Motivating the Academically Unmotivated: A Critical Issue for the 21st Century

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Interests and goals have been identified as two important motivational variables that impact individuals' academic performances, yet little is known about how best to utilize these variables to enhance childrens' learning. We first review recent developments in the two areas and then examine the connection between interests and goals. We argue that the polarization of situational and individual interest, extrinsic and intrinsic motivation, and performance and mastery goals must be reconsidered. In addition, although we acknowledge the positive effects of individual interest, intrinsic motivation, and the adoption of mastery goals, we urge educators and researchers to recognize the potential additional benefits of externally triggered situational interest, extrinsic motivation, and performance goals. Only by dealing with the multidimensional nature of motivational forces will we be able to help our academically unmotivated children.

One of the most important unresolved questions in education is how to enhance the academic performance of children, adolescents, and college students. Two explanations for unsatisfactory academic performance come to mind: lack of ability and lack of effort. Because there is little that educators can do about the former, they have to concentrate on the latter. Many factors can contribute to students' lack of effort. For example, school work can be too difficult or boring, teachers can be too demanding, and non-academic activities may be preferred. However, the absence of academic motivation and lack of interest is also likely to be reflected in students' neglect of their studies. Research over the last two decades has indicated that adolescents' academic motivation declines over time (e.g., Anderman & Maehr, 1994; Harter, 1981). Recent studies show that as children get older, their interests and attitudes toward school in general, and toward specific subject areas such as mathematics, art and science, tend to deteriorate (Eccles & Wigfield, 1992; Eccles, Wigfield, & Schiefele, 1998; Epstein & McPartland, 1976; Haladyna & Thomas, 1979; Hoffmann & Häussler 1998). It is critical that educational researchers contribute to finding ways in which these trends can be reversed; thus, we will review and evaluate recent research that addresses this issue.

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Our perspective is guided by a desire to find ways in which the academic motivation of children who are "turned off" could be increased and our paper focuses on two specific areas of motivation research: interest and goals. Both interests and goals have energizing effects on learning (Tobias, 1994), and a substantial number of investigations have focused on how academic motivation is influenced by these factors. Researchers have also examined the effects of other motivational variables such as task value (Wigfield & Eccles, 1992), self-efficacy (Bandura, 1986; Zimmerman, 1989), and self-regulation (Pintrich, 1989), but the primary goal of this paper is to review recent developments in interest and goals research.[1] Because research in these two areas has been pursued relatively independently, an additional purpose of the paper is to examine the connection between interest and goals. We first discuss their effects on motivation and performance separately, and then present a more integrated discussion of their influence on students' academic motivation. In addition, we review recent trends to reevaluate the dichotomous view of intrinsic and extrinsic motivational variables. Several theorists have argued that such distinctions do not serve us well, and that we have to consider how intrinsic and extrinsic factors can be combined to optimize academic motivation (Alexander, 1997; Deci, 1992; Harackiewicz, Barron & Elliot, 1998; Hidi & Berndorff, 1998; Lepper & Henderlong, 2000; Rigby, Deci, Patrick, & Ryan, 1992; Sansone & Morgan, 1992).

Interest and Academic Motivation

Interest is described as an interactive relation between an individual and certain aspects of his or her environment (e.g., objects, events, ideas), and is therefore content specific (Krapp, 1999; Krapp, Hidi, & Renninger, 1992). Interest can be viewed both as a state and as a disposition of a person, and it has a cognitive, as well as an affective, component. Research has demonstrated that interest has a powerful facilitative effect on cognitive functioning. Its influence on academic performance has been established across individuals, knowledge domains, and subject areas. Theorists have also suggested that interest may be the key to early stages of learning, as well as to differences between expert and moderately skilled performers (Alexander, 1997; Renninger, Hidi, & Krapp, 1992; Hoffmann, Krapp, Renninger, & Baumert, 1998).

Whereas most theorists agree that interest is a phenomenon that emerges from the reactions of individuals to their environments, researchers assign differing levels of significance to the components of this framework. One group of investigators has concentrated on the individual and on the origins and effects of *individual interest* (also referred to as personal interest), and another body of research has centered on the environment and on contextual factors that elicit *situational interest* across individuals. Individual interest is conceptualized as a relatively stable motivational orientation or personal disposition that develops over time in relation to a particular topic or domain and is associated with increased knowledge, value, and positive feelings (Renninger, 1990, 1992, 1998, in press; Schiefele, 1991, 1998). Situational interest is generated by certain conditions and/or stimuli in the environment that focus attention, and it represents a more immediate affective reaction that may or may not last (Hidi, 1990, in press; Hidi & Anderson, 1992; Murphy & Alexander, 2000). This initial

affective reaction may be positive or negative in emotional tone. For example, Iran-Nejad (1987) noted that a snake could be interesting without being liked. We would only expect increased knowledge, value, and positive feelings to develop when situational interest continues over time. Whereas the individual interest approach tends to focus on enduring preferences, the situational interest approach centers on responses to environmental factors that promote interest in a particular context (Bergin, 1999; Hidi & Baird, 1988; Mitchell, 1993).

Investigations focusing on individual interest have shown that children as well as adults who are interested in particular activities or topics pay closer attention, persist for longer periods of time, learn more and enjoy their involvement to a greater degree than individuals without such interest (e.g., Ainley, 1994, 1998; Prenzel, 1988; Renninger, 1987, 1990, 1998; Schiefele, 1991, 1996). Even very young children have been found to have strong, stable, and relatively well-focused individual interests that function as powerful determinants of their attention, recognition, and memory (Renninger & Wozniak, 1985). Individual interest is clearly an important determinant of academic motivation and learning (Schiefele, krapp, & Winteler, 1992). However, less is known about how such interests develop, why some early interests lead to long-term interests and others do not, and how one could best nurture and utilize students' individual interests in the educational process.

Hidi and colleagues (Hidi, 1990; Hidi & Anderson, 1992; Hidi & Berndorff, 1998) argued that situational interest should also play an important role in learning, especially when students do not have pre-existing individual interests in academic activities, content areas, or topics. More specifically, they suggested that the elicitation and utilization of situational interest could make a significant contribution to the motivation of academically unmotivated children (Hidi, 1990). By focusing on the enhancement of situational interest in classrooms, educators can find ways to foster students' involvement in specific content areas and increase levels of academic motivation (Bergin, 1999; Hoffmann & Haussler, 1998; Lepper, 1985; Mitchell, 1993).

