

Interest as the Missing Motivator in Self-Regulation

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Abstract. Typically, models of self-regulation include motivation in terms of goals. Motivation is proposed to fluctuate according to how much individuals value goals and expect to attain them. Missing from these models is the motivation that arises from the process of goal-pursuit. We suggest that an important aspect of self-regulation is monitoring and regulating our motivation, not just our progress toward goals. Although we can regulate motivation by enhancing the value or expectancy of attaining the outcome, we suggest that regulating the interest experience can be just as, if not more, powerful. We first present our model, which integrates self-regulation of interest within the goal-striving process. We then briefly review existing evidence, distinguishing between two broad classes of potential interest-enhancing strategies: intrapersonal and interpersonal. For each class of strategies we note what is known about developmental and individual differences in whether and how these kinds of strategies are used. We also discuss implications, including the potential trade-offs between regulating interest and performance, and how recognizing the role of the interest experience may shed new light on earlier research in domains such as close relationships, psychiatric disorders, and females' choice to drop out of math and science.

Keywords: interest, self-regulation, intrinsic motivation, extrinsic motivation

One of the riddles of human behavior is that when we have a choice, we often choose *not* to engage in an activity that has clear benefits. Attempts by others to make us do the activity are often of limited success, because to reap the benefits, we must sustain these activities over time, away from immediate oversight and control by others. To solve the riddle, therefore, we must examine the process of self-regulation and motivation.

Models of self-regulation typically include motivation in terms of goals (see Figure 1). We are motivated to engage in an activity (e.g., studying) because we see it as a means to achieve or reach some outcome (e.g., getting a good grade). The degree of motivation will vary as a consequence of how much we value that outcome and of our expectations of attaining it (e.g., Eccles, 1983). Assuming sufficient motivation to begin the activity, subsequent motivation depends on our evaluation of our progress. Based on the evaluation, we may continue to be motivated to work toward the goal, or cease to be motivated and stop working (either because we feel we have achieved the goal, or because we give up the goal, perhaps substituting another).

The emphasis in most self-regulation models has been on what researchers have labeled “extrinsic motivation” (i.e., motivation to engage in an activity because it is a means to an end) and on the metacognitive variables that contribute to this goal-striving process, such as goal setting, construction of and choice of strategies to reach

goals, standards used to evaluate progress, and so on. More recently, however, researchers have begun to investigate the role of emotional and affective variables in the self-regulation process (e.g., Boekaerts, in press; Pekrun, Goetz, Titz, & Perry, 2002). In particular, there is a growing recognition that in addition to monitoring progress toward goals, an important part of the self-regulation process involves monitoring how we feel (e.g., Efklides & Petkaki, in press; Krapp, in press). In our work, we focus particularly on the affective state of interest.

The Interest Experience

People are *intrinsically motivated* when their behavior is motivated by the *anticipated, actual, or sought experience of “interest.”* 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” than “individual” interest (see Renninger, 2000), although it is not derived solely by situational factors. Rather, we emphasize the *experience* of interest as a dynamic state that arises through an ongoing transaction

