with the impressive advances already made in intensive care medical technology. This volume is a giant step toward that end and toward establishing the very important field of environmental neonatology. ■

Student Motivation: Surviving Failure

Russell Ames and Carole Ames (Eds.)
Research on Motivation in Education,
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Review by
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The goal of the editors of this book is to provide state-of-the-art summaries of the research and theory on student motivation growing out of the cognitive/attributional tradition. Contributors were asked to address four basic questions:

What is the spring of action in motivated behavior? How do cognitions and attributions function within the thought-action sequence and how do they develop? What are the roles of social context and sociocultural factors in cognitive-motivational processes? How can motivational processes be modified and optimized? (pp. xi–xii)

Taken as a whole, the volume succeeds in meeting these goals. Readers are provided with a broad review of cognitive/attributional approaches to student motivation as well as reviews of two systematic programs of intervention research.

The book is divided into four major sections. The first two contain theoretical discussions of the psychology of student motivation. As an introduction to these chapters, Weiner summarizes his seminal theoretical work on motivation and emotion, points out the necessity of including both self and emotional processes in any theory of student motivation in the classroom, and warns the reader of the critical need to evaluate motivational theories in the complexity of the real classroom setting.

Nicholls elaborates further on the complexity of motivation and on the importance of the setting. According to Nicholls, there are two distinct views of ability: an undifferentiated view that equates ability with task mastery and a differentiated view that equates ability with capacity level relative to others. The particular view an individual holds affects his or her motivational goals. Which view one holds is influenced by both one's developmental stage and the characteristics of the situation one is in: Young children and individuals in task-focused situations are more likely to adopt a task mastery view of ability than are older children and individuals in ego-involved situations. Much of Nicholls's chapter focuses on the negative consequences of ego-involved learning situations for student motivation, task choice, and learning, especially among students having low attainment and low perceived ability. Because ego-involved situations activate the ability-as-capacity view, these situations, Nicholls argues, elicit one of two types of achievement goals: demonstrating high ability or avoiding demonstrating low ability. Since students with low perceived ability have little confidence in their ability, Nicholls predicts that they will adopt the second goal and engage in various strategies, such as self-handicapping, designed to avoid appearing intellectually deficient.

Covington, like Nicholls, discusses the plight of students with low attainment and low perceived ability in American classrooms. Because we attach more importance to having ability than to learning itself, these students are caught in a situation that can undermine their sense of self-worth. As a consequence, they often adopt various failure-avoidant strategies in order to maintain their sense of self-worth. Unfortunately, these strategies typically have negative consequences for the students' interest in learning as well as for their relationship with their teachers and for their actual learning. Covington suggests instructional formats to minimize these undesirable consequences.

Although he acknowledges the importance of self-worth maintenance goals, Maehr argues that achievement behavior can be motivated by other goals as well. In particular, he suggests that the decision to invest oneself in an activity depends on the meaning of the activity to the person. This meaning derives from three cognitions—self-concepts, goals, and action possibilities—and these cognitions, in turn, are shaped by past personal experience, information, sociocultural context, and the teaching-learning situation that individuals find themselves in. By drawing attention to the actor and his or her goals, Maehr's chapter broadens the conceptualization of both achievement goals and achievement behavior.

Stipek's chapter adds an important developmental perspective to the issues discussed by Weiner, Nicholls, and Covington. After outlining developmental changes in children's achievement-related cognitions, values, affects, and goals, Stipek provides an interesting analysis of the cognitive and school-related environmental changes that might precipitate developmental change, paying particular attention to the types of performance feedback children are likely to encounter at various grade levels. Her analysis suggests that the debilitating motivational strategies discussed by Nicholls and Covington are more likely to occur in the upper grade levels. Because performance feedback becomes more salient and more tied to capacity than to improvement in upper grade levels, older children are more likely to find themselves in what Nicholls calls ego-involved learning situations. As a consequence, older children are more likely than younger children to see ability as a capacity and are more likely to suffer the negative consequences of such a belief if they are students with low perceived ability.

The third section of *Research on Motivation in Education* focuses on the effects of external factors on achievement motivation and behavior. In the first of two chapters, Carole Ames provides an excellent discussion of the effects of competitive, cooperative, and individualistic goal structures on the cognitive and affective processes assumed to mediate student motivation and behavior. This chapter also summarizes an array of clever empirical studies investigating the links between goal-reward structures, motivational systems, and students' social cognitive responses to success and failure. This work has clear implications for educational design that need to be tested in more naturalistic studies.

