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International Encyclopedia of the Social & Behavioral Sciences

Pages 14-20

doi:10.1016/B0-08-043076-7/01812-X Cite or Link Using DOI

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**Academic Achievement Motivation,
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Available online 2002.

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Abstract

What explains individual differences in academic achievement motivation? This article outlines the answer to question in terms of three basic questions students ask themselves: Can I succeed? Do I want to do this task? And, Why am I doing this task? To the extent that individuals have positive answers to each of these questions, they will be motivated to achieve. The developmental origins of individuals' answers to these questions are summarized. In addition, specific achievement motivation pathologies (e.g., test anxiety and learned helplessness) are discussed.

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Over the years, psychologists have proposed many different components of academic motivation (see Weiner 1992 for full discussion of history of this field). Historically, this work began with efforts to understand and formalize the role of the basic need of achievement for human drive, the introduction of the idea of competence motivation, and early work on expectancies and social learning. Developmentalists such as Vaugh and Virginia Crandall, Battle, and Heckhausen translated these ideas into a developmental framework for studying the origins of individual differences in achievement motivation (e.g., Battle 1966, V C Crandall 1969, V J Crandall et al. 1962, Heckhausen 1968). Sarason and his colleagues elaborated the concept test anxiety, developed measures, and outlined a developmental theory to explain the origins of individual differences in this critical component of academic achievement motivation (e.g., Sarason et al. 1960, Hill and Sarason 1966).

Through this early period, the focus was on achievement motivation as a drive and need. With the cognitive revolution of the 1960s, researchers shifted to a much more cognitive view of motivation. Largely through the work of Weiner, attribution theory became the central organizing framework (see Weiner 1992). This article falls in this cognitive tradition.

Eccles et al. (1998) suggested that one could group these various components under three basic questions: Can I succeed at this task? Do I want to do this task? Why am I doing this task? Children who develop positive and/or productive answers to these questions are likely to engage their school work and to thrive in their school settings more than children who develop less positive and/or noneffectual answers.

1. Can I Succeed?

Eccles and her colleagues' expectancy—value model of achievement-related choices and engagement, (see Eccles et al. 1998) is depicted in Fig. 1. Expectancies and values are assumed to directly influence performance, persistence, and task choice. Expectancies and values are assumed to be influenced by task-specific beliefs such as perceptions of competence, perceptions of the difficulty of different task, and individuals' goals and self-schema. These social cognitive variables, in turn, are influenced by individuals' perceptions of other peoples' attitudes and expectations for them, by their own interpretations of their previous achievement outcomes, and by their affective memories of, or affective expectations about, similar tasks. Individuals' task-perceptions and interpretations of their past outcomes are assumed to be influenced by socializer's behavior and beliefs, by their own histories of

success and failure, and by cultural milieu and unique historical events.

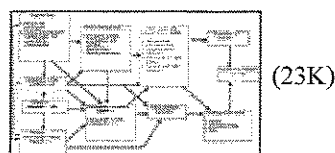


Figure 1. Model of Achievement Goals

Bandura (1997) proposed a social cognitive model of motivated behavior that also emphasizes the role of perceptions of efficacy and human agency in determining individuals' achievement strivings. He defined self-efficacy as individuals' confidence in their ability to organize and execute a given course of action to solve a problem or accomplish a task. Bandura proposed that individuals' efficacy expectations (also called perceived self-efficacy) are determined by: previous performance (people who succeed will develop a stronger sense of personal efficacy than those who do not); vicarious learning (watching a model succeed on a task will improve one's own self-efficacy regarding the task); verbal encouragement by others, and the level of one's physiological reaction to a task or situation.

Bandura (1997) proposed specific development precursors of self-efficacy. First, through experiences controlling immediate situations and activities, infants learn that they can influence and control their environments. If adults do not provide infants with these experiences, they are not likely to develop as strong a sense of personal agency. Second, because self-efficacy requires the understanding that the self produced an action and an outcome, Bandura argued that a more mature sense of self-efficacy should not emerge until children have at least a rudimentary self-concept and can recognize that they are distinct individuals—which happens sometime during the second year of life. Through the preschool period, children are exposed to extensive performance information that should be crucial to their emerging sense of self-efficacy. However, just how useful such information is likely depends on the child's ability to integrate it across time, contexts, and domains. Since these cognitive capacities emerge gradually over the preschool and early elementary school years, young children's efficacy judgments should depend more on immediate and apparent outcomes than on a systematic analysis of their performance history in similar situations.