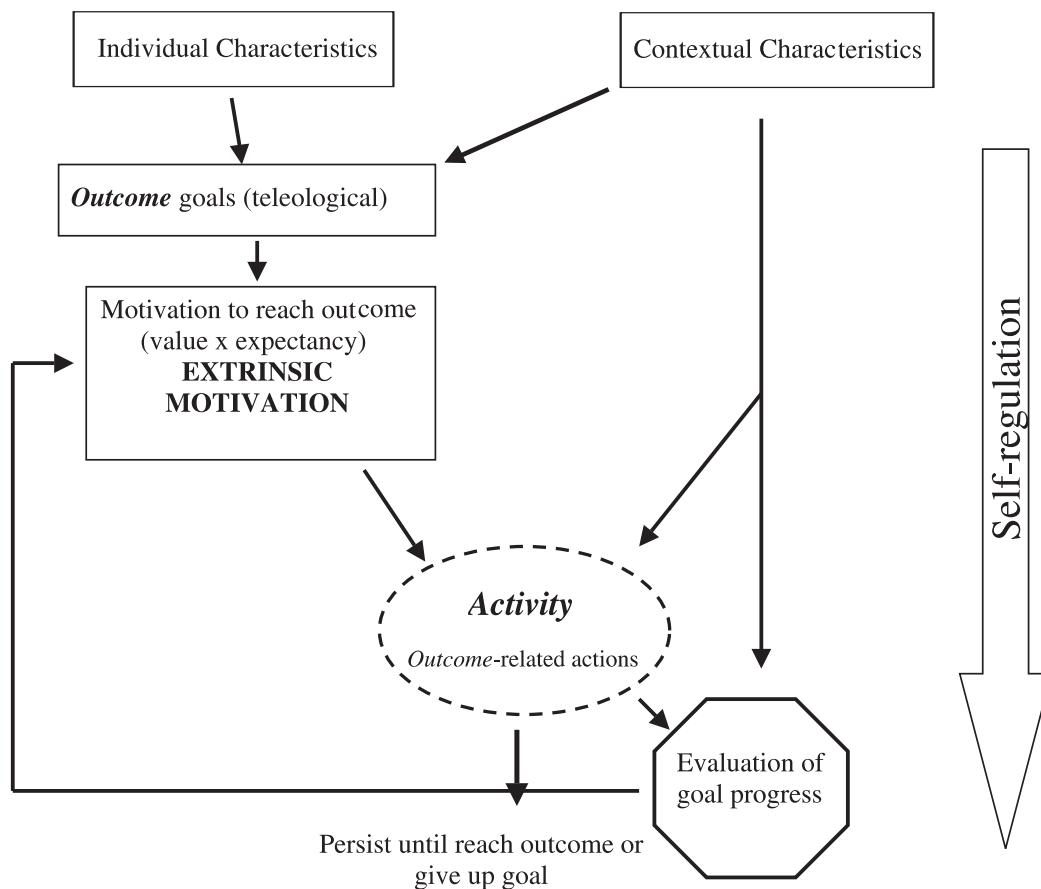


Figure 1. Prototypical self-regulation model. **Boldface** terms illustrate how motivation is included in terms of outcomes only.

among individuals' goals, activity characteristics, and the surrounding context.

From our perspective, it is important to distinguish the motivating properties of the interest experience from other sources of motivation. For example, Self-Determination Theory (Deci & Ryan, 1987) proposes that we are motivated to engage in activities to the extent that they are associated with the satisfaction of psychological needs of autonomy, competence, and relatedness. Although satisfaction of these needs can be a precursor to the experience of interest, Deci (1998, p. 152) notes that "... we do not believe that intrinsically motivated behavior is necessarily *aimed* at satisfaction of the intrinsic needs. Rather, we suggest that people will be more inclined to engage in interesting activities ... in situations where their intrinsic needs can be satisfied."

In addition, it is important to distinguish the interest experience from general positive affect or mood. Interest

must be experienced in the context of a particular activity (e.g., Krapp, 2000), although the "activity" can change over time, individuals, and situations. Furthermore, although positive affect is typically associated with the experience of interest (Ainley, Hidi, & Berndoff, 2002), there can still be moments of negative feelings during interested engagement. For example, someone who is deeply involved in figuring out a problem may have moments of frustration.

We suggest that the experience of interest can become the more proximal motivator for persistence and subsequent engagement, particularly for activities that take place over the long term (Harackiewicz, Barron, & Elliot, 1998). Figure 2 illustrates a goal-based model of self-regulation that includes (in bold-face) the typically missing role of the interest experience. We think of interest as a necessary component of the self-regulatory process that may work with or against extrinsic factors to affect motivation.*

* In previous papers, we discussed how the self-regulatory process may be influenced by different kinds and properties of goals (e.g., target vs. purpose goals; competence vs. non-competence goals; approach vs. avoidance), and how their effects may be moderated by individual differences (Sansone & Harackiewicz, 1996). Furthermore, interest itself may be a goal, adding to and perhaps conflicting with other goals (e.g., achievement outcomes; Sansone & Thoman, in press). Given the primary focus and space limitations of the present paper, however, we have simplified our representation of goals and refer interested readers to previous papers.