Early research on situational interest (Schank, 1979; Kintsch, 1980) focused on the sources of situational interest, such as novelty, violence and uncertainty, and on the cognitive outcomes of interest, for instance, narrowing inferences, integrating information with prior knowledge, and focusing attention. Many subsequent investigations (e.g., Anderson, 1982; Anderson, Mason, & Shirey, 1984; Garner, Gillingham, & White, 1989; Hidi, 1990; Hidi & Baird, 1986, 1988; Hidi, Baird, & Hildyard, 1982; Wade & Adams, 1990) have centered on a subclass of situational interest, referred to as *text-based*. Studies have examined features that make text less or more interesting, and how interesting text segments, topics, or themes influence the comprehension, learning, and writing of individuals. The results of these studies indicate that (a) certain text characteristics such as ease of comprehension, novelty, surprise, vividness, intensity, and character identification contribute to situational interest, and (b) interesting text segments produce superior reading comprehension and recall (e.g., Anderson, 1982; Anderson, Shirey, Wilson, & Fielding, 1987; Benton, Corkill, Sharp, Downey, & Khramstova, 1995; Harp & Mayer, 1997; Hidi & Baird, 1988; Ryan, Connell, & Plant, 1990; Schraw, Bruning, & Svoboda, 1995; Wade, Buxton, & Kelly, 1999).

In addition to documenting how properties of educational tasks can promote text-based interest, more recent work has demonstrated how certain aspects of the learning environment, such as modification of teaching materials and strategies, and/or how tasks are presented, can contribute to the development of situational interest in a variety of areas (see Guthrie & Wigfield, in press; Hidi & Berndorff, 1998; Lepper & Cordova, 1992; Lepper & Henderlong, 2000). For example, some researchers have sought to stimulate interest by presenting educational materials in more meaningful contexts that illustrate the utility of learning or make it more personally relevant (e.g., Chabay & Sherwood, 1992; Cordova & Lepper, 1996; Mitchell, 1993; Parker & Lepper, 1992; Ross, 1983). Schraw and Dennison (1994) found that situational interest and recall for a text passage were dramatically influenced by the perspectives assigned to readers. These results suggest that reading for a particular purpose can enhance text-based interest.

In an effort to engage students' mastery motivation, others have followed White (1959) and Deci (1975) in concentrating on factors that make educational materials more challenging, afford students more choice, or promote perceived autonomy and self determination, (e.g., Deci & Ryan, 1985; Harter, 1981; Ryan, Connell, & Deci, 1985). Giving students choices, even when seemingly trivial and instructionally irrelevant, seems to enhance interest (Cordova & Lepper, 1996; Iyengar & Lepper, 1999; Lepper, Woolverton, Mumme, & Gartner, 1993). In sum, in their efforts to promote situational interest, researchers have concentrated on features of the task and the learning environment.

Our discussion thus far has emphasized ways in which educational tasks or materials might be structured or presented to stimulate interest. Other aspects of the learning environment may also contribute to the stimulation of situational interest. For example, Isaac, Sansone, and Smith (1999) found that working in the presence of others resulted in increased situational interest for some individuals, and Hoffmann and Haussler (1998) found that girls showed higher levels of interest in physics when taught in single-sex classes. Thus the presence of others can also work as a feature of the environment that affects interest in activities (Dewey, 1913).

A different way to stimulate interest in activities depends on individual self-regulation. People may engage in strategies to make their performance of tasks more interesting and eventually develop interest in an activity that had been uninteresting. Sansone and colleagues (Sansone & Smith, in press; Sansone, Weir, Harpster, & Morgan, 1992; Sansone, Wiebe, & Morgan, 1999) focused on how individuals deal with uninteresting activities. They demonstrated that students can work actively to control their ongoing effort and maintain interest in important or required tasks. Specifically, they can generate and use strategies to make boring tasks more interesting (such as by making games out of them), particularly when provided a reason to value the activities. Moreover, use of these interest-enhancing strategies promoted persistence on an uninteresting task (Sansone, et al., 1999). Wolters (1998) also found that college students reported self-regulated strategies aimed at boosting interest in course materials. From an educational point of view, it could be extremely important to explore how educators could help students learn to intentionally regulate their interests in tasks.

Developmental Patterns of Individual and Situational Interest

One issue in interest research that is especially relevant to our discussion concerns the different developmental patterns of individual and situational interest. In contrast to individual interest that develops slowly and tends to be relatively long-lasting, situational interest is triggered more suddenly by environmental factors across individuals. This emergent interest may or may not last beyond the time it is triggered. Hidi & Baird (1986) analyzed the emergence of situational interest and drew an important distinction between environmental factors that trigger situational interest and those that maintain it over time. Mitchell (1993) extended this distinction by proposing that the essence of triggering interest lies in finding various ways to stimulate individuals and that the key to maintaining interest lies in finding ways to empower students by helping them finding meaning or personal relevance. Adopting Dewey's (1913) terms of "catch" and "hold," Mitchell identified two separate factors of situational interest in a mathematics class, supporting the conceptual distinction between catching and holding interest. Group work, puzzles, and computers were found to spark interest in math, but failed to maintain students' interest over time. Meaningfulness and involvement, on the other hand, proved to function as empowering variables by holding and sustaining students' interest. More recently, this distinction has also been tested in psychology courses at the college level, with "hold" factors proving to be better predictors of continuing interest in psychology than "catch" factors (Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000).

Although individual and situational interests are distinct, they are not dichotomous phenomena, but rather can be expected to interact and influence each others' development (Alexander, 1997; Alexander, Jetton, & Kulikowich, 1995; Hidi, 1990; Hidi & Anderson, 1992). Bergin (1999) recently illustrated how individual factors can interact with situational factors to affect interest, "What is an exciting filmed chase scene for most people may be boring to the jaded film critic who has seen too many chase scenes. A fascinating magazine account of a war escape may be old news, and inaccurate to boot, to the teen war aficionado who has already read several detailed book-length accounts of the escape" (p. 89). In other words, individual interest can influence situational interest by moderating the impact of environmental factors (Murphy & Alexander, in press). Furthermore, in each other's absence, individual and situational interest may have even more critical roles. For example, individual interest in a particular topic may help students persevere through boring presentations or texts about that topic, and situational interest elicited by presentations or texts may maintain motivation and performance when individuals have no personal interest in particular topics. In addition, situational interest actually can contribute to the development of long-lasting individual interests. For example, students who are exposed to an exciting lecture in psychology may be stimulated and pay more attention in class than they ever have before. For some students, this interest may evaporate as soon as the lecture ends. For others, the interest triggered in this situation persist over time and may develop into individual interest in psychology.

