) interpersonal orientation scale in a mass testing session at the beginning of the term. Previous research suggested that women tend to score higher on this scale than do men but that both men and women are represented at all points along the distribution. Individuals who score higher on this scale are particularly sensitive to others and demonstrate an affective involvement with others (Rubin & Brown, 1975). Moreover, in pilot testing (Isaac, 1998), these individuals were more likely to spontaneously cite interpersonal goals when describing their personal strivings (Emmons, 1989). Blocking on gender, therefore, participants whose interpersonal orientation (IO) scores were in the upper and lower one third of the distribution were selected to represent individuals more likely and less likely, respectively, to approach achievement activities with interpersonal goals.

All participants were assigned the same objective competence goal: to design and calculate the infrastructures budget for a satellite college campus. They performed this task in one of three contexts: alone, with another person (same-sex confederate) present and collaborating on the task, or with another person (same-sex confederate) present but working independently on the task. Thus, the achievement requirements were similar across the three conditions, but the degree of match between having an interpersonal goal (i.e., higher in IO) and the interpersonal context (i.e., another person present) varied accordingly.

Isaac et al. (1999) assessed the occurrence of math errors in performance as well as task interest and likelihood of engaging in similar activities in the future. Furthermore, each session with a confederate was also unobtrusively videotaped, to begin to examine *how* match with the interpersonal context might influence interest. Even though the objective achievement demands were the same across condition, the "activity" might change as the result of

potential interpersonal interactions when another person was present. Confederates were not allowed to initiate conversation with participants, but once participants had initiated conversation, the confederates were free to initiate follow-up exchanges as they would in normal conversation.

In support of our model, we found that individuals higher in IO enjoyed the task more and were more likely to engage in a future similar task when the confederate was present, no matter whether they were working with or alongside the confederate. Interestingly, the results for individuals lower in IO were more mixed: When they worked in the presence of another person, individuals lower in IO expressed greater task interest but were *less* likely to engage in future similar activities.

Importantly, Isaac et al. (1999) were able to examine participants' interpersonal interactions when the confederate was present to begin to understand how the context led to different motivational outcomes for higher versus lower IO individuals. Using a coding scheme derived from an initial study and others' research (deCharms, 1976; Ryan & Grolnick, 1986), we first coded participants' conversation in terms of their style of interactive behaviors (e.g., the degree to which they tried to maintain harmony, sought input). We also coded the interactions in terms of the quantity of on-task (e.g., "Do you think I should put a building here?") and off-task (e.g., "Have you had any classes with Dr. Smith?") exchanges initiated by the participant and by the confederate.

We found that although there were no differences in the total number of exchanges as a function of IO level, there were differences in the quality of the interactions. As predicted, relative to lower IO individuals, individuals higher in IO displayed a more interpersonally involving interaction style (e.g., expressing thoughts and information to a greater degree). Moreover, this interaction style of higher IO individuals was not directly related to their interest but instead seemed to draw behavior out of the confederate (more off-task interactions) that did predict their interest.

Indeed, a major difference between higher and lower IO individuals was in how off-task interactions were related to participants' interest and performance. Lower IO individuals appeared to identify off-task conversation as extrinsic to the task. For example, when lower IO individuals worked in the presence of a confederate, the only predictor of the number of confederate-initiated off-task exchanges was the number of off-task exchanges initiated by the participants. Moreover, off-task exchanges were associated with lower IO participants' being more likely to commit mathematical errors while performing.

In contrast, higher IO individuals did not appear to distinguish between on-task and off-task interactions. When higher IO individuals worked in the presence of a confederate, the number of confederate-initiated off-task exchanges was predicted by the number of both on-task and off-task exchanges initiated by participants, as well as by the quality of their

exchanges. In addition, higher IO individuals were *not* more likely to commit mathematical errors when there were off-task exchanges. In terms of our model, this pattern suggests that for higher IO individuals, interpersonal interactions were "intrinsic" to the activity and helped to make the task more interesting. Interest, in turn, predicted their likelihood of engaging in a similar activity in the future. For lower IO individuals, interpersonal exchanges were both intrinsic (when on task) and extrinsic (when off task), such that the presence of others was associated with a mixed motivational payoff.

In another study (Sansone, Morgan, & Smith, 1999), we examined match with interpersonal goals in a different way. To measure whether individuals were likely to approach achievement tasks with interpersonal goals, we measured whether individuals spontaneously cited interpersonal goals (to help and work with other people) when describing their reasons for their future work plans (Morgan et al., 1999). We also varied the context of the task to match or not match this type of interpersonal work goal. Rather than varying the actual presence of other people, therefore, in this case we varied the knowledge that their actions would affect others, although performance itself would occur alone. All participants performed the same computer-based achievement task, involving planning and mathematics. In the baseline condition, participants received no other information about the task. In contrast, individuals in the constructive impact condition were told that their responses would help the researchers to develop jobs for disadvantaged others.

Preliminary results indicated that the context condition interacted with whether individuals spontaneously cited interpersonal work goals to affect how interesting they found working on the computer-based achievement task. Specifically, individuals who cited interpersonal work goals reported greater interest in the computer planning task when told that their performance would have a constructive impact on others, relative to the baseline condition (baseline,  $M = 13.60$ ; constructive impact,  $M = 15.26$ ). Conversely, individuals who did not cite interpersonal work goals reported less task interest in the constructive impact condition than in the baseline condition (baseline,  $M = 15.26$ ; constructive impact,  $M = 14.04$ ).