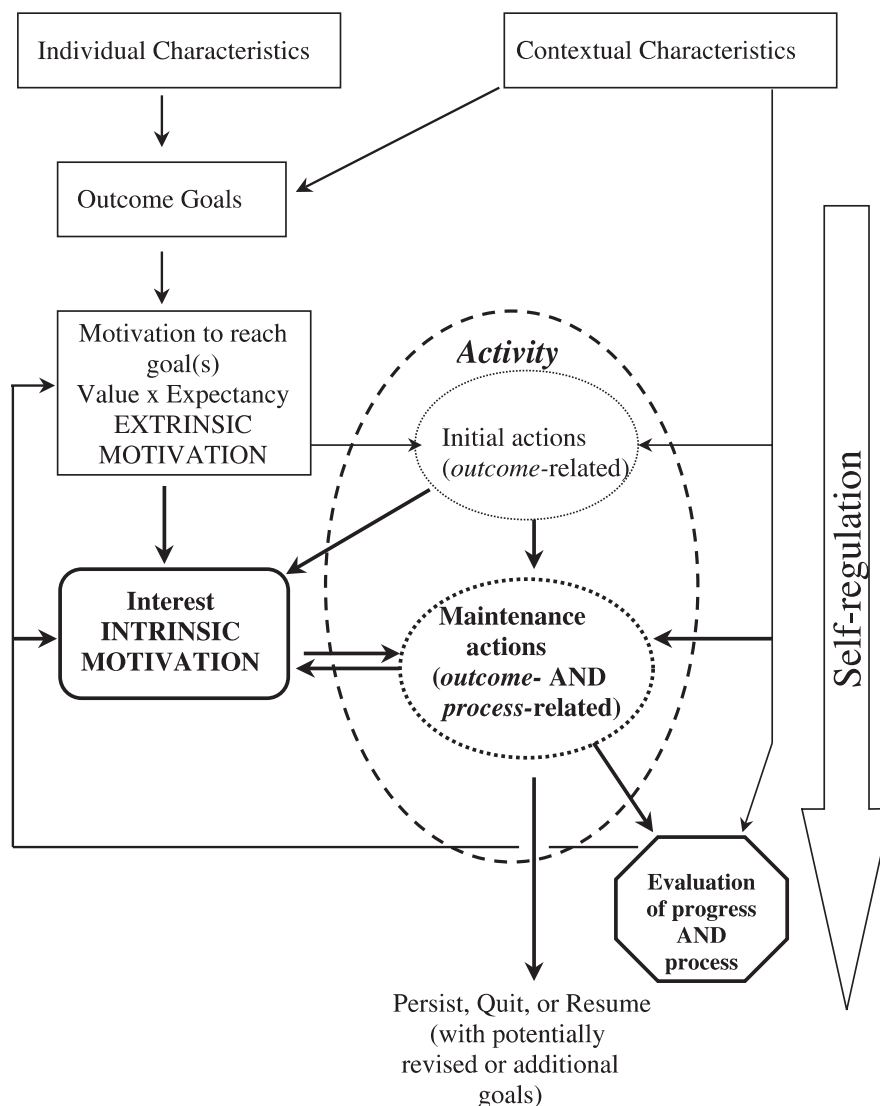


Figure 2. Self-regulation of motivation model (adapted from Sansone & Harackiewicz, 1996; Sansone & Smith, 2000). **Boldface** is used to highlight the additions to the prototypical self-regulation model when the role of the interest experience is included.

Similarities Between the Process of Self-Regulation and of Experiencing Interest

There are a number of similarities between the variables relevant to the interest experience and those relevant to the self-regulation process. We next briefly describe these variables in terms of factors that predict interest, and in terms of factors that are predicted by interest. We then describe how these variables and their role in the interest experience may be integrated into the process of self-regulation.

What Predicts Interest?

Education and organizational researchers have documented that individuals often come to activities with different levels of interest (Asher, 1979; Holland, 1985),

depending on the values and experiences they bring to a task. Recently, researchers have begun to examine the developmental trajectories of interest in a particular topic or activity (Hidi, Renninger, & Krapp, in press). Several reviews have identified particular factors of an activity and context that are more likely to create initial, situational interest (Schraw & Lehman, 2001; Silvia, 2005). For example, activities that arouse curiosity, allow people to act effectively, or allow involvement in fantasy tend to be those that individuals find interesting (Malone & Lepper, 1987). In addition, personally relevant activities are often more interesting (e.g., learning about hurricanes will be more interesting for people who live in their path; Bergin, 1999). Less is known about how these momentary experiences of interest develop into long-term individual interests, although there have been some recent discussions about the possible process. For exam-

ple, situational interest may lead a person to learn something about a novel topic. As knowledge increases, value may also increase as individuals make connections to things they care about. In turn, this may trigger curiosity and motivate continued learning (e.g., Hidi & Renninger, in press).

From a different tradition, intrinsic motivation researchers tended to look at the extrinsic factors that interfere with or distract from motivation when the activity is already interesting (e.g., games, puzzles, drawing). For example, when individuals are offered a reward to do an activity that they find interesting, they tend to be less likely to subsequently choose to do the activity when the reward is no longer available. Similarly, receiving feedback that implies lack of competence at the activity tends to decrease interest and subsequent choice to perform the activity. Across many studies (e.g., Deci, Koestner, & Ryan, 1999), research has made a strong case for how these factors can hurt existing interest and decrease the likelihood that individuals will subsequently choose to do the activity.

However, enhancing competence and autonomy does not necessarily enhance interest. For example, Sansone, Sachau, and Weir (1989) found that receiving identical instruction on how to improve performance on a computer activity had opposite effects on interest depending on whether the individual's primary goal was to achieve a certain skill level or to become involved in a fantasy adventure. Harackiewicz and colleagues documented a similar "matching effect" for achievement motivation, achievement goals, and interest (e.g., Barron & Harackiewicz, 2000; Harackiewicz & Elliot, 1998). The importance of goal congruence suggests that interest cannot be predicted just by objective activity characteristics, or the surrounding context. As with most models of self-regulation, one must also know individuals' goals for and appraisals of the activity and the surrounding context.

What Does Interest Predict?

The anticipated or actual experience of interest reliably predicts task choice and persistence. In the classic intrinsic motivation paradigm, for example, the behavioral measure of intrinsic motivation is whether individuals choose to do the target activity immediately after the experimental session, when they ostensibly are free to choose. Thus, one reason interest is important to goal-striving is because it influences which activities individuals choose to do and how long they choose to do them (Lepper & Henderlong, 2000).