In sum, the preceding analysis suggests the importance of distinguishing between factors that trigger situational interest and those that promte the maintenance of situational interest in educational contexts. Two important issues con-

cern (1) identifying educational interventions that can trigger situational interest and (2) identifying interventions that will promote the maintenance of situational interest over time. Different processes may be involved with the two phases of situational interest, one that is more attentional in the case of triggering interest (Hidi, 1995), and one that is more affective or motivational in the case of maintaining interest. A closer analysis of these issues may reveal ways in which situational interest can be effectively utilized to promote academic motivation.

Situational Interest as a Motivator of School Learning

To demonstrate how situational interest can affect both cognitive and motivational functioning and contribute to the development of individual interest, consider a student with no prior background in psychology who hears an exciting lecture about Freud and then read the materials assigned on the topic. She starts reading about Freud's life and theory only because it is required for the course. As the student progresses through her readings, however, her (situational) interest is triggered and maintained, and eventually she becomes fascinated with Freud's personality theory. She reflects on the theory and relates it to her personal experiences. She becomes excited, wants to know more and, as she continues to read, develops her own assumptions and hypotheses about the behavior of significant others in her life.

As Hidi and Berndorff (1998) argued, several aspects of this type of engagement are important. From a cognitive point of view, a wide range of knowledge patterns have been activated. As our student continues to read about Freud's theory, makes connections and develops new hypotheses, corresponding changes can be expected to occur across declarative, conceptual, and logical knowledge structures (Farnham-Diggory, 1994). From a motivational point of view, although interest has been triggered by external factors (the professor's lecture and reading assignment), it leads to continued and persistent activity that becomes self-initiated. As the activity proceeds, it is no longer externally imposed on the student, but becomes self-determined, autonomous, and enjoyable (Deci, 1992; Rigby et al., 1992). In short, the individual's motivation can now be considered intrinsic.

From a combined cognitive and motivational point of view, the ongoing activity can be characterized by an affective-cognitive synthesis. Such synthesis, according to Rathunde (1993, 1998; Rathunde & Csikzenmihalyi, 1993) is an integral part of "undivided interest." He argues that this type of interest is likely to be sustained over time and combines positive affective qualities, feelings of enjoyment, for instance, with cognitive qualities of focused attention, perceptions of value or importance, and meaningful thoughts. Thus, once the affective-cognitive synthesis occurs, situational interest is maintained and can contribute to the development of individual interest and intrinsic motivation. This suggests that creating environments that stimulate situational interest is one way for schools to motivate students and help them make cognitive gains in areas that initially hold little interest for them.

In fact, situational interest might provide an effective alternative for teachers who wish to optimize interest in their classrooms. Although individual interests have been shown to have a strong impact on learning, their utilization in educa-

tional settings may be problematic (Hidi & Anderson 1992; Lepper & Hodell, 1989). Ideally, catering to the personal interests of individuals in the classroom would promote learning for all students, but in reality, this could be an extremely time and effort consuming task, especially if classes are large. Many teachers in these settings are unable to provide each student with individualized programs, particularly since not all children have interests that are easily adaptable to school settings and academic learning (Heyman & Dweck, 1992; Nisan, 1992). Focusing on the potential for situational interest inherent in the material and mode of presentation may help teachers promote learning for all students, regardless of their idiosyncratic interests. Mitchell (1993) noted that though teachers have little influence over the individual interests (or disinterests) students bring to class they can influence the development of such interests by creating appropriate environmental settings which foster situational interest (cf. Turner et al., 1998). We agree with Mitchell that creating situational interest may work to enhance individual interest in some students, and, along with others, we submit that effective classrooms may also promote the development of intrinsic motivation (Sansone & Morgan, 1992).

For example, the social context of classrooms is something that teachers have some control over, and the Isaac et al. (1999) results discussed earlier suggest that teachers might be able to utilize their control of social factors to increase students' academic motivation. Moreover, a large body of research on cooperative learning (Aronson, Blaney, Stephen, Sikes, & Snapp, 1978; Slavin, 1983, 1991; Stevens & Slavin, 1995) suggests that students can become more productive and involved in educational activities when they work with peers on learning tasks. Hidi, Weiss, Berndorff, and Nolan (1998) recently investigated how cooperative techniques could facilitate learning science concepts and enhance children's interest in science. They tested jigsaw procedures (Aronson et al., 1978; Slavin, 1991) in a science museum, in which students formed small groups, and each person was given the opportunity to become an expert on various exhibits in the museum. Subsequently, students were required to teach other students by sharing their knowledge. Interviews with teachers and students indicated that children in the Jigsaw session felt a sense of empowerment and strong interest. Whereas previous research in this context had shown that children spent an average of less than a minute per exhibit, many children happily spent up to 10 minutes trying to become experts at their exhibits and had to be coaxed into moving away with the Jigsaw procedures. In sum, these findings suggest that the social structuring of learning experiences can be an important determinant of situational interest.

The Relationship Between Interest and Intrinsic Motivation

Our understanding of interest development may also benefit from a review of related theory and research on intrinsic motivation. Interest and intrinsic motivation have been studied in parallel by different theorists in different research contexts, but we believe that a careful analysis of their interrelations may prove fruitful (cf. Hidi, 2000). Intrinsic motivation is typically defined as the motivation to engage in activities for their own sake. Deci (1992) has characterized this type of motivation in terms of both experiential (focused task engagement, involvement, and the experience of enjoyment, interest, and excitement) and

dispositional (the desire to continue engaging in those activities) components. This definition of intrinsic motivation appears to incorporate both individual and situational interest, and, in fact, many researchers use the terms *interest* and *intrinsic motivation* almost interchangeably. However, Schiefele (1999) has argued that individual interest is an antecedent to cognitions that determine the strength of an individual's intrinsic or extrinsic motivation to act in a particular situation. Thus, individual interest is viewed as a pre-condition of intrinsic motivation.

