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Applications of Achievement Goal Theory to Physical Education: Implications for Enhancing Motivation

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Given the widespread concern regarding the motivation of students, the paucity of research in education on motivation enhancement is surprising (Ames, 1992a; Maehr & Midgley, 1991). Recent research from an achievement goal perspective, however, has begun to address this issue. The purpose of this paper is to provide a review of the basic tenets of achievement goal theory and to analyze the research that has been conducted in physical education that focuses extensively on instructional practices and strategies that may improve the quality of school-age children's motivation. The paper will conclude by commenting on the potential utility of adopting an achievement goal approach to understanding and enhancing motivation in the physical education context.

The role of motivation in achievement contexts has become a popular topic of discussion, especially when the United States compares itself to its economic competitors (Roberts, 1992). Implicated in this discussion are U.S. schools and their role in providing graduates with the necessary competencies and motivation to achieve. The issues of lack of motivation are not exclusively reserved for academic subjects. In this era of concern over health issues and healthy lifestyles, the lack of motivation of many students to participate in regular physical activity is lamentable (Corbin & Pangrazi, 1992; Simons-Morton, 1990). Implicated again are schools and their failure to foster motivation to participate in physical activity.

Given these concerns, the amount of research in physical education on enhancing motivation is minimal. Recent research from an achievement goal perspective, however, has begun to address this issue (Roberts & Treasure, 1992; Walling & Duda, 1995). The purpose of this paper is to (a) provide a review of the basic tenets of achievement goal theory, (b) analyze the research that has

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been conducted in physical education, and (c) comment on the potential utility of adopting an achievement goal approach to understanding and enhancing motivation in the physical education context.

Achievement Goal Theory

The construct of perceived ability has been one of the most popular psychological variables attended to by motivational researchers in physical activity contexts. The predominant focus in this literature has been to ascertain the cognitive, affective, and behavioral antecedents and consequences of varying levels of perceived ability (Feltz, 1992; Roberts, 1984; Roberts, Kleiber, & Duda, 1981). For the most part, the self-percept of ability has been assumed to refer to how much ability an individual has relative to others. Recent research from an achievement goal perspective, however, suggests that more than one conception of ability exists and that an individual's cognitive and affective patterns are determined by the conception of ability adopted.

Based on developmental work with children, Nicholls concluded that the development of the concept of ability is a process of differentiating the concepts of luck, task difficulty, and effort from ability. Following a series of experiments, Nicholls (1984; Nicholls & Miller, 1984) concluded that young children were not able to differentiate between the concepts, but that by the age of 12, children were able to differentiate task difficulty, luck, and effort from ability. Two recent studies have demonstrated that the same developmental process occurs in the physical activity context (Smith & Whitehead, 1994; Walling, 1994). Nicholls (1980, 1984, 1989) contends, therefore, that two conceptions of ability manifest themselves in achievement contexts for children ages 12 and older, namely, an undifferentiated conception of ability and a differentiated conception of ability.

Reaching this developmental stage, however, does not necessarily dictate that a differentiated conception of ability will be automatically invoked by individuals over the age of 12. Rather, individuals will approach a task with personal perceptions and beliefs about the particular achievement activity in which they are engaged (Dennett, 1978; McArthur & Baron, 1983; Nicholls, 1980, 1984, 1989). The conceptions of ability they employ, and how they interpret their performance can be understood in terms of these perceptions and beliefs. In other words, these perceptions and beliefs form a personal theory of achievement at the activity (Nicholls, 1989). The adopted personal theory of achievement affects one's beliefs about how to achieve success at the activity. Therefore, people will differ as to the conception of ability they use and in how they use it based upon their personal theory of achievement.

Nicholls (1984) contends that the two conceptions of ability represent differing personal theories of achievement, and are embedded within two orthogonal achievement goal orientations. These two goal orientations are related to the conception of ability adopted by an individual, and they act as goals of action, reflecting the individual's personal theory of achievement within a particular achievement context. In this paper, the terms *task* and *ego* will be used to describe the two goal orientations (Nicholls, 1980, 1984, 1989). An individual who is task oriented utilizes an undifferentiated conception of ability, focusing on developing skills, learning new skills, and demonstrating mastery at the task. The demonstra-

tion of ability is based on maximum effort and is self-referenced. In contrast, an individual who is ego oriented utilizes a differentiated conception of ability, focusing on demonstrating ability by being successful with minimum effort and outperforming others.