The second chapter in this section (by Harris and Tom) discusses the influence of socioeconomic status (SES) and ethnic background on achievement motivation. Based on a meta-analysis of 43 studies, it concludes that SES has a strong influence on existing measures of need for achievement in all represented cultures. Given that the authors acknowledge the difficulty of cross-cultural comparisons, it is unfortunate that they did not discuss the implications of a cross-cultural perspective to facilitate our interpretation of their findings.

The final section of the book focuses on school-based intervention strategies. The two chapters (one by Hill and one by deCharms) summarize model research programs on educational intervention. The reader is made acutely aware of the pitfalls and triumphs one encounters over the progressive course of such research programs. Both chapters also make quite clear the need to involve teachers and other relevant school personnel actively in the design and implementation of interventions aimed at modifying teacher or student motivation.

As Ball points out in his concluding comments, the chapters illustrate the progress that has been made in both theory and research on student motivation over the last 10 to 15 years. Furthermore, several authors provide integrative analyses that illustrate both the complexity of student motivation and the advantage of looking at student motivation from several different perspectives. For example, several chapters make quite clear the need to incorporate both cognitive and affective systems in models of student motivation. Similarly, taken as a whole, the chapters point out the need to consider the fact that groups differing in age, gender, cultural background, and performance level may have different goals, different motivational orientation, and different behavioral strategies. Furthermore, several chapters discuss how these differences may interact with various features of the school environment to either facilitate or undermine learning and academic motivation.

If the book has a fault, it lies in its heavy concentration on theory and research growing out of the attribution/self-perception tradition and its limited discussion of out-of-school, out-of-classroom influences on motivation. Student motivation can be looked at in terms of three interrelated questions: (a) Can I succeed or master this task? (the expectancy question); (b) Do I want to master this task? (the value question); and (c) How

do I go about succeeding or mastering this task? (the meta-cognitive or strategy question). Most of the chapters focus primarily on the expectancy question and on behavioral strategies that students may adopt to cope with anticipated failure in the school setting. With the exception of the chapters by Maehr, Stipek, and Harris and Yoin, relatively little attention is paid to the possibility that some students don't work very hard in school because they simply do not value competence on the tasks assigned to them by their teachers or because they value other activities more. More attention to the factors that influence interest would have provided a broader perspective on student motivation. And although there is substantially less work on the question of student interest, research on effective schools and classrooms, as well as research on classroom decision-making and student choice, provides some informative beginnings (e.g., Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979).

The volume also pays little attention to the classroom characteristics that help students understand the tasks being assigned to them. A growing body of literature suggests that poor performance and frustration often result from lack of clarity about task assignments and poor meta-cognitive training (e.g., Brophy, 1979; Peterson & Walberg, 1979). Although goal-reward structures are important learning environment characteristics, both quality of teaching and classroom management have been shown to influence the extent to which students understand what is expected of them and how to get additional help if they need it.

In conclusion, this book provides an excellent overview of current attributional/social cognitive approaches to student motivation. It also contains two excellent chapters on motivational intervention research. Educational, developmental, and social psychologists wanting a comprehensive introduction or review of these issues will be well served by reading this book.

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Are Statistics Really Necessary?

Review by
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This book is a report of a study on the effects of crowding in the household. This focus was selected because the literature suggests that the effects of crowding in one's home are likely to be serious, whereas the effects of crowding in the laboratory and macroenvironments are likely to be minor and transitory. The literature also suggests that keys to understanding crowding are stimulus overload (demands) and privacy. Therefore, the study considered not only objective crowding (persons per room) but also subjective experiences of crowding, level of privacy, and social demands experienced. Thus, issues traditionally of interest to sociologists are combined with those traditionally of interest to psychologists.

The investigators expected crowding to be associated with dissatisfaction with the home, physical withdrawal from the home, psychological withdrawal in the home, lack of planning, feeling physically and psychologically drained, poor physical and mental health, poor relationships within and outside of the home, poor child care, reduced frequency of sexual intercourse, having more children than desired, decrease in practice of birth control, and miscarriage or abortion. They studied factors they expected to increase or diminish the effects of crowding: culture (Blacks vs. Hispanics vs.