It is also important to note that the early triggering stages of situational interest may precede the development of intrinsic motivation. Even though interest-based actions are often associated with positive emotional experiences, and even though some researchers have considered interest to be synonymous with enjoyment and liking, considerable theoretical and empirical work suggests that situational interest does not necessarily have such associations (Ainley, Hidi, & Berndorff, 1999; Berlyne, 1971; Hidi, 1990; Iran-Nejad, 1987; Mandler, 1982). For example, students in medical school may find dissecting cadavers to be interesting and emotional, but the affective tone of their experience may be negative.

Only when situational interest is maintained or "held" does it necessarily correspond to an intrinsically motivated state in which positive emotions such as enjoyment and liking are experienced. Our previous example serves to illustrate how intrinsic motivation might develop from situational interest. We consider the possibility that not only might a student find psychology more interesting as a result of an exciting lecture, but he or she might then choose to read psychology books in his or her free time or decide to take more psychology courses. Those students whose interests last beyond the exciting lecture would be considered intrinsically motivated. Moreover, these students' interests would now be considered more dispositional and stable, and we would expect their interest to be accompanied by increased knowledge about and valuing of psychology (Renninger. 1992, 1998, 2000). The relationship between interest and intrinsic motivation may therefore be recursive (Schiefele, 1999).

Situational Interest and Motivational Theory

Given the important role that situational interest could play in learning, one may query why this area of research has been ignored for so long and by so many. Hidi and Berndorff (1998) suggested that, whereas individual interest has been associated with intrinsic motivation, situational interest has been viewed as a form of externally controlled motivation. Early motivational research viewed extrinsic and intrinsic motivation as dichotomous concepts (deCharms, 1968; Deci, 1971, 1975; Lepper, Greene, & Nisbett, 1973). Indeed, the early research on intrinsic motivation documented the ways that external interventions such as rewards, evaluation, competition, and deadlines could *undermine* intrinsic motivation. Recently, Deci, Koestner, and Ryan (1999) reviewed this literature and conducted a meta-analysis of 128 experiments that examined the effects of extrinsic reward on intrinsic motivation. Their results clearly demonstrated that tangible rewards undermined intrinsic motivation across a wide range of interesting activities, populations, and types of rewards.

However, Hidi (2000) has argued that, notwithstanding the compelling results of Deci et al.'s meta-analysis, it may still be premature to conclude that

when people are intrinsically motivated tangible extrinsic rewards will always be detrimental (Harackiewicz & Sansone, 2000; Zimmerman, 1985). One of Hidi's points is that the studies included in the meta-analyses investigated the effects of external rewards on relatively short term and relatively simple activities. She maintains that it is inappropriate to assume that the same relationship exists between external rewards and long-term, complex and effortful engagements. That is, the effects of external rewards may depend on the complexity of the activity and the length of involvement. More specifically, a combination of intrinsic rewards inherent in interesting activities and external rewards, particularly those that provide performance feedback, may be required to maintain individuals' engagements across complex and often difficult—perhaps painful—periods of learning.

In addition, extrinsic rewards may be especially important when individuals have no initial interest in tasks (Zimmerman, 1985). Studies that included uninteresting tasks were excluded from Deci et al.'s (1999) primary meta-analysis. In a separate, supplemental meta-analysis of 13 studies that employed uninteresting tasks, Deci et al. found that rewards did *not* reduce intrinsic motivation for dull tasks. These results suggest that extrinsic rewards may have special relevance from the perspective of the academically unmotivated. As these children do not typically find their academic tasks interesting, a combination of carefully administered external rewards and situationally interesting activities may be one of the most realistic approaches to educational intervention. If students become engaged in academic tasks, there is at least a chance that genuine interests and intrinsic motivation will emerge.

As a result of the early intrinsic motivation research, all external factors and attempts to control behavior became suspect (Kohn, 1988, 1993). Moreover, many researchers came to view learning that is an outcome of intrinsic motivation as superior and more desirable than learning that is externally triggered. We believe that this focus on internal factors may also have resulted in negative attitudes towards situational interest and in a general reluctance to investigate its efficacy as a motivator of academic performance.

Most observers of human behavior, however, would agree that both external and internal factors influence individuals' motivation and learning. For example, Harter and Jackson (1992) questioned whether children's orientation to school learning can be characterized as either intrinsically or extrinsically motivated. They found that children actually showed three types of motivational patterns. Some children were extrinsic in some subjects and intrinsic in others, but others were either extrinsic or intrinsic in all subjects. The researchers concluded that for the first group (50% of all students), motivational patterns were content and situation specific, whereas for the second and third group motivational orientation appeared to be trait-like as children reported the same orientation across academic subjects. More recently, Lepper, Sethi, Dialdin, and Drake (1997) sought to further decompose Harter's (1981) measure of intrinsic and extrinsic motivation by allowing students to answer intrinsic and extrinsic items independently rather than forcing them to choose between an intrinsic and extrinsic response. Their results revealed that intrinsic and extrinsic motivation were independent and that the two types of motivation could co-exist. These results indicate the importance of considering the separate effects of both extrinsic and intrinsic motivation in education.

Deci, Ryan, and colleagues (Deci, 1992, 1998; Rigby, et al., 1992) also concluded that viewing motivation in terms of a simple extrinsic/intrinsic dichotomy is problematic. They advanced a more differentiated theory of motivation that focuses on the relative autonomy of an individual's actions, and argued that it provides a more useful way to characterize the motivational basis of learning. According to this theory (see Deci, 1998), relative autonomy is dependent upon the degree of self-determination possessed by an individual. Whereas intrinsic motivation is self-determined by definition, extrinsically motivated behavior varies in how internal the locus of causality is perceived to be, and thus how self-determined individuals feel. Ryan and Connell (1989) have specified a developmental process through which extrinsically motivated behavior may become self-determined. Internalization and integration are the two processes that allow the assimilation of external factors into the self. More specifically, these processes allow people to do not only what interests them, but also to internalize and integrate the value and regulation of activities that may not be interesting.

As an extension of this view, Hidi and Berndorff (1998) suggested that the elicitation of situational interest may be an externally triggered process that goes directly to the heart of integration. That is, once an activity becomes interesting, it no longer requires further internalization through conscious, deliberate decisions, but is spontaneously and effortlessly integrated. Such integration may influence individuals' affective experience and cognitive performance, as well as continuing motivation. This analysis requires that we consider seriously the role of external interventions in promoting situational interest.