In addition, interest predicts the nature of activity engagement. For example, research has examined how interest affects attention during and retention after a

learning task (Alexander, Jetton, & Kulikowich, 1995; Schiefele, Krapp, & Winteler, 1992). Although individuals appear to pay more attention when the target is interesting (Renninger & Wozniak, 1985), it is also the case that individuals need less time attending to interesting material in order to learn it (Shirey & Reynolds, 1988). Other researchers have examined how the attention-drawing capacity of interest can interfere with learning, in research on "seductive details" (Garner, Gillingham, & White, 1989).

Integration into the Self-Regulation Process

There is clearly overlap in many of the variables that are relevant to goal-striving and to the experience of interest. For example, individuals' goals guide whether they choose to engage in an activity and why, and individuals will experience greater interest when the activity and the surrounding context are experienced as goal-congruent. In addition, individuals experience greater interest when they value the goals and feel confident that they can reach them. Furthermore, the interest experience predicts many of the variables important to self-regulation, including behavioral outcomes (subsequent choice and persistence) and cognitive processes (e.g., attention and retention).

Despite the overlap, however, traditionally the interest experience has been considered separately from self-regulation because of the dichotomy presumed to exist between extrinsic and intrinsic motivation. If individuals see engagement in an activity as a means for reaching some important outcome, then they are extrinsically motivated, and interest is superfluous. Conversely, if individuals engage an activity because they experience interest, then linking engagement to achieving an outcome can decrease the interest experience. So, the interest experience may feel good, and be motivating, but is reserved for activities that are done only for their own sake (e.g., the activities we do during free time).

The seeming incompatibility of engaging an activity for its own sake and as a means to an end rests on a static view of the activity. Emphasizing a more dynamic view (Vygotsky, 1978), we suggest that what constitutes the "activity" can differ both between individuals and within the same individual over time, thereby changing what is intrinsic or extrinsic. This potential variability occurs because of individuals' goals and the particular context going into the activity, as well as because of processes that emerge once the activity has begun.

One emergent process is the evaluation of the experience itself. We suggest that an important aspect of self-regulation is monitoring and regulating our motivation, not just our progress toward goals (Wolters, 1999). Although we can regulate motivation by enhancing the