2. The Development of Competence-related/Efficacy Beliefs

2.1. Changes in Children's Understanding of Competence-related Beliefs

Nicholls asked children questions about ability, intelligence, effort, and task difficulty, and how different levels of performance can occur when children exert similar effort (e.g., Nicholls 1990). He found four relatively distinct levels of reasoning: Level One (ages 5 to 6)—effort, ability, and performance are not clearly differentiated in terms of cause and effect; Level Two (ages 7 to 9)—effort is seen as the primary cause of performance outcomes; Level Three (ages 9 to 12)—children begin to differentiate ability and effort as causes of outcomes; Level Four—adolescents clearly differentiate ability and effort. They understand the notion of ability as capacity and believe that ability can limit the effects of additional effort on performance, that ability and effort are often related to each other in a

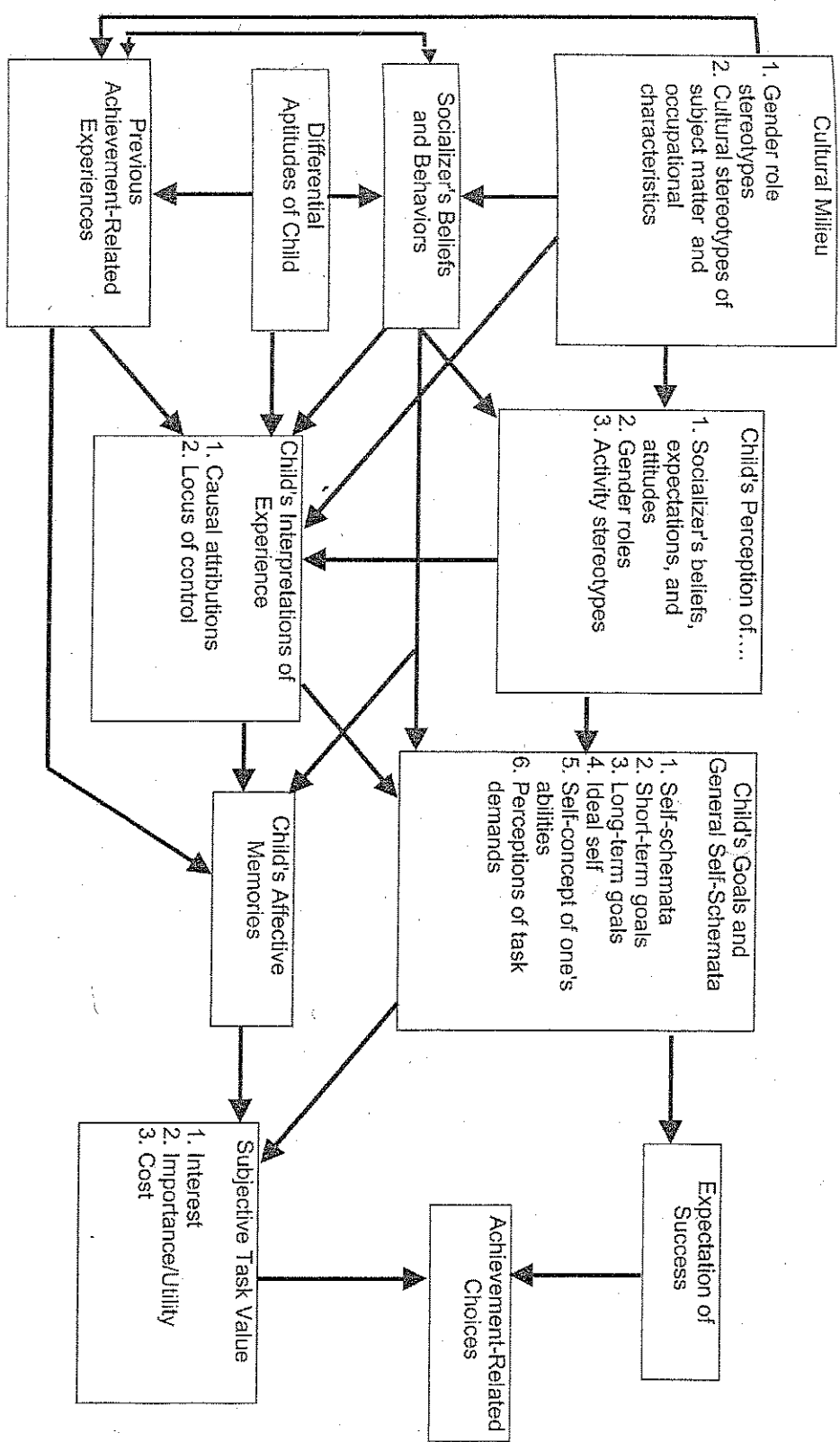


Figure 1
Model of Achievement Goals

compensatory manner, and, consequently, that a successful outcome that required a great deal of effort likely reflects limited ability.

2.2. Change in the Mean Level of Children's Competence-related Beliefs

Children's competence-related beliefs decline across the school years (see Eccles et al. 1998). To illustrate, in Nicholls (1979) most first graders (6 years old) ranked themselves near the top of the class in reading ability, and there was essentially no correlation between their ability ratings and their performance level. In contrast, the 12-year-olds' ratings were more dispersed, and their correlation with school grades was 70 or higher. Expectancies for success also decrease during the elementary and secondary school years. In most laboratory-type studies, 4- and 5- year old children expect to do quite well on a specific task, even after repeatedly failing (Parsons and Ruble 1977). Across the elementary school years, the mean levels of children's expectancies for success both decline and become more sensitive to both success and failure experiences.

These studies suggest that most children begin elementary school with quite optimistic ability-related self-perceptions and expectations, and that these beliefs decline rather dramatically as the children get older. In part this drop reflects the initially high, and often unrealistic, expectations of kindergarten and first- grade children. Other changes also contribute to this decline—changes such as increased exposure to failure feedback, increased ability to integrate success and failure information across time to form expectations more closely linked with experience, increased ability to use social comparison information, and increased exposure to teachers' expectations.