Goal Orientation and Academic Motivation

In a seminal paper, Ames (1992) defined achievement goals as integrated patterns of beliefs and attributions that represent the purpose of achievement behavior and influence how individuals approach, engage in, and respond to achievement tasks (Dweck, 1986; Nicholls, 1990). This conceptualization set the tone of subsequent goal orientation research in as much as goals, once adopted in a particular achievement context, were presumed to guide an individual's approach to academic activities as well as their thoughts, feelings, and performance. Thus the focus was on the cognitive, affective, and behavioral consequences of static goals, rather than on the dynamics of changing and developing goals.

In postulating casual relationships between individuals' goals and their behavioral responses in academic settings, researchers distinguished between two types of achievement goals: mastery (learning) and performance (ego) goals. These two types of goals are assumed to represent contrasting patterns of motivational processes (Ames, 1992; Dweck & Leggett, 1988). Mastery goals are predicted to orienting people toward acquiring new skills, trying to understand their work, and improving their level of competence. Other positive aspects of behavior attributed to mastery goals have been persistence in the face of difficulty or failure, the achievement of self-referenced standards, and the recognition that effort and risk-taking are elements of achieving success. In contrast, performance goals are postulated to lead individuals to seek positive evalua-

tions of their ability and avoid negative ones, to try to outperform others, and to consider ability, rather than effort, the cornerstone of successful performance.

The correlates and consequences of mastery and performance goals have been examined in an extensive range of correlational and experimental studies conducted in classroom and laboratory settings. Researchers have measured or manipulated achievement goals in a variety of ways. Some researchers have measured students' goals in particular classroom contexts (e.g., Ames & Archer, 1988; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Maehr, 1989; Meece & Holt, 1993; Wentzel, 1993), while others have induced achievement goal orientations with experimental manipulations (e.g., Butler, 1992; Elliott & Dweck, 1988; Harackiewicz & Elliot, 1993). Ames (1992) reviewed the early goals literature and marshaled considerable evidence for the beneficial consequences of mastery goals on a wide range of educationally relevant variables. For example, students who adopt mastery goals have been shown to choose challenging tasks (Ames & Archer, 1988), become involved in the learning process (Nicholls, Cheung, Lauer, & Patashnick, 1989), and use effective study strategies (Nolen & Haladyna, 1990).

In contrast to the many positive consequences of mastery goals, investigators have focused on the maladaptive consequences of performance goals such as negative affect and effort withdrawal. These negative effects are predicted to be most pronounced when individuals encounter difficult tasks or are low in perceived competence (Dweck & Leggett, 1988). Research suggests that students who adopt performance goals avoid challenge, use superficial and effort-minimizing learning strategies, and experience impaired problem-solving (Graham & Golan, 1991; Meece, Blumenfeld, & Hoyle, 1988; Nolen, 1988; Pintrich, 1989; Utman, 1997). As predicted by Dweck and Leggett (1988), some of the negative performance goal effects only occur at lower levels of perceived competence; the differences between performance and mastery goal states are less evident when individuals are performing well or perceive themselves as competent (Butler, 1992; Covington & Omelich, 1984; Elliott & Dweck, 1988).

However, in a more recent review, Harackiewicz, Barron, and Elliot (1998) noted that some studies report null effects of performance goals on some measures (Kaplan & Midgley, 1997; Pintrich & Garcia, 1991) and still others report some *positive* effects of performance goals on measures of cognitive engagement, adaptive learning strategies, self-regulation, and academic performance (Archer, 1994; Bouffard, Boisvert, Vezeau, & Larouche, 1995; Elliot & Church, 1997; Harackiewicz, et al., 1997, 2000; Meece et al., 1988; Midgley, et al., 1998; Newman, 1998; Pintrich, in press; Roeser, Midgley, & Urdan, 1996; Skaalvik, 1997; Stipek & Gralinski, 1996; Urdan, 1997; Wolters, Yu, & Pintrich, 1996; Zimmerman & Kitsantas, 1997, in press). For example, Harackiewicz et al. (1997) found that performance goals, but not mastery goals, predicted university students' grades in an introductory psychology class. Moreover, some recent studies have failed to find evidence that perceived competence moderates the effects of performance goals (Elliot & Church, 1997; Kaplan & Midgley, 1997; Miller, Behrens, Greene, & Newman, 1993). These findings suggest that performance goals do not always have negative effects, even for individuals low in perceived competence.

The Relationship Between Mastery and Performance Goals

When researchers induce goal orientations with experimental manipulations, they can impose an artificial dichotomy between goals by assigning individuals either to a mastery or a performance goal, ensuring that people pursue one goal or the other. It is tempting to reify this dichotomy and conclude that mastery and performance goal orientations are mutually exclusive endpoints of a single continuum. However, such conclusions are unwarranted because correlational studies in which the two goal orientations are measured with separate scales (i.e., students indicate the degree to which they endorsed both mastery and performance goals in a particular context) have found mastery and performance goal measures to be essentially uncorrelated (e.g., Ames & Archer, 1988; Miller et al., 1993; Nicholls, et al., 1989; Stipek & Gralinski, 1996; McInerney, Roche, McInerney, & Marsh, 1997; Pintrich & Garcia, 1991) or even *positively* correlated (e.g., Archer, 1994; Harackiewicz, et al., 1997; Medved, Hidi, Ainley, & Weiss, 1999; Meece et al., 1988; Roeser, et al., 1996). In other words, some students may be characterized as pursuing one predominant goal, but others may endorse both goals or neither goal. In fact, when early correlational studies first revealed that mastery and performance goals were uncorrelated, investigators failed to recognize the implications of these findings. For example, although Nicholls (1990) acknowledged that his measures of ego (performance) and task (mastery) orientation in schoolwork were uncorrelated, he did not discuss how one individual might pursue both types of goals or how the goals might interact to affect motivation and performance.

Harackiewicz et al. (1998) argued that the possibility of multiple goal adoption requires that researchers evaluate the simultaneous effects of mastery and performance goals and test whether they interact in predicting motivation and performance (see Barron & Harackiewicz, in press). Some recent research suggests that when mastery and performance goals are tested together as predictors of performance and learning processes, performance goal effects depend on the level of an individual's mastery goals. For example, some researchers have found that students who strongly endorsed both performance and mastery goals had higher levels of self-regulation and grades than students who endorsed only one or neither goal (Ainley, 1993; Bouffard et al., 1995; Pintrich, in press; Wentzel, 1991), suggesting that mastery and performance goals can interact positively to promote adaptive behaviors.