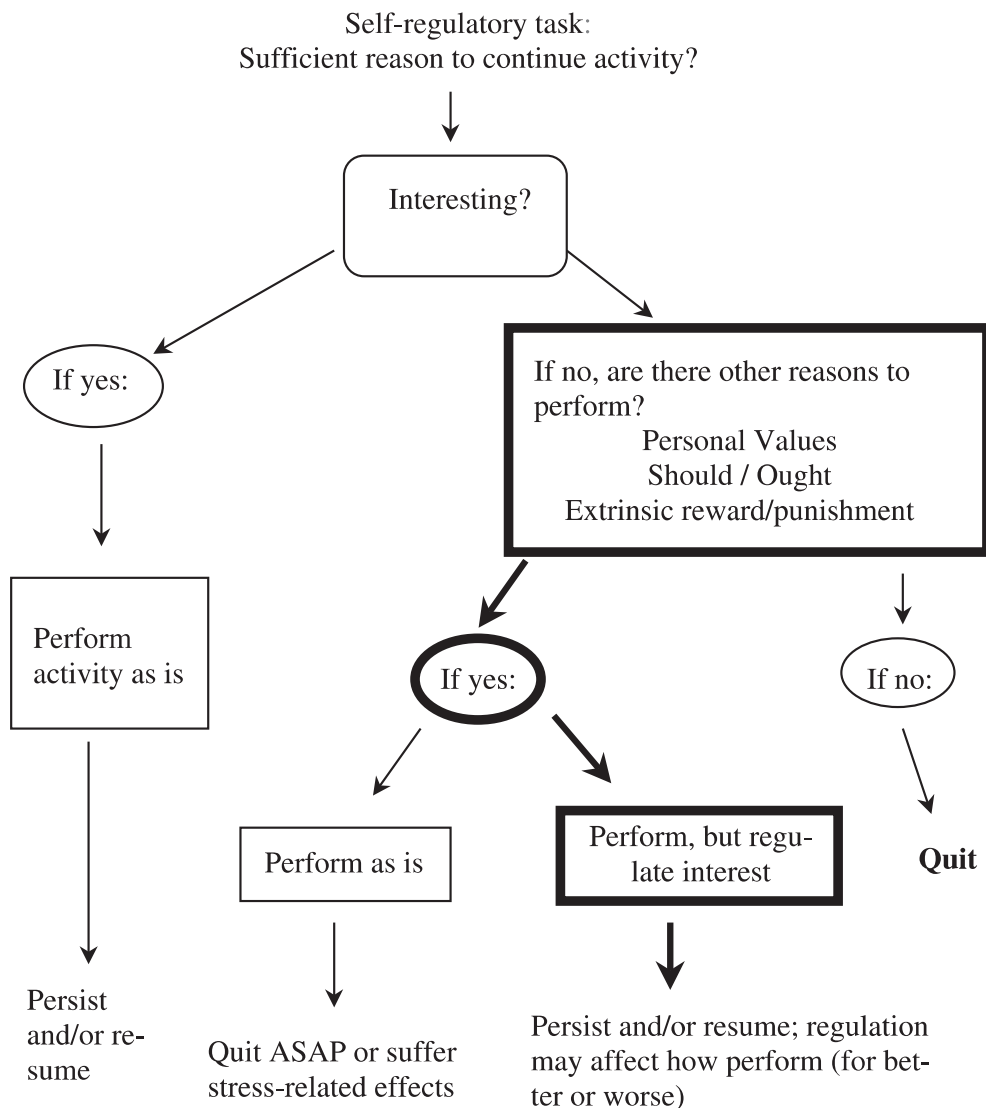


Figure 3. Motivational self-regulatory task, with **boldface** highlighting the route leading to interest-enhancing strategy use (note: ASAP = as soon as possible).

value or expectancy of attaining the outcome, we suggest that regulating the interest experience can be just as, if not more, powerful.**

Self-Regulation of Interest

In Figure 3 we illustrate the role of the interest experience in the process of monitoring and evaluating motivation. Once we engage an activity (whether for its own sake or because it provides a means toward some goal), we consider (not always consciously) whether there is sufficient reason to continue. If the experience is interesting and involving (intrinsically motivating), we will

continue to perform the activity as is. If uninteresting, we consider whether there are sufficient extrinsic reasons to perform the activity anyway. If not, we will quit.

If there are sufficient reasons to continue, however, we have two choices. We can continue to perform the uninteresting activity as is, holding on for as long as we can, and hopefully till we reach the goal. This is the path addressed in many self-regulation models, and researchers propose that more autonomous forms of extrinsic motivation (e.g., personal value rather than extrinsic reward) will result in greater persistence in this case (Deci & Ryan, 1987).

We focus on the remaining path, however. We can continue to perform the uninteresting activity, but ac-

** As noted previously, the experience of interest may itself be the goal of engagement. In this case, regulating interest is a direct rather than indirect way to attain the goal.

tively change how we perform it, using strategies to make performance more interesting. Thus, extrinsic factors can paradoxically lead to greater intrinsic motivation if they motivate use of interest-enhancing strategies. The activity itself may no longer be identical to the one with which the person began, however, if these strategies are now seen as part of the activity.

If the self-regulation process exists as outlined, we can make a number of predictions. For example, individuals should regulate interest primarily when initial interest is low but the activity is still perceived as worthwhile. In addition, the particular type of strategy used by a person to regulate interest should differ as a function of the person, the task, and the surrounding context. The consequences of using these strategies should generally include a greater likelihood of choosing, persisting, or resuming the worthwhile activity, though this may vary as a function of how well a particular strategy works in creating or maintaining interest. A further potential consequence is that the strategies may change how the activity is performed, and ultimately the activity itself. Finally, we might expect interest regulation to differ as a function of individual differences and in terms of development.

In the next section, we briefly review the existing evidence for these predictions, and note where further research is needed. We distinguish between two broad classes of potential interest-enhancing strategies: intrapersonal and interpersonal. For each class of strategies we also note what we know so far about developmental and individual differences in whether and how these kinds of strategies are used.

Interest Can Be Regulated Intraindividually

Sansone, Weir, Harpster, and Morgan (1992) sought to establish the existence of the self-regulatory function of interest. In a first study we found that college students had declarative and procedural knowledge about strategies to regulate interest. A second study examined actual strategy use. We compared two activities that differed in their initial interest level: an interesting hidden words task (finding words embedded in a letter matrix) and an uninteresting copying task (copying a letter matrix). Within copying task conditions, we informed half the participants that there were health benefits from performing the task on a regular basis.

According to the process outlined in Figure 3, individuals performing the copying task with knowledge of potential health benefits should be most likely to engage in interest-enhancing strategies, because they had the need (the task was boring) and a good reason to do the task anyway (the health benefit). Individuals performing the hidden words task should be least likely to engage in

these strategies because they had no need (the task was already interesting). Individuals performing the copying task without knowledge of health benefits were expected to fall between those other two conditions, because they had the need but not the added reason. Our results confirmed this linear pattern. Moreover, individuals who used these strategies within copying task conditions were more likely to ask for matrices to take with them. Thus, interest-enhancing strategy use was associated with greater likelihood of performing the activity in the future. The strategies also became incorporated into how individuals defined the activity.