Interestingly, although women and higher IO individuals were significantly more likely to spontaneously cite interpersonal work goals than were men and individuals scoring lower on IO, gender and IO did not work identically to interpersonal work goals in this study. This potential diversity in the meaning of interpersonal goals suggests a parallel to achievement-goal research, which continues to identify distinct effects of different types of achievement goals on both the process and outcome of task engagement (Butler, chapter 7; Linnenbrink & Pintrich, chapter 8; Barron and Harackiewicz, chapter 9 this book).

In ongoing research, we are attempting to systematically distinguish among different meanings of interpersonal focus and interpersonal goals

For example, Smith, Ruiz, and Isaac (1999) found that there may be several distinct meanings that underlie the construct of interpersonal orientation and that these different meanings (i.e., sensitivity and responsiveness to others' reactions, warmth and nurturance toward others, strategic use of others) could have distinct implications for self-regulation. For example, the response to conflict may be very different depending on whether the individual was primarily concerned with helping others or with being liked by others. It is clear that future research is needed to more completely understand how the social world can be integrated into the motivational self-regulation process. If we do not recognize the role that other people might play, however, we may miss or unintentionally interfere with an important source of interest for some people. For example, if the instructor in English literature had forbidden students to work together on the assignment, Robert might never have completed the essay.

Together these studies support the model's suggestion that characteristics of the individual and the context can create different purpose goals and target goals as individuals approach and begin to perform a particular activity. These studies also suggest that rather than particular kinds of goals' being automatically associated with intrinsic or extrinsic motivation, the same goals can be associated with greater or lesser interest depending on the match among goals and between goals and the context. In our laboratory, we have now documented this "matching effect" across a variety of types of goals and activities, and other researchers have begun to find support using other individual and contextual variables (e.g., narcissism and ego goals; see Morf et al., 2000).

Moreover, the studies support the model's suggestion that the "activity" itself can change as a function of individuals' goals and the resultant goal-related actions. Thus, "activity" characteristics affect interest, but these characteristics may not remain the same as the individual and the surrounding context changes. When possible, individuals appear to regulate their actions to make the activity compatible with their goals, and, as a result, enhance or maintain interest. In fact, because the experience of interest is critical to maintaining motivation, in the next section we suggest that the experience of interest may itself be an implicit process goal that emerges even if it was not one of the initial goals held by individuals. Moreover, we suggest that individuals may actively regulate their behavior in the service of this implicit goal.

## WHAT IF IT IS NOT INTERESTING?

If interest is critical to maintaining motivation, particularly over the longer term, what happens when the individual does not find the activity interesting? As our initial example illustrated, we believe that individuals have several options when faced with this decision, and we propose that this deci-



sion is part of the self-regulation process. Figure 12.2 is a closeup of the relevant part of the self-regulation process that focuses on the transactions among the phenomenological experience and maintenance behaviors.

The model suggests that once begun, the experience of interest while performing can serve as the most proximal motivator for continued performance (illustrated on the far left of Figure 12.2). When performance is not interesting; therefore, individuals may respond in one of several ways.

First, the individual might quit the activity (e.g., Mary's decision to watch Jerry Springer). Whether individuals choose this option, we propose depends on whether they believe there is sufficient reason to perform the uninteresting activity. If the individual is highly motivated to maintain performance, he or she may persist for a time regardless of the experience (e.g., Tony's choice to sit down and immediately work on the essay). Experiencing boredom can be stressful (Berlyne, 1960), however, and may be part of the daily hassles and chronic strain of everyday life. For example, Csikszentmihayli (1975) found that when individuals were "flow-deprived," they reported feeling "...more tired and sleepy and less healthy and relaxed" (p. 177). The continued experience of everyday stressors can result in detrimental effects on psychological and physical well-being (e.g., DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982; Lazarus & Folkman, 1984; Selye, 1956).

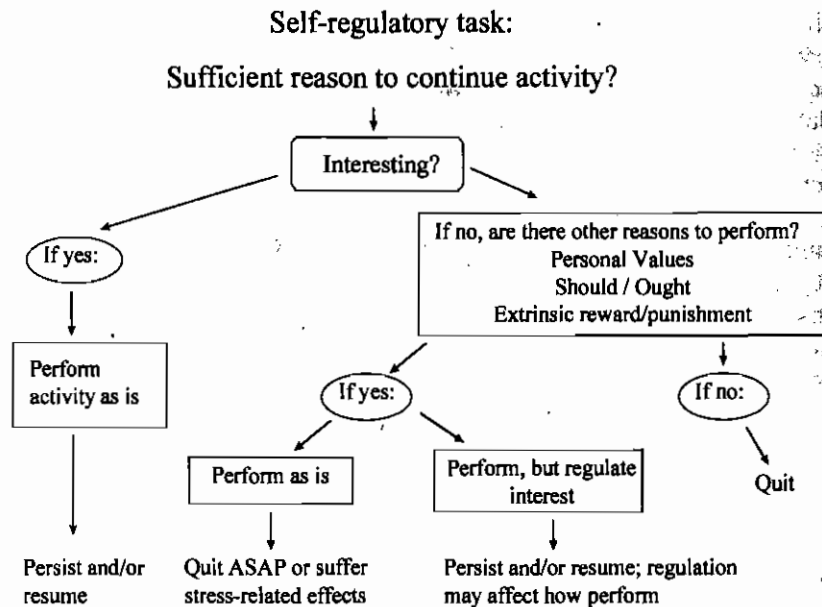
This suggests that individuals who persist at an uninteresting activity over time may be more likely to suffer stress-related psychological and physical health effects. Thus, another option is that the individual may change the activity into something more positive to perform through real or psychological transformations of the activity (Mischel, 1984; Sansone et al., 1992). For example, individuals may change their repetitive job by setting goals that make the task more challenging, reconstruing the task to focus primarily on its more interesting properties, using the time to socialize with other workers, and so on (e.g., Robert's meeting a friend to work on the essay).