Furthermore, in experimental contexts where single goals are typically manipulated (i.e., where goals are implied, suggested, or assigned), it is important to consider what other goals may be operative in that context. Situationally induced goals may interact with students' more characteristic beliefs or values, or with other cues present in the situation. For example, a mastery goal intervention introduced by a teacher into a classroom setting might be less effective in a school with a performance-oriented culture than it would be in a school culture that emphasizes mastery and improvement (Anderman & Maehr, 1994). The same intervention may also be more effective if students have personally adopted mastery goals. In other words, the effects of situationally manipulated goals may depend on characteristics of both the person and the situation in which the goals are manipulated. In sum, whether mastery and performance goals are evalu-

ated in correlational or experimental studies, it is critical to examine the effects of these achievement goals in the context of individuals' other goals, their personality, and the situation.

Evaluation of Performance Goals

Harackiewicz, et al. (1998) and Urdan (1997) also argued that the performance goal construct may be too general, confounding theoretically distinct and separable components. Midgley, Maehr, and colleagues have recently distinguished between two types of performance goals: an extrinsic goal and a relative ability goal. Midgley et al. (1998) and Wolters et al. (1996) have tested and extended this analysis. Students who adopt an extrinsic goal focus on obtaining external rewards (e.g., grades or parental approval) and avoiding external sanctions and punishment. In contrast, students pursuing relative ability goals are more concerned with competence as defined through social comparisons. They are motivated to outperform others and to appear more competent than others. Relative ability goals are thus centrally focused on attaining competence, whereas extrinsic goals appear to be more focused on the *consequences* of competence. In another theoretical formulation, Elliot and colleagues (Elliot & Church, 1997; Elliot & Harackiewicz, 1996) have distinguished performance-approach from performance-avoidance goals (cf. Middleton & Midgley, 1997; Skaalvik, 1997). They suggest that individuals can be positively motivated to outperform others and demonstrate their competence, or negatively motivated to avoid failure, and that these distinct components are confounded in many performance goal manipulations and measures.

Although these theoretical distinctions only partially overlap (i.e., the relative ability goal orientation seems comparable to the performance-approach goal, but extrinsic goals are quite different from avoidance goals), both Wolters and Elliot and colleagues argue that relative ability and performance-approach goals can promote motivation and performance. Interestingly, in both theoretical formulations, it is the other, non-overlapping type of performance goal (extrinsic or performance-avoidance) that is hypothesized to have the most negative effects on performance and motivation.

Nonetheless, negative evaluations of performance goals abound in the literature, almost as frequently as do negative evaluations of extrinsic motivation. For example, in an influential paper, Anderman and Maehr (1994) put the blame for adolescents' increasing motivational problems squarely on the educational system's emphasis on performance goals, arguing that it stifles children's challenge-seeking and intrinsic interest in learning. They suggested that educational reforms should focus on mastery goals and eliminate performance goals.

As Harackiewicz et al. (1998) concluded, however, there are many reasons not to condemn performance goals as completely maladaptive. First, evidence is beginning to accumulate that performance goals have positive effects, particularly in secondary and college contexts (Urdan, 1997), and theoretical models identify some mechanisms through which performance goals can promote motivation (Harackiewicz & Sansone, 1991; Sansone & Harackiewicz, 1996; Zimmerman & Kitsantas, 1997, 1999). Second, recognizing that performance goals can be pursued independently of mastery goals requires that we evaluate their effects independently of our conclusions about mastery goals, and it fur-

ther requires that we consider how performance goals work in conjunction with mastery goals, as well as with other situational and personality factors. In sum, the positive consequences of performance goals have been under-appreciated to date, and we believe it is critical to consider the possibility that performance goals can promote adaptive achievement behavior in some educational contexts.

The Relationship Between Interest and Goals

The polarization between mastery and performance goals, individual and situational interest, and intrinsic and extrinsic motivation discussed throughout this paper has had a common base related to the dichotomous view of how internal and external sources affect interest and motivation. However, emerging perspectives in the literature now suggest that academic motivation should not be evaluated on a simple intrinsic-extrinsic continuum, and that we must consider how internal and external factors might work together to facilitate motivation and learning (e.g., Harackiewicz et al., 1998; Hidi, 2000; Hidi & Berndorff, 1998; Murphy & Alexander, 2000). Corresponding to this newly emerging multidimensional view, it is important to consider how different types of goals and different forms of interest might interact and work together. Murphy and Alexander (2000) recently argued that interest and goals are not the two separate entities that one may infer from the majority of empirical investigations, but rather are intricately related constructs. For example, students who are interested in a particular topic or subject should be especially likely to adopt mastery goals in courses on those topics. On the other hand, students who enter a course with a mastery orientation, wanting to learn as much as they can and improve their knowledge and skills in that area, may be especially likely to develop interest in that topic. Thus, goals and interest may be reciprocally related (Pintrich, Ryan, & Patrick, 1998).

Even though research in the two areas originally developed without much effort to consider explicitly and integrate the relationship between goals and interest, both goal theories and interest theories have implicit views of how goals affect interests and vice versa. In interest research, some investigators assume that goals, or behavioral intentions, are forerunners of interest. For example, Krapp (1999) maintained that the development of interest is controlled through "cognitive-rational processes of intention formation or the deliberate selection of learning goals" (p.13) in addition to emotional feedback and the quality of subjective experiences during action. However, a more typical approach of interest researchers has been to implicitly consider mastery goals as natural outcomes of well-developed interests. As interests develop (for example, as situational interest becomes individual interest) mastery goals might be expected to develop correspondingly (Alexander, 1997).