Developmental and Individual Differences in Intrapersonal Self-Regulation

Although to our knowledge there have been no direct examinations of developmental trends, several researchers have provided qualitative descriptions that seem to reflect intrapersonal regulation in school-aged children. For example, Meyer and Turner (2002) described some fifth grade students who intentionally increased the challenge of a writing task in order to make it more interesting (e.g., “. . . like if it said to write one sentence, I would write a lot more and make it more interesting,” p. 109). Similarly, Renninger and Hidi (2002) described a 7th-grade boy working on an initially uninteresting science project (working with a turtle) that he did only because it was required. Once engaged, however, he began to make the project more interesting by building ramps and holding races. These results suggest that by about 10 years old, at least some individuals may intentionally change their important but presently uninteresting activities into something that they find more interesting. The age at which individuals may first develop the capacity to self-regulate interest, and the conditions necessary to foster the development of self-regulation, are still under-investigated (Renninger, Sansone, & Smith, 2004).

However, in an ethnographic study comparing different kindergarten classes, Nolen (2001) described one teacher who created optimal conditions for self-regulation by providing the opportunity for children to vary how they performed a learning activity, and suggesting a way to do so that might make the activity more interesting. When the assignment was to circle all the “e”s in a sentence on the board, one student mentioned finding an “e” in his name. Capitalizing on this off-task observation, the teacher suggested an optional task for later: a hunt for “e”s that might appear anywhere in the classroom. When the time came for students to choose a literacy-related activity to work on, they initiated an “e-hunt,” and virtually all became quite engaged and excited about the activity. Interestingly, when the same teacher later assigned letter-hunts, these hunts no longer generated the same degree of involvement.

Compared to students in other classes, then, these students experienced a teacher who presented the possibility of making an important learning activity more interesting by changing how it is performed. Perhaps just as important, this teacher also left the choice up to the students as to whether to change the activity in this way. It is possible that individual differences in self-regulating interest that appear at somewhat later ages are rooted in these different early experiences.

It is also possible that individual differences in self-regulation of interest reflect more general individual differences in responding to and coping with the environment. For example, Sansone, Wiebe, and Morgan (1999) used the copying task paradigm described previously to contrast individual differences (conscientiousness and "hardiness") that should reflect differential weighing of the costs and benefits associated with deciding to regulate interest. Individuals high in conscientiousness were expected to weigh the achievement outcome as paramount and be more likely to persist at the copying without using interest-enhancing strategies that could interfere with performance. In contrast, individuals high in hardiness were expected to weigh the quality of their subjective experience more heavily. Thus, they were expected to be more likely to quit the activity when they were not given an additional extrinsic reason to value the boring task. When they were given an additional extrinsic reason, however, they were expected to be more likely to engage in interest-enhancing actions. As expected, highly conscientious individuals persisted longer than individuals lower in conscientiousness independently of the reason manipulation or strategy use. In contrast, highly hardy individuals persisted primarily when they were provided the additional reason to perform the task, and this effect was mediated by their attempt to make copying more interesting.

Taken together, these studies demonstrate that intraindividual self-regulation processes are a function of both the individual and the activity context. When the activity is uninteresting, but there is a good reason to perform the activity (e.g., extrinsic motivation) individuals may strategically transform the activity (cognitively or behaviorally) to create a more interesting experience. As with self-regulation processes more generally, the use of these strategies to enhance interest appear to differ as a function of what the individual brings to the situation as a function of age, experience, and characteristic orientations toward activities (which may in turn be predicted by personality traits, gender, etc).

Interest Can Be Regulated Interpersonally

When individuals perform a given activity alone, task characteristics and intraindividual strategies may be the

primary sources of interest. Many activities occur within a social context, however, even if that social context is implicit (Baldwin & Holmes, 1987). Our model suggested that to the extent that individuals approach an activity with interpersonal goals, they would experience greater interest if the activity and surrounding context facilitates those goals. To test this possibility, Isaac, Sansone, and Smith (1999) identified individuals who should be most likely to approach activities with an interpersonal focus (individuals higher in interpersonal orientation [IO]), then varied the actual presence of other people (actually a same sex confederate). Confirming our model, we found that individuals higher in IO expressed greater interest in the task and were more likely to engage in future similar tasks when working in the presence of another person, whether they worked with or alongside the person. Moreover, their interest experience was predicted by the amount and quality of interaction with the confederate.

Pasupathi and Rich (in press) investigated more directly the role of conversations in developing interest. They recruited same sex friends (college students) who were randomly assigned to one of two roles: speaker and listener. Speakers were asked to perform a novel computer game and then describe their experiences to their friend. Listeners were told that they would soon have a conversation with their friend and, unknown to the speakers, were instructed to act in one of three ways: (1) to act as they typically would act as a good listener, (2) to disagree with and argue against their friends' evaluation of the activity, or (3) to count the number of "th" words in the speaker's sentences rather than listening to the content. Following the actual conversation, speakers evaluated their own interest in the computer game. Pasupathi and Rich found that individuals reported the lowest interest in the activity when their friend appeared to be disinterested in their account of their experience. Importantly, their interest was not lowered when their friend disagreed with their evaluation, presumably because he or she still showed interest in the discussion. Thus, others' inattentive listening conveyed the implicit message that the experience was not interesting, and influenced individuals to rate their own interest lower. This was the case even though the conversation occurred *after* their actual experience of the activity. This suggests that one route through which others influence our own interest is through our communications about the experience. Perhaps particularly with novel tasks, the reactions of others can serve to support or detract from a burgeoning interest in an activity (Hidi & Renninger, in press).