At least for some people and/or in some situations, therefore, we suggest that individuals may adopt an implicit process goal of creating or maintaining interest level to reach their outcome goal. In control-theory language (Carver & Scheier, 1990; Powers, 1973), this would be a subroutine in service of a higher-level regulatory loop. In our model, we are in essence suggesting that individuals may strive to avoid this unpleasant state to approach a desired outcome.

As an initial test of this possibility, Sansone et al. (1992) compared an initially interesting activity (i.e., finding words in a matrix of letters) and an initially uninteresting activity (i.e., copying the identical matrix of letters). In the first study, college students were asked after some experience with one of the tasks to generate strategies that would make performing the task more interesting. In the second study, Sansone et al. (1992) tested whether individuals actually used the strategies primarily in conditions consistent with a self-regulation process. Individuals performed either the hidden-words task or the copying task. Within copying-task conditions, half of the participants were told that there were health benefits from performing the task on a regular basis.

To support a self-regulation interpretation, Sansone et al. (1992) predicted that individuals performing the copying task with knowledge of potential health benefits should be most likely to engage in the interest-enhancing strategies, because they had the need (the task was boring) and a reason to expend the effort (the potential health benefit). Individuals performing the hidden-words task should be least likely to engage in strategies to enhance interest, because there was no need (i.e., the task was already interesting). Individuals performing the copying task without knowledge of health benefits were predicted to fall in between the other two conditions, because they had a need to enhance interest (compared to the hidden-words condition) but not a good reason to expend the effort (compared to the copying task-health benefit condition).

Sansone et al. (1992) found this predicted linear pattern in strategy use. Moreover, strategy use was positively correlated with subsequent likelihood of performing the copying task (as assessed by the number of matrices individuals requested to take with them). Strategy use was also reflected in how



**FIGURE 12.2**  
Self-regulatory task.

individuals defined the activity (e.g., when the available strategy was reading incidental text, the topic of this text became part of the activity definition). The results that Sansone et al. (1992) obtained thus indicate that individuals may strategically attempt to enhance interest as a way to regulate and maintain motivation.

In a more recent study, Sansone, Wiebe, and Morgan (1999) directly tested the hypothesized mediating role of strategy use when another option (stopping) was available. A second purpose of the study was to contrast individual differences that should reflect differential weighing of the costs and benefits associated with deciding to regulate interest. The potential stress associated with performing an uninteresting activity may be one important cost. However, there can be other costs. As a case in point, Sansone et al. (1992) found that individuals who used the strategies in the limited time allowed also ended up copying less, suggesting that in the short term, regulating interest came at the cost to performance. More generally, actively coping with the uninteresting task (or any stressor) requires the use of limited resources in time, attention, and effort (e.g., Hobfoll, 1989; Kahneman, 1973).

One benefit of regulating interest, in contrast, is that it may make it possible to maintain motivation to perform activities over the long term, allowing individuals to reach long-term goals. For example, even though individuals who engaged in interest-enhancing strategies copied less during the experimental session in Sansone et al. (1992), they requested more matrices to take with them, suggesting that their motivation would extend beyond the session. On the other hand, a potential benefit to *not* regulating interest is that individuals may be more likely to try other alternatives (e.g., an individual may seek a new job that turns out to be better than the current job). Moreover, if limited resources are not allocated to regulating interest, these resources may be spent in service of other activities or domains in one's life.

Sansone et al. (1999) measured two individual differences—conscientiousness and hardiness—that they expected to maximize the differential weighing of possible costs and benefits. Individuals high in conscientiousness (Costa & McCrae, 1991) were expected to be more concerned about the achievement outcome and, as a consequence, to be more likely to persist without using interest-enhancing strategies that may interfere with performance. In contrast, individuals high in hardiness (Kobasa, 1979; Wiebe & Williams, 1992) were expected to weigh the quality of their subjective experience more heavily and to be more likely either to quit the activity (if there was not a sufficient reason to persist) or to engage in interest-enhancing actions.

Undergraduates performed the same boring copying activity used in Sansone et al. (1992). Instead of having a set number of matrices to copy, however, individuals were instructed to stop when they felt they could evaluate the task. Half were given a reason to value their performance: They were told that their evaluations would help researchers develop good jobs for others

As expected, highly conscientious individuals persisted longer than did individuals lower in conscientiousness, independent of the benefit manipulation or strategy use. In contrast, individuals high in hardiness persisted primarily when they were provided the additional benefit information, and this effect was mediated by their attempt to make copying more interesting. Internal analyses suggested that individuals' reasons for deciding to stop performing the activity differed as a function of strategy use. This was particularly true for individuals high in hardiness. Interestingly, one of the reasons affected by strategy use was the belief that it was senseless to continue. Individuals who used the interest-enhancing strategy were *less* likely to cite this as a reason for stopping. These results suggest that the externally provided benefit information gave individuals an important reason to do the activity in the first place. However, individuals' own attempts to make performance more interesting affected whether they perceived a reason to continue. This pattern supports a potentially alternating influence between value and interest over time, as suggested by our model (see also Renninger, chapter 13, this book).