In addition to reflecting personal criteria for success, individuals' personal goals are also assumed to be linked to their "worldviews" about the purposes of education in a conceptually coherent fashion (Nicholls, 1989; Nicholls, Chueng, Lauer, & Patashnick, 1989; Nicholls, Patashnick, & Nolen, 1985). A task orientation has been found to be associated with the belief that one should undergo education so that one's commitment to society and desire to continue learning should be enhanced. In contrast, an ego orientation is associated with the belief that education is a means to an end, namely, wealth and enhanced social status. This research has also indicated that the more ego oriented an individual is (i.e., the more committed she or he is to outperforming her or his peers), the more the individual sees normative ability and attempts to do better than others as causes of success. On the other hand, the more task oriented an individual is, the more she or he believes that success depends on effort, interest, and attempts to learn new skills.

Personal Goals and Physical Education

Although a considerable amount of research has focused on the relationship between personal goals and sport involvement (Duda, 1989; Duda, Fox, Biddle, & Armstrong, 1992; Duda & Nicholls, 1992; Lochbaum & Roberts, 1993; Roberts, 1984; Treasure, & Roberts, 1994), only a few studies have applied and tested the conceptual relevance of achievement goal theory to physical education. Congruent with the classroom and sport domains, what research that has been conducted has consistently shown that achievement goal orientations are pertinent to the physical education experience. Walling and Duda (1995) found that students high in ego orientation were more likely than low ego oriented students to express the belief that success in physical education is achieved when they possess high ability. In addition, high task oriented students were significantly more likely to believe that success is achieved through intrinsic interest in the activity, cooperation, and high effort than low task oriented students. Finally, high task/low ego students were the least likely to believe that success stems from learning to skillfully deceive the teacher. Congruent with the findings of Walling and Duda (1995), Papaioannou and Duda (1993) have reported a positive relationship between a task orientation and intrinsic motives for participation with a sample of Greek adolescent physical education students.

Situational Influences and Achievement Goals

While one avenue of research related to achievement goals has demonstrated that individual differences in dispositional goal orientation are associated with different motivational processes, another avenue of research has focused on situational influences. This research has examined how the structure of the environment can make it more or less likely that a particular achievement goal will be adopted. The premise of research from a situational perspective is that the nature of children's experiences and how they interpret these experiences influ-

ence the degree to which task and ego involvement is perceived as salient within the context. This is assumed to affect the achievement behaviors of children so that they adopt adaptive achievement strategies (namely, to work hard, to seek challenging tasks, or to persist in the face of difficulty) in task-involving situations and adopt maladaptive achievement strategies (namely, to seek easy tasks, to reduce effort, or to give up in the face of difficulty) in ego-involving situations (see Ames, 1992a).

In a study with academically advanced high school students, Ames and Archer (1988) reported a strong positive relationship between the perception of a task-involving motivational climate and adaptive motivational processes. Specifically, students who perceived their experiences as task involving were more likely to use effort strategies, preferred challenging tasks, liked the class more, and believed success and effort covaried. Papaioannou (1995) has reported similar findings in a physical education setting. Papaioannou found that when the physical education setting was perceived as high in task involvement and low in ego involvement, students attributed success to effort and not ability. Additionally, irrespective of level of perceived ability, the perception of high task involvement was a strong predictor of various indices of motivation in physical education, such as intrinsic motivation, interest in the lesson, perceived importance of the lesson, perceived behavioral control, intentions for high effort, and intentions for participation in all physical education classes. In contrast, perceptions of high ego involvement were either negatively related or unrelated to motivational indices.

In summary, recent research has demonstrated that two types of achievement goals determine the achievement behaviors and strategies of children and adolescents in achievement contexts including physical education. In addition, the motivational climate created by teachers also affects students' achievement behaviors and strategies.

An Interactionist Perspective

Children's cognitive and affective responses in physical education settings vary as a function of individual differences in goal orientation and as a function of perceptions of the motivational climate, but these two variables have tended to be examined separately. It has been suggested, however, that an interactionist approach that looks to combine both types of variables promises to provide a more complete understanding of children's achievement behaviors and their perceptions of the physical education experience (Papaioannou, 1995; Roberts & Treasure, 1992).