Some of these changes are also linked to the transition into elementary school. Entrance into elementary school and then the transition from kindergarten to first grade introduces several systematic changes in children's social worlds. First, classes are age stratified, making within-age-ability social comparison much easier. Second, formal evaluations of competence by 'experts' begin. Third, formal ability grouping begins usually with reading group assignment. Fourth, peers have the opportunity to play a much more constant and salient role in children's lives. Each of these changes should impact children's motivation. Parents' expectations for, and perceptions of, their children's academic competence are also influenced by report card marks and standardized test scores given out during the early elementary school years, particularly for mathematics (Alexander and Entwisle 1988).

There are significant long-term consequences of children's experiences in the first grade, particularly experiences associated with ability grouping and within class differential teacher treatment. For example, teachers use a variety of information to assign first graders to reading groups including temperamental characteristics like interest and persistence, race, gender, and social class. Alexander, et al. (1993) demonstrated that differences in first-grade reading group placement and teacher-student interactions have a significant effect (after controlling for initial individual differences in competence) on motivation and achievement several years later. Furthermore, these effects are mediated by both differential instruction and the impact of ability-group placement on parents' and teachers' views of the children's abilities, talents, and motivation (Pallas et al. 1994).

3. Theories Concerned With the Question 'Do I Want to Do This Task?'

3.1. Subjective Task Values

Eccles et al. (1983) outlined four motivational components of subjective task value: attainment value, intrinsic value, utility value, and cost. Attainment value is the personal importance of doing well on the task. Intrinsic value is the enjoyment the individual gets from performing the activity, or the subjective interest the individual has in the subject. Utility value is how well a task relates to current and future goals, such as career goals. Finally, they conceptualized 'cost' in terms of the negative aspects of engaging in the task (e.g., performance anxiety and fear of both failure and success), as well as both the amount of effort that is needed to succeed and the lost opportunities resulting from making one choice rather than another.

