School Recess and Playground Behavior

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"You say you don't see much in it all; nothing but a struggling mass of boys, and a leather ball, which seems to excite them to a great fury, as a red rag does a bull. My dear sir, a battle would look much the same to you, except that the boys would be men, and the balls iron; but a battle would be worth your looking at for all that, and so is a football match. You can't be expected to appreciate the delicate strokes of play, the turns by which a game is lost and won, - it takes an old player to do that, but the broad philosophy of football you can understand if you will. Come along with me a little nearer, and let us consider it altogether." (p. 99)

—T. Hughes (1895). *Tom Brown's School Days*.
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Acknowledgments

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Lastly, my wife and children must be acknowledged. Of course my children provide me with my most direct tutorials in rough-and-tumble play. They attest to the value of play, vigorously! Lee Galda, as always, is my sounding board, providing valued and insightful feedback on all aspects of my work.

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Children on the Playground at Recess: What's So Important?*

Introduction

The topic of this book—what children do on playgrounds during their recess periods—may seem an unlikely one for an academic work. After all, what children do on playgrounds is typically not considered important by most teachers and parents, and certainly not by scholars. This disregard for the playground, as we will see throughout this volume, is reflected in the paucity of empirical research on the topic. A notable exception to this statement is the recent volume edited by Craig Hart (1993a). While disregard for recess may typify most of those in the social science community, recess is important to a number of people, especially children, and of increasing importance to teachers, administrators, and parents.

As I see it, as a parent, a former primary school teacher, and a researcher, the recess period represents an almost unique part of the school day. By this I mean it is one of the few times when children can interact with their peers on their own terms with minimal adult intervention. Consequently, the playground represents one of the few places in primary and middle schools to observe spontaneous peer interaction. Classrooms, generally, do not have much spontaneous peer interation! So, from a scientific perspective, recess represents a unique opportunity to study children's social interaction.

Recess and playground behavior is also interesting from an educational policy perspective. While recess exists in some form in most primary schools, its role in the school curriculum, is currently being questioned. Thus, research in this area, beside being very interesting, also has real policy implications. In the remainder of this chapter I will outline what I see as the important issues in this area.

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*This chapter is an expanded version of a paper written with P. K. Smith.

What Is Recess?

School recess, or play time, is a break period, typically held outdoors, for children. Generally, children in schools from preschool through the elementary school level have recess as a scheduled part of their day. Recess periods tend not to exist in schools for adolescents, such as junior high and middle schools.

Although some form of recess is almost always present in elementary schools, the number of recess periods per day, the duration of the period(s), and the supervisory policy for recess periods typically varies greatly from one school to another. For example, in some British primary schools children have three outdoor play periods per day: morning and afternoon periods of about 15 minutes each and a dinner play period of about 80 to 90 minutes. In American elementary schools the length of the period and its placement in the school day also varies by individual school.

Additionally, the nature of supervision of children while they are on the playground varies widely. In some schools teachers are expected to supervise children during recess periods, while in other schools—even schools within the same city/school district—this task is often relegated to paraprofessionals, or to other adults who have little or no special training for the task. In short, recess is ubiquitous to the extent that most preschool and primary school children experience it as part of their school day. What they experience, however, varies widely from school to school. Generally, there is no explicit school policy, either at the school or local levels, regarding recess. The closest thing that resembles such a policy might be school or local rules regarding aggression and bullying that may take place on the playground (see Ladd & Price, 1993, and Olweus, 1993, for extended discussions of this issue). This general lack of policy for such a common and sometimes lengthy period is puzzling. In the next section the results of a national survey on recess periods conducted by the National Association of Elementary School Principals (NAESP) will be presented.

A National Survey of Recess

In 1989 the NAESP conducted a national survey on recess practices in America. (I am extremely grateful to Christine Edwards of Tarpon Springs, FL, who compiled, summarized, and provided these data.) This survey was conducted because no such data existed! The survey was sent to 51 state superintendents of school (including the

superintendent for Washington, D.C.) and responses were received from 47 states. The ubiquity of recess was substantiated by the survey: 90 percent of the school districts had some form of recess. In 96 percent of the cases recess occurred once or twice per day. Recess lasted 15 to 20 minutes in 75 percent of the cases. Data regarding supervisory practices for recess periods indicates that teachers were supervisors in 50 percent of the cases, while teacher aides supervised children in 36 percent of the cases. Of the aides, 86 percent received no formal training for supervising recess. The locus for recess policy decisions in 87 percent of the cases was within the specific school. Relatedly, recess policy was about evenly divided regarding structured versus unstructured recess periods.