Believing that the activity is meaningful and valuable appears to be an important part of self-regulation. Although in our model we suggest that valuation can affect interest directly as well as indirectly, in our research the reason to value the task had its effect on interest primarily by motivating the use of other interest-enhancing strategies (i.e., we typically do not find direct effects on interest). When asking high school students to report on their academic behaviors, Wolters and Rosenthal (in press) similarly found that the more students viewed the academic task as important and valuable, the greater reported use of interest-enhancing strategies. In contrast, Werner and Makela (1998) and Green-Demers, Pelletier, Stewart, and Gushue (1998) found significant, direct relationships between finding value and meaning in the activities of recycling (Werner & Makela, 1998) and sports training (Green-Demers et al., 1998) and the report of interest in these activities. They suggest that actively creating or seeking meaning for an activity may be an important strategy that individuals use to make everyday activities more interesting and involving and thereby more likely to be maintained.

## DOES THE TYPE OF REASON MATTER?

In our previous studies, we used two different reasons, one that had conveyed a reward to the participant (better health) and one that conveyed aid to others (what Deci, Ryan, and colleagues termed a "meaningful rationale"). We found self-regulation using both kinds of reasons, which suggests that the type of reason may not matter as long as it conveys that performance is valued. According to some approaches, however, the type of reason should matter.

Traditionally, the reasons for engaging in a behavior have been dichotomized as originating from within the person or from an external source (e.g., Heider, 1958), and this dichotomy helped to shape early definitions of intrinsic and extrinsic motivation. However, Ryan (1982) demonstrated that when intrinsic motivation is defined as performing an activity for its own sake, some internal reasons (e.g., to preserve self-esteem) can instead create a controlling set toward that task that decreases intrinsic motivation (Deci & Ryan, 1985a). Deci and Ryan (1987; see also Ryan & Connell, 1989) went on to extend this thinking to "extrinsic" motivation, which they define as whenever individuals are motivated by reasons external to the activity (but not necessarily to the self). They proposed different "stages" of extrinsic motivation that fall along a continuum ranging from very low to very high levels of self-determination: external, introjection, identification, and integration. External regulation (a reward or another external constraint, such as money or praise) ranks as the most blatant form of control. Introjected regulation occurs when individuals experience pressure to perform a task, but in this case the pressure arises from within the individual (e.g., feeling shame for not doing an activity). In contrast, identified regulation occurs when the activity is perceived as being important and chosen by the individual. Identified regulation is self-determined, though still extrinsic to the activity. Finally, with the greatest degree of self-determination, integrated regulation may occur. Here, the activity is perceived as part of the self, freely chosen, and consistent with the individual's values and beliefs.

Deci and Ryan (1987, 1991) hypothesized that individuals may progress through these stages developmentally, although most empirical tests have used cross-sectional methods or an individual difference approach. Overall, the empirical work supports the relative distinction between more or less self-determined reasons along this continuum and has shown effects across a number of outcome measures (learning, self-esteem, affect, psychological well-being; see, for example, Deci et al. 1981; Grolnick & Ryan, 1987).

Because this approach focuses on the relative difference in self-determination, exact distinctions among these different kinds of reasons have not been consistently made in the empirical literature. For example, in many studies researchers create a dichotomy between more and less controlling, rather than keeping the reasons distinct (e.g., Williams & Deci, 1996). For our purposes, however, these reasons may be worth examining separately. In our research, we focus on how "extrinsic" motivation may lead to greater "intrinsic" motivation by motivating individuals to transform the activity into something more interesting. It is possible that reasons that emphasize self-determination, such as a meaningful rationale in accord with internalized values, lead to greater self-regulation, as Deci and Ryan suggested (e.g., Deci, Eghrari, Patrick & Leone, 1994). However, the degree to which reasons are autonomy supportive may not be the only dimension that influences self-regulation of interest.

For example, in addition to a difference in controllingness, the distinction between external and internal reasons may be important because individuals may be less likely to monitor their internal states when their attention is focused outward. Alternatively, an introjected reason may create a set toward the task that makes people less likely to deviate from what they "should" do as part of the task instructions, with the result that they are less likely to engage in an interest-enhancing strategy unless it is compatible with the task instructions.

The effects of different types of reasons may also be moderated by individual differences. For example, Deci and Ryan (1985b) suggested that through cumulative experience, individuals can develop a characteristic orientation toward autonomy-supportive, controlling, or amotivational features of the environment. Individuals characteristically oriented toward autonomy-supportive features may be particularly likely to regulate their motivation when the reason to perform the task maximizes autonomy (e.g., a meaningful rationale). In contrast, individuals characteristically oriented toward controlling features of the environment may be particularly likely to regulate interest in response to offers of a reward.

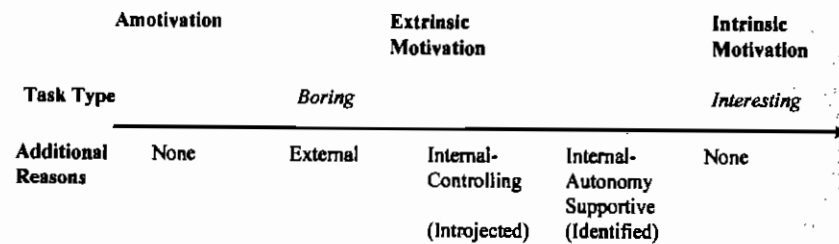
A final possibility that may encompass the previous possibilities is that a given type of reason may have distinct effects at different points in the process. For example, the incentive value created by the offer of an extrinsic reward may be effective in getting people to initiate an activity that they think will be boring (Lepper & Gilovich, 1981; chapter 10, this book). Once they have begun an activity, however, people performing the activity to receive the reward may be less likely to regulate interest because the reward cues an extrinsic focus that makes them less likely to monitor their subjective experience.