We recently completed a study that examined the degree to which individuals interpersonally regulate interest in their everyday lives. We asked 197 undergraduates if they could "think of a time within the last year when

you found working on something more interesting because you were working with another person (or other people).” We then also asked whether working with another person was their choice. Overall, 63% of participants (64% of females and 61% of males) described having chosen to work with others rather than alone when doing so made the activity more interesting. We then repeated the question, but this time asked specifically about two achievement domains: school and work (presented in counterbalanced order). We found that even in achievement domains that tend to emphasize individual accomplishment, over half the students chose to work with others when they could have worked alone.

The questionnaire data suggest that individuals often attempt to regulate their motivation for important activities by using the social context of the activity to make their experience more interesting. The results of Pasupathi and Rich (in press) suggest, however, that the success of interpersonal strategies in creating or maintaining interest may be more unpredictable than the use of intrapersonal strategies, because it depends on others’ reactions. Moreover, even though the laboratory studies constrained the social influence to be in one direction, in everyday life individuals’ interest may be interdependent over time, with individuals coregulating interest as well as progress toward outcomes (Vauras, Iiskala, Kajamies, Kinnunen, & Lehtinen, 2003).

Developmental and Individual Differences in Interpersonal Self-Regulation

A number of researchers report results that suggest that turning to others to regulate our own interest may occur quite early in development. For example, Liskowski, Carpenter, Henning, Striano, and Tomasello (2004) found that children as young as 12 months old appear to use nonverbal cues (pointing) to get others to attend to and share their interest in a target. In the kindergarten study, Nolen (2001) described a child who started to find writing interesting only after the writing became shared with others in his class. Mirroring the lab findings of Pasupathi and Rich (in press), Nolen (2001) writes that “. . . the discovery that he could tell others things that he had written and that they would listen with interest, seemed heady stuff (p. 117).” In general, increased interest is often noted as a consequence of cooperative learning situations. However, we still do not know the extent to which children choose to work with others with the goal of regulating interest, the age at which it begins, and so on.

The study by Isaac et al. (1999) suggests that, even within the same age group, individuals may differ in the extent to which they define the social context as *part* of the activity as opposed to the *setting* for the activity. For

example, they found that the number of off-task comments by the confederate differentially affected individuals lower and higher in IO. For the former, these off-task comments predicted lower interest and greater likelihood of making a math error. In contrast, for individuals higher in IO (who are more likely to be female), the off-task comments predicted greater interest in the activity, and off-task comments were unrelated to making errors. These results suggest that individuals higher in IO may be more likely to see all aspects of the social context as part of the activity, and therefore, beneficial for interest in the activity. For individuals lower in IO, however, off-task conversation does not contribute to greater interest in the activity even if the conversation itself is enjoyable.

Some Implications of the Self-Regulatory Function of Interest

The Motivation to Experience Interest May Help or Hurt Performance

The consequences of regulating interest for performance depend on whether individuals use strategies that are compatible with how performance is evaluated (Lepper & Henderlong, 2000). For example, in Sansone et al. (1992), when students used interest-enhancing strategies while copying, they also ended up copying fewer letters in the time allowed, which suggests a negative effect on performance. In contrast, the study by Sansone et al. (1999) suggested that there might be short-term and long-term tradeoffs for this kind of strategy. Specifically, in this study when the number of letters copied was determined by how long students persisted on the boring task, individuals who engaged in the strategies copied more letters.

Other evidence in the academic domain suggests that the potential positive or negative effects on performance depend on whether the strategies take individuals away from what is being evaluated. For example, in the study by Meyer and Turner (2002), the student mentioned a strategy (making writing more challenging by writing more) that would probably result in greater assessed performance. Recent research by Sansone, Smith, and Thoman (2003) on potential interest-regulation within an online college class found that students who were more likely to report using the strategy of following the links on the class web page reported more interest in the topic. However, they also ended up scoring more poorly on the exam, suggesting that students used the Internet to pursue nonrequired material and develop interest in the topic, but that the time invested in this pursuit came at a cost to learning the assigned material.