In an interactionist approach that integrates these two variables, dispositional goal orientation may be viewed as an individual difference variable that "determine[s] the a priori probability of adopting a particular goal and displaying a particular behavior pattern, and situational factors are seen as potentially altering these probabilities" (Dweck & Leggett, 1988, p. 269). For example, in a physical education class affording a choice between an ego goal and a task goal, an individual's predisposition toward one of these goals should hold sway if the cues from the situation are not too powerful. If, on the other hand, the situational cues are powerful in favor of either goal, predispositions may be overridden, and greater homogeneity among individuals may result. The stronger the predisposi-

tion, either the less likely it is to be overridden by situational cues or the stronger the situational cues need to be to override it. Alternatively, the weaker the predisposition, the more easily it can be altered by situational cues. This view of how dispositional variables and situational cues combine would lead one to expect students to behave inconsistently across situations when the strength of the situational cues varies across these situations. It is also expected that children and young adolescents, who have yet to firm up their personal theories of achievement, may be more susceptible to the structure of the motivational climate than older adolescents and adults.

In a follow-up study to their 1988 study, Ames and Archer (1990) examined changes in students' motivation patterns as the students moved to classes that were stronger or weaker in task involvement. Students' use of effective strategies, preference for challenging tasks, a positive attitude toward learning, and attributions to effort were all found to co-vary with changes in task involvement. For students who perceived an increase in the task-involving nature of the classroom from one year to the next, there was a corresponding increase in each of the motivation variables. Ames and Archer also found that both the students' use of effective strategies and a positive attitude toward the subject matter were enhanced by the number of years the students had task-involving experiences. Although this study did not assess individual differences in goal orientation, it does suggest that the longer an individual perceives the motivational climate to be more or less ego or task involving, the more likely the individuals to behave in accordance with the structure of the situation.

In the sport context, Seifrez, Duda, and Chi (1992), in a study focusing on high school varsity male basketball players, examined the degree to which intrinsic motivation and attributional beliefs are a function of perceptions of the motivational climate, dispositional goal orientation, or a combination of both variables. The findings of this study indicated that attributional beliefs were best predicted by an individual's goal orientation. Specifically, a task orientation predicted the belief that effort causes success, whereas an ego orientation predicted the belief that ability causes success. Both perceptions of the motivational climate and goal orientation predicted intrinsic motivation. While perceptions of the motivational climate and dispositional goal orientation emerged as predictors of enjoyment, dispositional goal orientation was the predominant predictor of reported effort exerted and perceived competence in basketball, whereas motivational climate significantly predicted reported tension in basketball. It appears that how one views achievement situations generalizes across situations, but how one experiences these situations may shift according to the motivational climate.

Enhancing Motivation

The issue remains, however, of how to enhance the motivation of students in physical education. Although individual remediation to enhance the quality of motivation by affecting change in a child's dispositional goal orientation may be effective, to concentrate on individual change is not very practical in most educational contexts. In addition to being expensive and time consuming, recent research suggests that children perceive the meaning and purpose of the achievement context in different ways and that these perceptions influence the goals

that children themselves adopt, thereby influencing the quality of motivation (Ames & Archer, 1988; Maehr & Midgley, 1991). Consequently, although establishing linkages between the achievement contexts, goals, and student motivational outcomes has been important, strategies to determine how physical educators may most effectively use this information to enhance motivation and foster adaptive achievement behaviors need to be developed. To this end, a growing body of literature exists to suggest that the teacher plays an active role in the construction of children's perceptions of the motivational climate and, consequently, the quality of children's motivation (see Epstein, 1988, 1989). What most researchers have suggested, therefore, is that time and effort be spent in developing strategies and instructional practices to facilitate the teacher in creating a task-involving motivational climate (Ames, 1992a, 1992b; Maehr & Midgley, 1991; Roberts, 1984; Roberts & Treasure, 1992).

Epstein (1988, 1989) has argued that various structural features of the achievement context have been consistently identified as influencing a wide range of motivational processes. These structural features are interdependent variables and, when taken together, define the motivational climate of a context. Epstein coined the acronym TARGET to represent the task, authority, reward, grouping, evaluation, and timing structures of the achievement context, and she contends that how the teacher goes about structuring the context determines, to a great extent, whether a child will perceive the context as task or ego involving. Adopting Epstein's (1989) approach, Ames and Maehr (1989) have recently developed a classroom-based intervention that has successfully facilitated a task-involving motivational climate. When compared to similar students in a control group, students who had been defined as being at risk educationally and who had been taught by teachers trained to create a task-involving climate, reported significantly higher levels of perceived ability, effective learning strategies, intrinsic motivation, and favorable attitude toward the activity. The findings suggest that the motivational climate created in the intervention classrooms enhanced adaptive achievement strategies. Thus, training teachers to structure the learning environment toward task involvement significantly affected the students' achievement behavior.