Eccles and her colleagues have shown that ability self-concepts and performance expectancies predict performance in mathematics and English, whereas task values predict course plans and enrollment decisions in mathematics, physics, English, and involvement in sport activities even after controlling for prior performance levels (see Eccles et al. 1998). They have also shown that values predict career choices.

3.2. Development of Subjective Task Values

Eccles and their colleagues have documented that even young children distinguish between their competence beliefs and their task values. They have also shown that children's and adolescents' valuing of certain academic tasks and school subjects decline with age.

Although little developmental work has been done on this issue, it is likely that there are differences across age in which of the components of achievement values are most dominant motivators. Wigfield and Eccles (1992) suggested that interest is especially salient during the early elementary school grades. If so, then young children's choice of different activities may be most directly related to their interests. And if young children's interests shift as rapidly as their attention spans, it is likely they will try many different activities for a short time each before developing a more stable opinion regarding which activities they enjoy the most. As children get older the perceived utility and personal importance of different tasks likely become more salient, particularly as they develop more stable self-schema and long-range goals and plans.

A third important developmental question is how children's developing competence beliefs relate to their developing subjective task values? According to both the Eccles et al. model and Bandura's self-efficacy theory, ability self-concepts should influence the development of task values. Mac Iver et al. (1991) found that changes in junior high school (ages 11–13) students' competence beliefs over a semester predicted changes in children's interests much more strongly than vice versa. Does the same causal ordering occur in younger children? Wigfield (1994) proposed that young children's competence and task-value beliefs are likely to be relatively independent of each other. This independence would mean that children might pursue some activities in which they are interested regardless of how good or bad they think they are at the activity. Over time, particularly in the achievement domain, children may begin to attach more value to activities on which they do well, for several reasons: first, through process associated with classical conditioning, the positive affect one experiences when one does well should become attached to the activities yielding success. Second, lowering the value one attaches to activities that one is having difficulty with is likely to be an effective way to maintain a positive global source of efficacy and self-esteem. Thus, at some point the two kinds of beliefs should become more positively related to one another.

3.3. Interest Theories

Closely related to the intrinsic interest component of subjective task value is the work on 'interest' (Renninger et al. 1992). Researchers in this tradition differentiate between individual and situational interest. Individual interest is a relatively stable evaluative orientation towards certain domains; situational interest is an emotional state aroused by specific features of an activity or a task. The research on individual interest has focused on its relation to the quality of learning. In general, there are significant but moderate relations between interest and text learning. More importantly, interest is more strongly and positively related to indicators of deep-level learning (e.g., recall of main ideas, coherence of recall, responding to deeper comprehension questions, representation of meaning) than to surface-level learning (e.g., responding to simple questions, verbatim representation of text). The research on situational interest has focused on the characteristics of academic tasks that create interest. Among others, the following text features arouse situational interest: personal relevance, novelty, and comprehensibility.

3.4. Developmental Changes in Interest

Several researchers have found that individual interest in different subject areas at school declines continuously during the school years. This is especially true for the natural sciences (see Eccles et al. 1978). These researchers have identified changes in the following instructional variables as contributing to these declines: clarity of presentation, monitoring of what happens in the classroom, supportive behavior, cognitively stimulating experiences, self-concept of the teacher [educator vs. scientist], and achievement pressure.

3.5. Intrinsic Motivation Theories

Over the last 25 years, studies have documented the debilitating effects of extrinsic incentives on the motivation to perform even inherently interesting activities (Deci and Ryan 1985). This has stimulated interest in intrinsic motivation. Deci and Ryan (1985) argue that intrinsic motivation is maintained only when actors feels competent and self-determined. Deci and Ryan (1985) also argue that the basic needs for competence and self-determination play a role in more extrinsically motivated behavior. Consider, for example, a student who consciously and without any external pressure selects a specific major because it will help him earn a lot of money. This student is guided by his basic needs for competence and self-determination but his choice of major is based on reasons totally extrinsic to the major itself. Finally, Deci and Ryan postulate that a basic need for interpersonal relatedness explains why people turn external goals into internal goals through internalization.