These examples all involved use of intrapersonal strat-

egies. The potential trade-offs between regulating motivation and performance may be even more sharply illustrated within the context of interpersonal strategies. Although in the right circumstances collaborative learning and problem-solving may enhance performance (e.g., Gauvain & Rogoff, 1989), the presence of others may result in off-task conversations. The Isaac et al. (1999) results suggested that for some people (particularly people lower in IO, who are more likely to be males), off-task conversation might result in greater errors in performance. More generally, research on group decision-making suggests that there may be *process loss* when working with others, given the extra time required to coordinate everyone's input, off-track comments, diffusion of responsibility, and so on (Shaw, 1981). Nevertheless, our questionnaire results reported previously suggest that slightly over half of both males and females still choose to work with others.

Together, these results suggest that the process of regulating interest may at times delay or interfere with attaining the outcomes that presumably motivated initial engagement. Whether the delay or interference represents acceptable short-term vs. long-term trade-offs for the individual (if not for the teacher or employer), or represents a more permanent shift in goals, may only be discernible over time.

Understanding the Motivation to Experience Interest May Shed New Light on Earlier Research

If we accept that the interest experience may serve an important self-regulatory function, then we can begin to examine its potential role in problems and domains where interest has not been extensively considered. One example of where the regulation of interest may be important for sustained motivation is in the context of close relationships. Aron, Aron, Heyman, Norman, and McKenna (2000) found that when long-standing couples were given novel and exciting activities to work on together, they reported greater relationship satisfaction compared to couples that did more mundane activities, and this effect was mediated by the extent to which individuals perceived their relationship as boring. Although Aron et al. (2000) did not examine whether these couples spontaneously regulated interest within their relationship, they suggest that "... shared participation in novel and arousing activities would represent an easily managed route for improving experienced relationship quality ..." (p. 282).

Another example where it may be important to examine interest and its potential regulation is in the context of psychiatric disorders. Todman (2003) cites boredom as a serious problem in a number of disorders, including schizophrenia. He suggests that by failing to recognize the importance of experiencing interest, we may fail to

recognize that some problem behaviors (e.g., failure to sustain treatment) are reactions to boredom, particularly for individuals beginning to recover from psychotic breaks. As a consequence, clinicians may provide treatments that do not help and may in fact exacerbate the problem. He recommended improving diagnostic tools for assessing lack of interest and suggested that "... it might be possible to improve the boredom-coping skills of some boredom-prone individuals with adequate training and the appropriate clinical technology (p. 163)." Todman (2003, p. 163) concluded that "... the challenge for treating clinician is to convince the patient to become interested in his or her boredom."

In our own work, we have begun to examine how the interest experience may help to explain why undergraduate women continue to drop out of or fail to select stereotyped fields (e.g., math or science), even though the disparity in participation and preparation at lower grades has decreased. Our model suggests that lack of interest may be key, and though lower value and perceived (or actual) competence influence interest, they clearly are not the only influence. In our work, therefore, we have attempted to identify factors that may influence the experience and regulation of interest.

For example, females may experience lower real or anticipated interest in math or science if their goals are less likely to be "in sync" with the context. In support of this, Morgan, Isaac, and Sansone (2001) found that women were more likely than men to cite interpersonal goals for their anticipated careers, and that physical/mathematical science careers were perceived as being less likely to afford these goals, which was in turn associated with lower anticipated interest.

Another potential source of lower interest stems from the stereotypes themselves. For example, Smith (2001) found that when highly achievement-motivated females were exposed to gender stereotypes prior to performing a computer programming task, they were more likely to adopt performance avoidance (PAV) goals compared to when they were told that the gender stereotype had been invalidated. These goals were also associated with lower subsequent interest in the programming task. Smith (2001) suggested that one reason for this pattern is because trying to avoid the demonstration of incompetence may make women less likely to engage in interest-enhancing strategies (e.g., exploring different options) because they might hurt performance. In recent work, we have begun to examine how less explicit manifestations of the gender stereotype may impact interest. For example, we are examining the experience of receiving less positive feedback than a man for equivalent work, comparing situations where the discrimination is clearly caused by gender bias to situations where the cause is ambiguous (Thoman & Sansone, 2004).

Although concerned with different problems and populations, this illustrative research from the close relationships, psychiatric disorders, and gender and math/science contexts demonstrates the utility and value of recognizing and addressing the role of interest across a wide variety of everyday behaviors. We are not suggesting that by including the consideration of the interest experience in these and other domains, all motivation problems will be solved. We are suggesting, however, that the inclusion of the role of the interest experience may help to understand recurring problems in these domains that seem to resist other solutions.

Conclusion

As landmark articles (e.g., Bandura, 1977) have noted, self-regulation is essential for behavior to be maintained over the long term (often in the absence of direct control by others). We have tried to make the case that a critical task of self-regulation is to maintain motivation, not just behavior. And we have argued that the interest experience is an important key to that motivation. We should reiterate that the experience of interest is not the only determinant of sustained motivation. Rather, we suggest that the interest experience is the missing piece of many self-regulation models, and should be integrated with other aspects of the self-regulation process to better understand and predict self-regulatory success and failure.

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