To date, only one study has been conducted in a physical education context that has attempted to manipulate the motivational climate. Adopting the interactionist perspective outlined above, Treasure (1993) hypothesized that by manipulating the structure of the physical education context so as to be strongly task or ego involving, perceptions of the motivational climate would override dispositional goal orientations and be more predictive of children's cognitive and affective responses. The participants for this study were 111 sixth- and seventh-grade children (age M = 12.1 years) attending a middle school in the Midwest of the United States. The sample consisted of 58 females and 53 males. This study focused on the instruction of basic soccer skills adapted from the English Football Association's Soccer Star scheme (Russell, 1988) and took place during 10 successive sessions of the children's daily physical education class. In order to test the hypothesis of this study, the children were randomly assigned to a task- or ego-involving treatment condition.

Adapting the intervention model developed by Ames and Maehr (1989), Treasure's (1993) study initially involved identifying those strategies that are consistent with promoting either an ego or task achievement goal in a physical

education setting and organizing these strategies into Epstein's six TARGET areas. Each strategy was then operationalized in terms of a wide range of specific instructional practices to facilitate the teacher's actual implementation of the strategies. The intervention model, therefore, afforded the comparison between an ego-involving motivational climate that emphasized normative standards of performance typically found in physical education settings with a task-involving motivational climate that focused on learning and personal improvement.

Although the manipulation of the motivational climate has been successfully achieved in a classroom setting (Ames & Maehr, 1989), Treasure's (1993) study was the first to attempt to manipulate the motivational climate of a physical education context. Consistent with research from classroom settings, the results of a series of manipulation checks suggest that situational factors and instructional demands can influence a child's perception of the physical education experience. Specifically, the findings clearly demonstrated that those children who participated in the ego treatment condition perceived the motivational climate to be ego involving, and those children who participated in the task condition perceived a task-involving motivational climate. After the success of the manipulation of the motivational climate had been confirmed, the main hypotheses of the study were addressed.

In contrast to the results of Seifrez et al. (1992), who found that, in a naturally occurring sport context, both dispositional goal orientations and perceptions of the motivational climate predicted cognitive and affective responses, the results from Treasure's (1993) study demonstrated that by manipulating the TARGET structures of the achievement context, a physical education teacher can affect the motivational climate of the achievement context to override the dispositional goal orientations of students. Congruent with the classroom-based work of Ames and Maehr (1989), the results of this study also demonstrated the ease of inducing an ego or task goal in a physical education setting. This is a significant finding. By manipulating the TARGET structures of the context, it appears that a teacher can foster a particular achievement goal and in so doing play an active role in constructing a child's physical education experience.

Consistent with recent classroom interventions (Ames & Maehr, 1989), the results of Treasure's (1993) study also demonstrated that students who perceive a motivational climate in which the demonstration of ability is based on personal improvement and effort manifest a significantly more adaptive pattern of achievement cognitions and affective responses than those who perceive a physical education context in which the demonstration of ability is based on normative ability and outperforming others. Specifically, the children in the task treatment condition indicated that they preferred engaging in more challenging tasks, believed success was the result of motivation and effort, and experienced more satisfaction with the activity than did the children in the ego treatment condition. Children who participated in the ego treatment condition, however, reported that deception was a key to success.

It has been suggested that fostering task involvement may be a particular challenge in the context of physical activity because competition is inherent in the activity (Duda, 1992). The results of this study, however, suggest that in a relatively short period of time, a teacher can structure a physical education context in such a way as to influence a child's recognition of a task involving motivational climate and, in so doing, significantly enhance the child's quality of motivation.

From a motivational perspective, Treasure's (1993) study clearly shows not only that it is possible to create a task-involving climate but also that children thrive in such a context. Task involvement enhances motivation within physical education.

Based on Treasure's (1993) findings, and the findings from the academic classes (Ames, 1992a), we would like to suggest some strategies that a physical educator could use to foster task involvement and, in so doing, to enhance the quality of children's motivation in physical education. We shall address each of Epstein's (1988, 1989) TARGET structures in turn.