In goal research, goals are presumed to guide individuals' thoughts, feelings, and behavior in academic contexts. Some goal researchers have examined the personality predictors of goal adoption (e.g., Dweck, Chiu, & Hong, 1995; Harackiewicz et al., 1997; Nicholls, et al., 1989), and others have examined individual interest as a predictor of goal adoption (e.g., Meece, et al., 1988; Pintrich et al., 1998). Most goal research, however, has concentrated on the cognitive, affective, and motivational processes initiated by the adoption of

particular goals (Dweck & Leggett, 1988), and interest has been viewed primarily as an *outcome* of goal adoption. Specifically, mastery goals have been predicted to promote task involvement, self-efficacy, and interest in activities (Dweck, 1986; Harackiewicz & Sansone, 1991; Heyman & Dweck, 1992). As researchers began to include measures of interest and intrinsic motivation in their survey studies in classrooms, evidence of a positive relationship between mastery goals and interest began to accumulate (Ames & Archer, 1988; Archer, 1994; Duda & Nicholls, 1992; Elliot & Church, 1997; Harackiewicz, et al., 1997, 2000; Meece, et al., 1988; Miller, et al., 1993; Pintrich & De Groot, 1990; Pintrich, et al., 1998; Stipek & Gralinski, 1996).

However, it is important to note that measures of interest vary widely across these studies. For example, Pintrich and colleagues (Pintrich & De Groot, 1990; Pintrich et al., 1998) have employed a measure of task value based on the Eccles-Wigfield expectancy-value model (Wigfield & Eccles, 1992) that includes utility (the usefulness of an activity for future goals) and importance (personal significance of the task) in addition to intrinsic motivation and enjoyment of the task. Thus their measure is broader than other measures of interest and intrinsic motivation. To the extent that "interest" measures include other variables, the relationship between mastery goals and interest may become clouded. Moreover, Heyman and Dweck (1992) noted that some measures of intrinsic motivation (e.g., Gottfried, 1985; Harter, 1981) directly tap mastery goals in addition to interest. We therefore advise caution in interpreting relations among these intercorrelated but conceptually distinct variables.

Experimental studies in which achievement goals are manipulated and measures of interest and intrinsic motivation are collected should allow an unconfounded analysis of the relationship between goals and interest, but the limited data to date yield a complex pattern of results. As noted earlier, most experimental studies compared mastery goals to performance goals, rather than to no-goal control groups. Thus, most studies afford relative comparisons rather than direct evidence about the effects of mastery and performance goals per se. To further complicate matters, some performance goal manipulations invoke an approach orientation whereas others invoke an avoidance orientation. A recent meta-analysis (Rawsthorne & Elliot, 1999) revealed that mastery goals enhanced intrinsic motivation relative to performance-avoidance goals, but their review also indicated that performance-approach goals can have positive effects on intrinsic motivation comparable to the effects of mastery goals. In sum, there is some evidence suggesting that mastery goals can promote interest and intrinsic motivation, but it does not preclude the possibility that some types of performance goals can also promote interest and intrinsic motivation, nor does it preclude the possibility that interest influences goal adoption.

Considering the conjectures of both goals and interest research, it seems reasonable to conclude that mastery goals and interest are related and that this relationship is reciprocal rather than unidirectional. It is therefore important to consider how mastery goals and interest interact to influence an individual's approach to, and experience of, educational tasks. In particular, the distinction between individual interest, which may be a precursor of mastery goals, and situational interest, which may be a consequence of mastery goals, may help elucidate these intertwined motivational processes.

The relationship between performance goals and interest is more complex. It is possible that students who are interested in a topic may be especially motivated to perform well and demonstrate their competence (Alexander, 1997; Medved, et al., 1999). For example, Holschuh, Hynd, and Nist (1998) reported that high school students perceived grades and interest as their major motivators. Conversely, students who enter a class with performance goals may work harder, become more involved in the material, and develop interest as a result. For example, students who enter a science museum with the goal of developing and then demonstrating their competence to peers (as in the Hidi et al., 1998, jigsaw study) may develop stronger interests in scientific concepts. In the few classroom studies in which researchers have measured mastery and performance goals independently, however, performance goals have been unrelated to interest (e.g., Elliot & Church, 1997; Harackiewicz, et al., 1997, 2000).

As already noted, the experimental literature suggests that performance goals can both enhance and undermine intrinsic motivation (Rawsthorne & Elliot, 1999). Many theorists have argued that performance goals should have negative effects on intrinsic motivation, suggesting that they produce evaluative pressure and anxiety that might interfere with interest (Butler, 1987; Nicholls, 1989; Ryan & Stiller, 1991). More recently, however, Harackiewicz and colleagues (Harackiewicz, 1989; Harackiewicz & Elliot, 1993; Harackiewicz & Sansone, 1991) suggested that performance goals can actually *promote* intrinsic motivation. Performance-approach goals represent a positive striving toward competence, and people pursuing such goals may care more about doing well at a task, view activities as more challenging, or become more involved in their work (Tauer & Harackiewicz, 1999). Any of these motivational processes may contribute to the development of interest in a task. Harackiewicz and Sansone (1991) developed a model of intrinsic motivation that identified competence valuation (caring about doing well) and task involvement as two motivational processes through which both mastery and performance goals can enhance intrinsic motivation.

In a series of experimental studies, Harackiewicz and colleagues have demonstrated that both mastery and performance goals can enhance intrinsic motivation, and that their effects are mediated through these processes. Moreover, these goal effects have been found to vary as a function of both individual differences (in achievement orientation) and context. For example, Harackiewicz and Elliot (1993) found that performance-approach goals enhanced intrinsic motivation relative to both mastery goals and a no-goals control for individuals high in achievement orientation. In contrast, mastery goals proved optimal for individuals low in achievement orientation, and these effects were recently replicated by Barron and Harackiewicz (1999). Harackiewicz and Elliot (1998) also demonstrated that the effects of performance-approach goals on intrinsic motivation vary as a function of context. Although mastery goals proved optimal for intrinsic motivation in a neutral context, performance goals enhanced intrinsic motivation for all participants relative to mastery goals and a no-goals control condition in a performance oriented context. In sum, this program of research suggests that either type of goal can promote interest, but that these goal effects depend on personality and contextual factors (Barron & Harackiewicz, in press; Harackiewicz, et al., 1998).

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Finally, there is some experimental evidence that performance and mastery goals might work together to promote interest. Zimmerman and Kitsantas (1997, 1999) found that in both a motoric dart-throwing activity and an academic writing task, skill development and interest were optimized with a combination of mastery (what they called process) and performance (referred to as outcome) goals. In particular, they found that process goals were important in skill acquisition but that switching to outcome goals promoted interest after skills were developed. This combination of mastery and performance goals enhanced interest relative to either single goal, and the results clearly indicate the importance of considering how mastery and performance goals interact to affect interest and intrinsic motivation. Furthermore, Barron and Harackiewicz (1999) recently compared a single mastery goal and a single performance goal condition to one in which both goals were assigned, for a math learning activity, and their findings also revealed benefits of multiple goal assignment for interest and intrinsic motivation.