In a series of studies, we attempted to compare the effects of different types of reasons on both initiating behavior and maintaining the behavior within the self-regulation paradigm (Sansone & Smith, 1999; Smith & Sansone, 1999). Figure 12.3A illustrates the theoretical continuum as proposed by Deci and Ryan (1987), and Figure 12.3B illustrates our operationalizations as they map onto that continuum.

In the first study, we examined college students' willingness to volunteer for a study that involved performing a repetitive copying task. A graduate student went into several undergraduate classes presumably to recruit for participants for a study. The graduate student distributed to all students a written description of the study and asked each student to rate on a scale of -5 to +5 how willing he or she was to volunteer.

Keeping the description of the task constant, we systematically varied reasons to perform the activity. In the control condition, no additional reason was provided. In the three other conditions, we provided reasons that would vary according to the continuum specified by Deci and Ryan. Thus, in the most extrinsic condition, students were offered a reward (a free pass to

### A. Theoretical continuum (Deci & Ryan, 1987):



### B. Operationalization (Sansone & Smith, 1999):

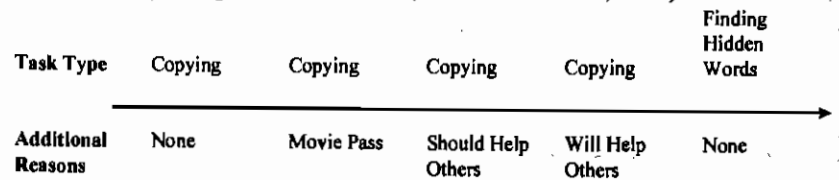


FIGURE 12.3

Juxtaposition of (A) the theoretical motivational continuum of Deci and Ryan (1987) and (B) the operationalizations of Sansone and Smith.

a local movie theater) if they volunteered and completed the task (task-contingent reward). In the other two conditions, we used a similar internal reason but varied the degree of controllingness and pressure. In the identified-regulation condition, individuals were simply provided the meaningful rationale used in Sansone, Morgan, and Smith (1999): they were told that by participating and completing the task they would allow researchers to develop good jobs for other people. In the more controlling (or introjected) condition, we added the modifiers employed in other studies (e.g., Ryan, 1982) that have been shown to create an internal but controlling state. Thus, individuals were told that they "should" and "ought to" participate and complete the task because their participation would help the researchers develop jobs for others.

Preliminary results are presented in Table 12.1. As illustrated, there was a significant effect of the reason condition on students' willingness to volunteer. Specifically, students were significantly more willing to volunteer when offered the movie pass than in any of the other conditions. These results suggested that the offer of a task-contingent reward might be the most effective reason for initial engagement in a task when individuals know that the task will be boring (Calder & Staw, 1975; Loveland & Olley, 1979).

In a second study, however, we examined the effects of these different reasons on the self-regulation process once students had already agreed to

TABLE 12.1  
Means for Likelihood of Initiating Task (Study 1) and for Regulating Interest Once Begun (Study 2) as Function of Task Type and Additional Reason for Performing

Dependent measure	Task/reason condition				
	Copying/none	Copying/movie pass	Copying/should help others	Copying/will help others	Hidden word/none
Study 1					
Willingness to volunteer	-.41 <sup>a</sup>	1.83 <sup>b</sup>	-.59 <sup>a</sup>	.00 <sup>a</sup>	—
Study 2					
Interest-enhancing strategies	1.76 <sup>a</sup>	2.33 <sup>a, b</sup>	1.68 <sup>a</sup>	3.23 <sup>b</sup>	0 <sup>c</sup>
Interest	9.45 <sup>a</sup>	9.17 <sup>a</sup>	8.89 <sup>a</sup>	10.54 <sup>a</sup>	14.41 <sup>b</sup>
Percent who requested matrices	27 <sup>a</sup>	38 <sup>a, b</sup>	22 <sup>a</sup>	41 <sup>a, b</sup>	54 <sup>b</sup>

For willingness to volunteer, possible range is -5 to +5; for number of interest-enhancing strategies, possible range is 0 to 12; for interest, possible range is 3 to 21; for percent requested matrices, possible range is 0 to 100. Means not sharing superscripts within rows differ at  $p < .06$ . (Data adapted from Sansone and Smith, 1999 and Smith and Sansone, 1999.)

participate to fulfill requirements in their introductory psychology classes. When they reported for the study, students were randomly assigned to perform either the interesting hidden-words task or the uninteresting copying task used in previous studies (Sansone et al., 1992; Sansone Wiebe, & Morgan, 1999). Within copying-task conditions, individuals were also randomly assigned to one of the reason conditions used in the first study: no additional reason, receiving a movie pass (external reward), should be helping others (internal—introjected), will be helping others (internal—identified).

We used a procedure similar to that used in Sansone et al. (1992). After completing a practice session and three matrices in the experimental session, students rated how interesting they thought their task was and had the opportunity to (anonymously) request additional matrices to take with them. At the end of the session, individuals completed the General Causality Orientation (GCO) scale, designed by Deci and Ryan (1985b), as one of a number of personality and individual difference measures presented in counterbalanced order. We subsequently coded the matrices that participants used (and ostensibly discarded) in terms of the number of matrices on which participants used the previously identified interest-enhancing strategy. (For a more detailed description of these methods, see Sansone et al., 1992.)