3.6. Developmental Changes in Intrinsic Motivation

Like interest and subjective task value intrinsic motivation declines over the school years (see Eccles et al. 1998), particularly during the early adolescent years (which coincide in many countries with the transition into upper-level educational institutions). Such changes lead to decreased school engagement. The possible origins of these declines have not been studied but are likely to be similar to the causes of declines in expectations, ability-related self-confidence and interest—namely, shifts in the nature of instruction across grade levels, cumulative experiences of failure, and increasing cognitive sophistication.

4. Why Am I Doing This?

The newest area of motivation is goal theory. This work focuses on why the children think

they are engaging in particular achievement-related activities and what they hope to accomplish through their engagement. Several different approaches to goal theory have emerged. For instance, Schunk (1991) focuses on goals' proximity, specificity, and level of challenge and has shown that specific, proximal, and somewhat challenging goals promote both self-efficacy and improved performance. Other researchers have defined and investigated broader goal orientations. Nicholls and his colleagues (Nicholls 1990) defined two major kinds of motivationally relevant goal patterns or orientations: ego-involved goals and task-involved goals. Individuals with ego-involved goals seek to maximize favorable evaluations of their competence and minimize negative evaluations of competence. Questions like 'Will I look smart?' and 'Can I outperform others?' reflect ego-involved goals. In contrast, with task-involved goals, individuals focus on mastering tasks and increasing their competence. Questions such as 'How can I do this task?' and 'What will I learn?' reflect task-involved goals. Dweck and her colleagues provide a complementary analysis distinguishing between performance goals (like ego-involved goals), and learning goals (like task-involved goals) (Dweck and Leggett 1988). Similarly, Ames (1992) distinguishes between the association of performance (like ego-involved) goals and mastery goals (like task-focused goals) with both performance and task choice. With ego-involved (or performance) goals, children try to outperform others, and are more likely to do tasks they know they can do. Task-involved (or mastery-oriented) children choose challenging tasks and are more concerned with their own progress than with outperforming others.

4.1. Development of Children's Goals

To date there has been surprisingly little empirical work on how children's goals develop. Nicholls (1990) documented that both task goals and ego goals are already developed by second graders. However, Nicholls also suggested that the ego-goal orientation becomes more prominent for many children as they get older, in part because of developmental changes in their conceptions of ability and, in part, because of systematic changes in school context. Dweck and her colleagues (Dweck and Leggett 1988) also predicted that performance goals should get more prominent as children go through school, because they develop a more 'entity' view of intelligence as they get older and children holding an entity view of intelligence are more likely to adopt performance goals.

It is also likely that the relation of goals to performance changes with age due to the changing meaning of ability and effort. In a series of studies looking at how competitive and noncompetitive conditions, and task and ego-focused conditions, influence pre- and elementary-school-aged children's interests, motivation, and self-evaluations, Butler (e.g., 1990) identified several developmental changes. First, competition decreased children's subsequent interest in a task only among children who had also developed a social-comparative sense of ability. Competition also increased older, but not younger, children's tendency to engage in social comparison. Second, although children of all ages engaged in social comparison, younger children seemed to be doing so more for task mastery reasons, whereas older children did so to assess their abilities. Third, whereas, 5, 7, and 10 year-old children's self-evaluations were quite accurate under mastery conditions, under competitive conditions 5- and 7-year-olds inflated their performance self-evaluations more than 10-year-olds.

5. The Development of Motivational Problems

5.1. Test Anxiety

Performance anxiety has been an important topic in motivational research from early on. In one of the first longitudinal studies, Hill and Sarason (1966) found that test anxiety both increases across the elementary and junior high school years and becomes more negatively related to subsequent grades and test scores. They also found that highly anxious children's achievement test scores were up to two years behind those of their low anxious peers and that girls' anxiety scores were higher than boys'. Finally, they found that test anxiety was a serious problem for many children.

High anxiety emerges when parents have overly high expectations and put too much pressure on their children (Wigfield and Eccles 1989). Anxiety continues to develop in school as children face more frequent evaluation, social comparison, and (for some) experiences of failure; to the extent that schools emphasize these characteristics, anxiety becomes a problem for more children as they get older.