Politics and Educational Policy

Advocating mastery goals and denouncing performance goals is based in part on ideological premises. Some theorists (e.g., Nicholls, 1989; Urdan, 1997) acknowledge that these recommendations are rooted as much in philosophy and ethics as they are in the early data generated by exciting and innovative theorizing about achievement goals, interest, and intrinsic motivation. For example, Urdan (1997) notes that he hopes that "additional evidence will emerge that supports this philosophy of schooling" (p. 136). However, in the absence of such evidence and considering the disappointing results from the field to date (cf. Midgley & Edelin, 1998; Shouse, 1996), we believe that such recommendations run the risk of abandoning tools that might in fact prove useful. We do not disagree that mastery goals are associated with a multitude of adaptive behaviors, and we support efforts to promote the adoption of mastery goals. What concerns us is the reluctance to recognize the potential additional benefits of external interventions, situational interest, and performance goals.

A second concern is the relative paucity of research aimed at promoting situational interest with educational interventions. More research is needed to develop effective interventions and identify the motivational processes through which such interventions might work. In particular, we believe it is essential to identify the factors that determine whether situational interest triggered in a situation can be maintained over time. The research reviewed in this paper suggests that our best hope will be to determine optimal combinations of mastery and performance goals, intrinsic and extrinsic motivation, and individual and situational interest. External interventions may be critically important for unmotivated students who lack interest, intrinsic motivation, and mastery goals for academic activities.

External interventions are critically important for all individuals throughout development. Consider the following social interaction, reported by Bracewell (1999), that evolves between mother and a one-year-old child:

> Initially, any response by the child (gesture, smile, babble) is taken by the mother as meeting the goal of naming the object. As the child gains more mastery over vocalizing, the mother ups the ante, so to speak, by being

more discriminating in giving positive evaluations. At the same time, the child gradually takes on what was the mother's roleCwith experience the child begins to initiate the routine with pointing and vocalizing at pictures. Eventually, both mother and child are adept at all parts of the routine. (p. 80)

It is evident from the above discussion that the child learns as a result of continuous feedback from the mother. What is less evident perhaps, is that the goals set and adjusted by the mother contribute not only to the child's word acquisition and learning, but also to the development of the child's intentions (goals). These intentions combine mastery (naming the object) and performance (gaining mother's approval) goals, and they may change throughout this interactive process. This dependence on external feedback continues throughout development. Consider a research scientist who is working on a problem. In addition to his or her mastery goal to understand and solve a fascinating problem, she or he is also considering how the results will be received and where they should be published. Depending on the feedback from other colleagues or critics who read the paper, the researcher's goals will change. These changes will involve both mastery (e.g., what has to be clarified, reanalyzed, etc.) and performance goals (e.g., to send the paper to the most prestigious journal).

All children have interests, motivation to explore, to engage, but not all children have academic interests and motivation to learn to the best of their abilities in school. For example, some children find physical activities much more enjoyable than mental ones. These children's interests may orient them towards sports, and their mastery goals coupled with their physical interests can drive them to practice swinging their bats thousands of times to perfect their hitting. It is noteworthy that they often practice skills with an eye toward ultimately winning games and competitions. Many children seem able to effectively combine mastery goals (improving their skills and striving for "personal bests") with performance goals (trying to outperform others and win), and both are probably necessary to achieve athletic excellence. Other children may be interested in more passive activities like engaging in long hours of viewing their favorite television shows. So what can educators do about children who would rather be outside the classroom playing ball or at home watching their favorite shows? We do not know how to change their individual interests and goal orientations. Over the course of development, children encounter many ideas, objects, and activities. Some of these will trigger situational interest and become enduring interests, others will not. As a first step, we need to get children engaged in activities and exposed to ideas and a variety of subject materials. Situational interests and performance goals may contribute to the triggering and maintenance of such activities. Once these activities are maintained, individuals may become personally involved, interested, and develop mastery goals.

Current goal theories need to acknowledge the importance of the roles that significant others (e.g., parents, teachers, and coaches) can play in eliciting and shaping the mastery and performance goals of their children and students. Moreover, it is important to recognize that mastery and performance goals may develop hand-in-hand and that such influences and patterns of development may continue over a lifetime of learning and continued engagement. Consideration of these issues may be especially critical to resolve the problem of how to motivate children who are uninterested in academics.

The notions of equality, individual freedom, and individual achievement are cornerstones of the American dream. However, these three notions are hard to reconcile in the first place, and certainly are troublesome from an educational point of view. Children are not equal when they enter the educational system. They should and hopefully have equal rights but they do not have equal ability, nor do they have equal motivation and equal background (Nicholls, 1979). If children start out from unequal bases, they may not be given a fair chance to achieve without external intervention. The critical question is how far can we advocate external intervention, without jeopardizing individual freedom.

Over the last two decades, there has been a strong concern with reducing external motivational influences and trying to energize intrinsic sources. The latter is a worthy goal that we endorse, but energizing intrinsic sources of motivation does not necessarily mean that all extrinsic sources are suspect. The negative evaluations of extrinsic motivators (rewards, reinforcements, etc.), performance goals, and situational interest might all be seen as natural outcomes of these concerns.

Time has come to reevaluate the situation. The original concern over the power of external influences was a reaction to behaviorism. One consequence of this reaction is that we have now ended up denying the importance of external influences including those that may be necessary to give all students a decent, if not equal, chance to achieve. Furthermore, we consider students who want to excel by trying to be among the best to have maladaptive or politically incorrect goals. Is this not an absurdity?

Note

1. Goals research has been conducted at two levels. Harackiewicz and Sansone (1991) distinguished between "target" goals that represent objective standards for performance that individuals try to attain and "purpose" goals that characterize an individual's purpose or reason for engaging in a task. Target goals have been studied in the context of self-regulation (Bandura, 1986; Zimmerman, 1989) and goal-setting research (Locke & Latham, 1990), whereas the purpose goals have been studied in the context of achievement goal research (Ames, 1992; Dweck, 1986,; Nicholls, 1989). Our review focuses on goals at the purpose level, specifically achievement goals, defined in terms of an individual's purpose or reason for achievement pursuits in a particular situation.

Acknowledgements

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