We hypothesized that the type of reason provided to perform the copying task could affect the degree to which individuals engaged in interest-enhancing strategies and that the use of interest-enhancing strategies could attenuate the difference in motivation to perform the copying task and the hidden-words task. To test these hypotheses, we used orthogonal

contrast coding to correspond to specific comparisons among the five conditions and conducted a series of hierarchical regression equations (Judd & Kenny, 1981).

The first contrast tested the effect of task type (Hidden Words vs Copying). To replicate Sansone et al. (1992), we expected the copying task to be rated as less interesting than the hidden-words task. Strategy use, therefore, should be more likely when individuals performed the copying task. The other contrasts compared the relative effects of different reasons to perform the uninteresting copying task: Any vs No Reason, Internal vs External Reason, Identified vs Introjected Internal Reason. In the multiple-regression equations, we included these four main effect contrasts, the three GCO subscale scores (autonomy, control, and impersonal), and their interactions. Because there were no significant interactions in any of the analyses, the final basic model included only the seven main effect terms (Cohen & Cohen, 1983).

We first regressed interest on this seven-term basic model. The overall model was significant, and there were two individually significant effects. The Hidden Words vs Copying contrast indicated, as expected, that individuals performing the copying task reported lower interest than did individuals performing the hidden-words task. The Identified vs Introjected Internal Reason contrast indicated that when given an internal reason to perform the copying task, individuals provided the more autonomy-supportive version reported greater task interest than did individuals provided the more controlling version. The Internal vs External Reason and Any vs No Reason contrasts were not significant, nor were the measures of motivational orientation. Condition means for interest are reported in Table 12.1.

These results confirmed that there were effects on interest involving both the initial interest level of the task and the reason provided to perform the boring task. In contrast to the results of Study 1, however, the key difference in reasons was not between the external reward and the other reasons. Rather, the critical difference appeared to be between the identified and introjected internal reasons. We next tested whether these effects on interest were mediated by the use of interest-enhancing strategies. We regressed strategy use on the seven-term model and then regressed interest on the basic model plus strategy use (Judd & Kenny, 1981). As expected, the Hidden Words vs Copying contrast significantly predicted strategy use, such that individuals used more strategies when performing the copying task than when performing the hidden-words task.

More critically, the results of these regression equations clearly show that strategy use mediated the effect of the Identified vs Introjected Internal Reason on interest. Mirroring the effect on interest, the Identified vs Introjected Internal Reason contrast significantly predicted individuals' attempt to regulate interest while performing. As can be seen in Figure 12.4, individuals

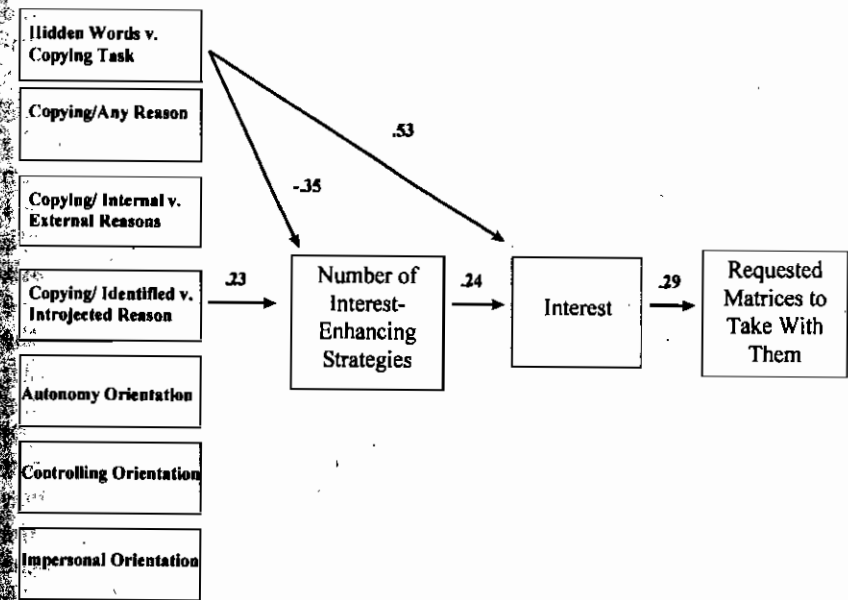


FIGURE 12.4

Mediation path model from Smith and Sansone (1999). Only significant paths are shown. Path coefficients are betas from hierarchical multiple-regression equations.

who were provided the identified internal reason engaged in more strategies than did individuals who were provided the introjected internal reason. There were no significant effects either for the Any Reason or Internal vs External Reason contrasts or for the motivational orientation measures. Condition means for strategy use appear in Table 12.1.

In addition to showing that task type and type of internal reason predicted strategy use, Figure 12.4 shows that greater use of interest-enhancing strategies was associated with greater interest. Moreover, the previously significant effect of the Identified vs Introjected Internal Reason contrast on interest was no longer significant once strategy use was controlled. Interestingly, the effect of the Hidden Words vs Copying contrast on interest became stronger once strategy use was controlled, suggesting that the difference in interest that emerged from the initial task characteristics became stronger once the variance due to strategy use was partialled out.

The degree of interest, in turn, significantly predicted whether individuals requested matrices to take with them, and this was true no matter the task or reason for performing. (Condition means for requested matrices appear in Table 12.1.) We found no significant main effects or interactions involving



the GCO subscales, suggesting that the contextual factors similarly affected the self-regulatory process regardless of individuals' characteristic motivational orientation.

Together, the results from Studies 1 and 2 suggest that the type of reason to perform a boring activity may matter but that its impact on the self-regulation of interest may not depend solely on where the reason falls along a continuum of self-determination. The results from Study 1 suggested that only the offer of the external reward was sufficient to motivate individuals to be willing to initiate performance of the boring task (All other means were at or below zero.) The results from Study 2 suggested, in contrast, that once individuals had agreed to perform the boring task, the identified reason or rationale promoted the greatest self-regulation of interest.