5.2. Anxiety Intervention Programs

Earlier intervention programs emphasized the emotionality aspect of anxiety and focused on various relaxation and desensitization techniques. Although these programs did succeed in reducing anxiety, they did not always lead to improved performance, and the studies had serious methodological flaws. Anxiety intervention programs linked to the worry aspect of anxiety focus on changing the negative, self-deprecating thoughts of anxious individuals and replacing them with more positive, task-focused thoughts. These programs have been more successful both in lowering anxiety and improving performance.

5.3. Learned Helplessness

Dweck and her colleagues initiated an extensive field of research on academic learned helplessness. They defined learned helplessness 'as a state when an individual perceives the termination of failure to be independent of his responses' (Dweck and Goetz 1978, p. 157). They documented several differences between helpless and more mastery-oriented children's responses to failure. When confronted by difficulty (or failure), mastery-oriented children persist, stay focused on the task, and sometimes even use more sophisticated strategies. In contrast, helpless children's performance deteriorates, they ruminate about their difficulties, often begin to attribute their failures to lack of ability. Further, helpless children adopt an 'entity' view that their intelligence is fixed, whereas mastery-oriented children adopt an incremental view of intelligence.

In one of the few developmental studies of learned helpless behavior, Rholes et al. (1980) found that younger children did not show the same decrements in performance in response to failure as some older children do. However, Dweck and her colleagues' recent work (Burhans and Dweck 1995) suggests that some young (5- and 6-year-old) children respond quite negatively to failure feedback, judging themselves to be bad people. These rather troubling findings show that negative responses to failure can develop quite early on.

What produces learned helplessness in children? Dweck and Goetz (1978) proposed that it depends on the kinds of feedback children receive from parents and teachers about their achievement outcomes, in particular whether children receive feedback that their failures are due to lack of ability. In Hokoda and Fincham (1995), mothers of helpless third-grade children (in comparison to mothers of mastery-oriented children) gave fewer positive affective comments to their children, were more likely to respond to their children's lack of

confidence in their ability by telling them to quit, were less responsive to their children's bids for help, and did not focus them on mastery goals.

5.4. Alleviating Learned Helplessness

There are numerous studies designed to alleviate learned helplessness by changing attributions for success and failure so that learned helpless people learn to attribute failure to lack of effort rather than to lack of ability (see Fosterling 1985). Various training techniques (including operant conditioning and providing specific attributional feedback) have been used successfully in changing children's failure attributions from lack of ability to lack of effort, improving their task persistence, and performance.

Self-efficacy training can also alleviate learned helplessness. Schunk and his colleagues (Schunk 1994) have studied how to improve low-achieving children's academic performance through skill training, enhancement of self-efficacy, attribution retraining, and training children how to set goals. A number of findings have emerged from this work. First, the training increases both children's performance and their sense of self-efficacy. Second, attributing children's success to ability has a stronger impact on their self-efficacy than does either effort feedback, or ability and effort feedback. Third, training children to set proximal, specific, and somewhat challenging goals enhances their self-efficacy and performance. Fourth, training that emphasizes process goals (analogous to task or learning goals) increases self-efficacy and skills. Finally, combining strategy training, goal emphases, and feedback to show children how various strategies relate to their performance has a strong effect on subsequent self-efficacy and skill development.

6. Summary

In this article, a basic model of achievement motivation was presented and discussed. Developmental origins of individual differences in students' confidence in their ability to succeed, their desire to succeed, and their goals for achievement were summarized. To a large extent individual differences in achievement motivation are accounted for by these three beliefs. Most importantly, lack of confidence in one's ability to succeed and extrinsic (rather than intrinsic) motivation are directly related to the two major motivational problems in the academic achievement domain: test anxiety and learned helplessness. Specific interventions for these two motivational problems were discussed. Future research needs to focus on interconnections among the various aspects of achievement motivation. For example, how is confidence in one's ability to master academic tasks related to individuals' desire to master these tasks and to the extent to which the individual is intrinsically motivated to work towards mastery? More work is also needed on the impact of families, schools, and peers on the development of confidence, interest, and intrinsic motivation. Exactly how can parents and teachers support the development of high interest and high intrinsic motivation to work hard to master academic tasks? Finally, we need to know a lot more about the motivational factors that underlie ethnic and gender group differences in academic achievement patterns.

Cross References

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