Task

A central element of any achievement context is the design of tasks and learning activities. Embedded in tasks is information that children use to make judgments about their ability, their willingness to apply effort, and feelings of satisfaction (Ames, 1992a). Research has demonstrated that tasks involving variety and diversity are more likely to facilitate an interest in learning and task involvement (Marshall & Weinstein, 1984; Nicholls, 1989; Rosenholtz & Simpson, 1984). To enhance task involvement, therefore, individuals should engage in different tasks and have different assignments. As Rosenholtz and Simpson (1984) contend, working on different tasks, or having different assignments provides less opportunity, or need, for students to compare their performance to others'. Hence students develop a sense of their own ability that is not dependent on social comparison. For example, during a basketball class, students should have a choice of size of ball to use while the teacher sets different tasks for the students dependent on their level of development. Another strategy that could be utilized to capture student interest and enhance enthusiasm involves getting the children to set their own short-term, realistic goals. Through this, students will begin to understand the steps to learning complex physical tasks and, consequently, will begin to see the task as more manageable, focus on their own progress, experience success, and become more confident in their ability.

Authority

The locus of responsibility in the learning situation is often defined as the degree to which teachers involve children in decision making, and is related to adaptive or positive motivation patterns in children (Ames, 1992a). Evidence suggests that children's feelings of perceived ability tend to be higher in classrooms in which the decision-making process is shared between the teacher and student (Grolnick & Ryan, 1987; Ryan, Connell, & Deci, 1985; Ryan & Grolnick, 1986). To enhance task involvement, therefore, students should (a) be given the opportunity to participate actively in the learning process by choosing the tasks they want to learn, (b) be expected to set up equipment and tests, and (c) monitor and evaluate their own and, when appropriate, their partner's performance during testing sessions. For example, during a dribbling soccer skills test, students could work together to set up the dribbling course correctly and then monitor the performance of each other by recording times on successive trials measured with a stopwatch.

Rewards

The use of rewards and incentives is one of the more obvious aspects of a child's physical education experience. It often seems that rewards and incentives are more important than the actual activity itself. Although given with good intentions to motivate children, rewards and incentives can have paradoxical and detrimental effects when they are applied to an entire group of children with varying abilities and levels of interest (Lepper & Hodell, 1989). The research evidence from education is considerable, demonstrating the undermining effects of rewards when they are perceived as bribes or as controlling (Deci & Ryan, 1980).

Perhaps most significantly, because rewards are often public and given on a differential basis, they invite social comparison. When recognition for accomplishment or progress is private between the teacher and the child, feelings of pride and satisfaction are less likely to derive from doing better than others and are more likely to derive from self-referenced perceptions. This is seen as fostering a task-involving perception of the motivational climate. Thus, by focusing rewards on individual gains, improvement, and progress, all children can develop an appreciation of their abilities. It is vitally important that physical educators recognize that types of rewards, reasons for rewards, and distribution of rewards determine whether children develop feelings of intrinsic satisfaction and continued interest in physical activity. This is even more important for those students who are least likely to be recognized for high achievements or accomplishments.

Grouping

Results from experimental research have demonstrated how learning situations can be structured so that children work competitively, cooperatively, or individually. Each type of structure has been shown to have different consequences for children's learning and motivation (Ames, 1984). When competition or social comparison is made salient, children tend to focus on their ability and often engage in debilitating self-evaluations and cognitions (Ames, 1984). In contrast, when children work toward individual goals or within a cooperative structure, they tend to focus more on their effort, while positive affect derives from trying hard or working successfully with others (Ames & Ames, 1984). To foster a task-involving motivational climate, therefore, students should work on individual tasks, for example, how many times they can execute a skill in a set time. When individual tasks are impractical, small group cooperative tasks should be set. During a skill-testing session, students could work in pairs monitoring and recording their own and their partner's performance on the task. When large group activities are desired, the groups should be selected randomly to ensure that they are heterogeneous.

It is important to recognize that in the grouping area, educators have the opportunity to build social skills, as well as an ability to work effectively with others on physical tasks (Evans & Roberts, 1987). As students work together, these interactions broaden their range of friendships, contribute to cooperative skills, and provide opportunities to have positive social contacts. By designing tasks that involve cooperative learning, it is possible to ensure that students, who might otherwise not do well, succeed in a group situation.

Evaluation

How children are evaluated is one of the most salient features of any achievement context. The issue is not merely whether children are evaluated, but how children perceive the meaning of the evaluative information. A great deal of research has accumulated that suggests that evaluation practices can have deleterious effects on motivation when they are normatively based, public, and linked to ability assessments (Butler, 1987, 1988; Covington & Omelich, 1984; Jagacinski & Nicholls, 1984, 1987; Nicholls, 1989). Evaluation systems that emphasize social comparison and normative standards of performance evoke ego involvement that focuses children on evaluating their ability compared to their peers. As a consequence, children's self-worth (Covington, 1984), level of intrinsic interest (Butler, 1987, 1988), and perceived ability (Nicholls, 1989) are all impaired.