The Any Reason contrast tested the hypothesis of Sansone et al. (1992) that any good reason may be sufficient to regulate interest. This contrast was not significant, and it confirmed instead that the type of reason may matter. In contrast, the Internal vs External Reason comparison tested the hypothesis of Deci and Ryan (1987) that the external reward would be the most clearly controlling reason and would be associated with the least self-regulation. Our results suggest that in terms of interest regulation, the effects for the offer of a task-contingent reward were actually closer to the effects of the internal-identified reason condition than were the effects of the internal-introjected reason condition.

Together, the results from this pair of studies suggest that "extrinsic" rewards can be good for motivating initial performance when the activity is not one that is likely to be interesting. Moreover, extrinsic rewards may not be detrimental for maintaining behavior if they induce individuals to regulate interest while performing. The introjected reason appeared to be most detrimental to self-regulation of interest. According to Deci and Ryan's (1987) framework, this suggests that the experience of being controlled might have been greater in the internal-introjected reason condition than the external-reward condition, although there was no reason to make this prediction a priori. An alternative explanation is that in the presence of an emphasis on what individuals ought to and should do, individuals might have been less likely to stray from their task instructions by varying the procedure (the available interest-enhancing strategy).

Overall, our results suggest that when one is attempting to understand the self-regulation of interest, it may be best to consider different kinds of reasons in terms of whether and how they lead the individual to approach and perform the activity, rather than in terms of where they fall along a single continuum. Our results also suggest that the predictions based on the earlier work from both Sansone et al. (1992) and Deci and Ryan (1987) may need to be revised as we continue to explore the self-regulation process.

## REGULATING INTEREST AND PERFORMANCE

Our model and research have come from the perspective of highlighting and documenting the importance of interest in maintaining motivation and suggesting that it is an important and overlooked dimension of self-regulation. One issue that has emerged is the relationship between attempting to enhance interest and "performance" as defined by external standards. When we used the copying activity in the laboratory, we found strategy use to negatively affect performance in the short term but predict greater persistence over the longer term. For this paradigm, we purposely created a task that was unambiguously repetitive and boring, and the available interest-enhancing strategy was purposely unrelated to task demands. Performance in this case was defined in terms of the quantity produced in a given time period. In this context, time spent on the strategy was "off task" and took away from attention to performance. In other contexts, in contrast, we found that off-task behavior can be related to interest and *not* interfere with performance, at least for some individuals (Isaac et al., 1999).

Research by Wolters (in press) has more systematically examined the relationship between the reported use of interest-enhancing strategies and academic performance among high school students. He found that the reported frequency of using interest-enhancing strategies did not predict GPA. However, use of these strategies was related to a general learning orientation, as well as to the reported degree of effort expended and some specific cognitive and regulation strategies (organization, monitoring, and regulation).

We wish to make two points about the relationship between performance and interest regulation. First, this relationship depends on whether the relevant strategies interfere with or facilitate other task demands. Lepper and Cordova (1992) have made a similar point about external interventions to enhance interest. When there is potential detrimental effect on performance, it may be something that is more important for some people (e.g., people high in conscientiousness) than others, or at certain times or in certain situations than others. If individuals are primarily concerned with regulating interest, they may not notice or place priority on potential detrimental effects on performance.

Research by Wolters (1998) suggested that individuals use different types of strategies to regulate motivation depending on why they feel unmotivated. He asked college students to report strategies they would use to regulate motivation for academic tasks under three different circumstances: when the tasks were irrelevant, when the tasks were difficult, and when the tasks were uninteresting. Wolters (1998) found that students' reported frequency of use of interest-enhancing strategies was greatest when they were unmotivated because the academic task was uninteresting. If they were unmotivated because the material was difficult, they reported a greater frequency of use of

information processing and help-seeking strategies. If they were unmotivated because they did not find the task to be personally relevant, in contrast, they reported a greater frequency of use of strategies that entailed reminding oneself of performance goals (e.g., grades) or other reasons to value the task. This suggests that students are sensitive to the situation when they regulate motivation, limiting the use of interest-enhancing strategies to those situations in which they feel unmotivated because the task is boring.

However, enhancing the perceived importance of the task could also make the task more interesting, either directly (Green-Demers et al., 1998; Werner & Makela, 1998) or indirectly by motivating the use of interest-enhancing strategies. The second point that we wish to make, therefore, is that some strategies may fulfill dual purposes. For example, one type of interest-enhancing strategy cited in the first study in Sansone et al. (1992) was to make the task more challenging (e.g., set goals, compete with someone else). Although these strategies, if possible to implement, might have in fact served to make performance more interesting, they would also probably have enhanced individuals' achievement. The potential positive effect on achievement may be unintended initially but may become intentional with experience or time. Alternatively, individuals could purposely select interest-enhancing strategies that they believe will also benefit achievement or, at least, will not interfere with achievement. Thus, the frequency with which individuals attempt to regulate interest could be underestimated in everyday life, because these efforts are embedded in individuals' efforts to achieve the desired outcome. The relationship between regulating interest and performance can be obscured under these circumstances.

## IMPLICATIONS AND CONCLUSION

As has been illustrated in other chapters in this book, researchers have often been more successful in identifying factors that decrease interest than factors that can increase interest. Recommendations for promoting "intrinsic" motivation in school, home, or the workplace are thus often described in terms of what to avoid doing. More recently, researchers have begun to emphasize interventions that may enhance interest either by increasing value, importance, and meaning of the activity (Cordova & Lepper, 1996; Renninger and Jacobs & Eccles, chapters 13 and 14, this book) or by embellishing the structure of the task (e.g., Csikszentmihalyi, 1978; Malone & Lepper, 1987; Lepper & Henderlong, chapter 10, this book). One implication of our approach, however, is that individuals are not passive recipients of others' attempts to motivate. Individuals appear to take an active role in promoting their own motivation.

This realization does not provide easy solutions to the problem of creating settings that will maximize individuals' intrinsic motivation. Consistent

with a self-regulatory framework, our research suggests that there can be variability in terms of who is likely to regulate interest and under what circumstances. Moreover, the factors that may make something interesting to one person may not make it interesting to another person, or even to the same person at different points in time. For example, creating a context that promotes competence but at the expense of interpersonal interactions may work to enhance interest for males or individuals lower in interpersonal orientation (e.g., Tony) but decrease interest for females or individuals higher in interpersonal orientation (e.g., Robert).

Perhaps the best option is to create a context that allows some variability in the *process* of performance while monitoring the impact on performance outcomes. This may maximize the ability of individuals to regulate their interest and promote subsequent motivation. One implication of this suggestion is that autonomy and choice in performance may not affect interest only directly by allowing individuals to feel more self-determining (deCharms, 1968; Deci & Ryan, 1987). Rather, autonomy and choice may affect interest indirectly by allowing individuals the flexibility to perform the activity in a way that will maintain his or her motivation. In this case, interventions may be more likely to take the form of providing opportunities and encouragement for individuals to self-regulate interest. Our recommendation, then, is to recognize and try to work with the motivational self-regulation process, because individuals may engage in this process anyway (even if it comes at the expense of immediate performance).

Our research also suggests that setting up a dichotomy of intrinsic motivation "versus" extrinsic motivation may be unnecessarily simplistic. As others have suggested (e.g., Lepper and Henderlong, in chapter 10, and Hidi, in chapter 11 of this book), both kinds of motivation may be necessary for motivation to be maintained over time. In our example at the beginning of this chapter, Tony was sufficiently motivated by the thought of his grade to write the essay without engaging in any additional strategies to make the experience more interesting. Robert was sufficiently motivated by the thought of his grade to exert the effort to make the essay assignment more interesting by meeting with a classmate. In contrast, Mary was *not* sufficiently motivated by the thought of her grade to choose either Tony's or Robert's option, and, as a result, she did not write the essay. Without some level of extrinsic motivation, therefore, these students may not begin what they perceive to be a boring assignment. Even if these students had found John Donne's poetry to be interesting initially, their enjoyment could ebb over time and during prolonged analysis. Thus, even if initially unnecessary, some level of "extrinsic" motivation may become necessary over time for the activity to be continued or resumed.

We also suggest, however, that if the experience of performing a boring activity is prolonged, individuals can suffer stress-related effects on physical and psychological well-being. Thus, over the long term it will be important

to find a way to make the activity interesting or "intrinsically" motivated, at least some of the time. Individuals may be more likely to find a way to be "intrinsically" motivated if they believe it is important to continue performing the activity and the strategies that would make the activity more interesting are available and encouraged by the environment.

Conversely, it may not always be in someone's best interest to make an uninteresting activity more interesting. Rather, it may be best to quit the activity and find another activity that is more interesting. For example, rather than persisting in English literature, it may be better for Mary to focus her studies in an area that she finds more inherently interesting (e.g., working with dysfunctional families). It may also not be worth the effort to try to regulate interest if the activity is short lived or temporary. In those cases, it may be more cost-effective to have a strong extrinsic motive to complete the task. For example, if Tony is taking only one English literature class to fulfill his general core requirements, the short-lived motivation of maintaining his GPA may be all he needs.

We suggest, therefore, that decisions whether to promote intrinsic motivation or extrinsic motivation, or both, depend on the person, the nature of the activity, and the circumstances in which the person performs the activity at a given point in time. Rather than argue about intrinsic motivation "versus" extrinsic motivation, therefore, we suggest that the distinction between "intrinsic" and "extrinsic" can lose its meaning as the activity itself changes over individuals, situations, and time. Our model and program of research suggest that *having to* and *wanting to* perform an activity are distinct but related motivational constructs. To understand motivation as it occurs in everyday life, therefore, we must understand the potential complexities of this relationship as well as individuals' own roles in creating and maintaining that complexity.

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## Individual Interest and Its Implications for Understanding Intrinsic Motivation

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Although there is an overlap in the outcomes of intrinsic motivation and well-developed individual interest—namely, the behaviors of intrinsically motivated individuals and people engaged with content that is of individual interest are positive, fully engaged, and appear to be focused on a given task for the sake of the task itself—there are also important differences between these concepts. Study of intrinsic motivation (including what has been called intrinsic interest) appears to have subsumed study of two types of interest: situational interest and individual interest. *Situational interest* refers to the likelihood that particular subject content or events will trigger a response in the moment, which may or may not “hold” over time (Hidi & Baird, 1986; Mitchell, 1993). Thus, it refers to elicited attention for content in the sense of enjoyment, curiosity, and so forth, but no assumption can be made about the level of content knowledge. *Individual interest*, on the other hand, refers to an ongoing and deepening relation of a person to particular subject content that does, in fact, have qualities of full engagement and task orientation. It includes a more enriched kind of value than does situational interest, as well as an increasingly consolidated base of discourse knowledge (Renninger, 1990).