It must be emphasized however, that the mere availability of social comparison information is not problematic. Rather, it is when this information becomes emphasized (Jagacinski & Nicholls, 1987) that the linkages between effort, outcome, and affect become undermined. This would appear to be a very important point when one considers the pervasiveness of social comparative information within the context of physical education. In contrast, when evaluation is self-referenced, based on personal improvement, progress toward individual goals, participation, and effort, children are more likely to be task involved (Ames, 1984). Children tend to focus on their effort rather than on ability, and they tend to utilize specific task strategies that will contribute to improvement and skill mastery.

To facilitate task involvement in physical education, therefore, evaluation should involve multiple self-tests that (a) enable assessment to be based on effort and personal improvement and (b) are private. For example, when practicing a skill, students would be asked how many times they could perform the required skill in a set time and would record the number in a log. Students would then be afforded the opportunity to attempt to improve that number in subsequent attempts. At the end of the session, students would hand in their logs to the teacher. To ensure the privacy of the evaluation, the teacher would return the students' logs directly to them and would discourage social comparison.

Timing

Research from education has indicated that the pace of instruction, and the time allotted for completing tasks significantly influences children's motivation (Ames, 1992b; Epstein, 1988). Given the effect of physical and psychological maturation on performance in physical activity during childhood and adolescence, the issue of time in a physical education setting would appear to be as critical, if not more so, than in the classroom (Malina, 1988). As Ames (1992b) contends, the time dimension is closely related to other structures of the achievement context. To foster task involvement in physical education, therefore, a teacher must consider the interaction between time and the task design (e.g., how much are children asked to accomplish within specific time periods?), authority (e.g., are children allowed to schedule the rate, order, or time of completion of tasks?), grouping (e.g., is quality of instructional time equitable across groups?), and

evaluation (e.g., is there time pressure on performance?) structure of the achievement context.

Research from an achievement goal perspective, therefore, suggests that in order to foster adaptive achievement striving, physical educators should be more interested in guiding children to focus on personal improvement and effort rather than on immediate normative performance. To this end, the instructional practices and strategies briefly discussed above may assist physical educators in their efforts to construct task-involving physical education contexts.

Conclusion

Commenting on the motivational enhancement research being undertaken, Maehr and Midgley (1991) correctly state that what little motivational research is directed toward the practical world of education is primarily addressed to classroom teachers (Ames, 1992a, 1992b; Ames & Maehr, 1989). Although this classroom-based research has demonstrated that teachers can be effective in enhancing the motivation of children, Maehr and Midgley (1991) argue that efforts at the classroom level can be easily undermined by school-wide policies and procedures. Thus, a given classroom teacher can be working hard at making learning intrinsically meaningful with no competition manifest in the classroom, only to have the principal announce the establishment of a school-wide academic contest associated with external rewards. Although Maehr and his colleagues (Maehr, 1991; Maehr & Anderman, 1993; Maehr & Midgley, 1991) have begun to address the issue of how school administrators go about structuring the general motivational climate of the school, nowhere is the context of physical education addressed. Considering that research has consistently demonstrated that physical activity is a highly valued achievement activity for many students (e.g., Chase & Drummer, 1992), we would suggest that the practices and strategies adopted in the physical education context may be just as damaging to children's achievement motivation as are school-wide policies.

From an applied perspective, Treasure's (1993) study demonstrated the utility of adopting an achievement goal approach to enhancing motivation in the context of physical education. The study took the important step of translating an organized and coherent set of strategies into guidelines for instruction and the organization of the physical education context. It is important to recognize that as pertinent as it may be to provide a working taxonomy of actions that may influence the perceived ego- or task-involving nature of the physical education context, implementing any future intervention programs will be greatly facilitated by operational detail that will guide the teacher in selecting a strategy. Critically, in an achievement activity in which the overwhelming emphasis is on normative standards of performance, physical education teachers need to have resources available that will guide them in their attempts to foster task involvement. Similar to the classroom-based program of Ames and Maehr (1989), training programs need to be developed to assist physical education teachers in constructing task-involving achievement contexts. The available evidence shows that such contexts enhance motivation and may counteract the present lamented lack of motivation young people have with regard to engaging in physical activity (Corbin & Pangrazi, 1992; Simons-Morton et al, 1990).

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