In short, recess is a staple in schools. Schools themselves (that is, teachers and principals) make recess policy and the policy is equally divided between structured and unstructured periods. The structured recess periods must be very interesting when they are supervised by aides, who typically are untrained in matters pertaining to recess!

The Recess Controversy

The role of recess in schools has been recently questioned (see Hart, 1993a, 1993b, and Sutton-Smith, 1990). Embedded in the larger context of the "effective education" debate teachers and parents have been questioning the role of recess in the school day (see the *New York Times*, 8 January 1989). Sides in a pro-recess and anti-recess debate have been drawn. Two main reasons are normally addressed by those opposed to recess (see Blatchford, 1988). First, it is argued by the antis that recess detracts from needed instructional time in an already crowded and long school day. Further, antis argue that recess periods, often arbitrarily placed in the school schedule, disrupt children's sustained work patterns. The second anti-recess argument commonly advanced is that recess encourages aggression and antisocial behavior on the playground. This point will be given extensive treatment in the present volume, though it has been reviewed elsewhere (see Blatchford, 1988; Evans, 1989; Smith & Thompson, 1991). Suffice it to say for the time being that aggression on elementary and middle school playgrounds is very uncommon, accounting for less than 2 or 3 percent of children's total behavior.

The issue of loss of instructional time is related to a specific dimension of recess behavior—children's physical activity—to the extent that recess is seen by educators as either providing opportu-

nity to vent "excess energy" or exciting children to such high levels that they become inattentive, making effective class work difficult. While systematic data on this issue, as on most aspects of recess, are limited, Blatchford (1988) provides anecdotal evidence from British teachers that *both* supports and undermines this argument. Some teachers suggest that recess gives children a much needed break from their work, while other teachers complain that it is disruptive. According to recess critics, task-oriented children are forced to leave their work to take recess and return distracted. Clearly, the variation in recess forms discussed above may be responsible for this state of confusion. This issue will be addressed specifically in a later chapter.

The pro-recess arguments are almost mirror images of the antis arguments (see Sutton-Smith, 1990, for an alternative view). Generally, proponents of recess offer some folk variant of surplus energy theory whereby children need recess to "blow off steam"; this reasoning is used by parents and educators in Australia (Evans, 1989), Britain (Blatchford, 1988), and America (Parrott, 1975; Pellegrini, 1989). The argument goes something like this: when children sit still for prolonged periods of time they accumulate surplus energy; therefore physical activity in recess is necessary to "blow off," or use up, this surplus energy so that the children can then concentrate on the more sedentary tasks of the classroom. The evidence given for this surplus energy theory is scientifically questionable, and typically involves examples of children fidgeting in their seats and generally showing lower levels of attention as a function of confinement time.

The empirical record for these issues is sparse indeed. In what follows, empirical research that bears on the role of recess in schools will be briefly reviewed. This topic will be given more thorough treatment in subsequent chapters. It should be stressed here that much of this research was *not* designed to address these specific questions; instead, it was designed to address other, related issues.

An important school-level variable, playground design, will be briefly reviewed here and discussed in greater depth in Chapter 2. Next, I will review research that has examined variables that affect children's behavior on the playground at recess; I will consider both child-level variables (i.e., gender and preference for outdoors, temperament, and age) and school-level variables (i.e., recess timing). While I recognize that such a dichotomy between the child-level and school-level variables is artificial, I will present them separately for reasons of clarity.

Playground Design Effects

The relation between playground design and children's behavior has been studied at both the community (Naylor, 1985) and the school level (Frost, 1986; Hart & Sheehan, 1986). The school-level studies, with the exception of Hart and Sheehan, examine the extent to which children choose to play in certain play areas and the types of behavior exhibited while there. That children self-selected themselves into those play areas prevents a discussion of "effects" of playground design.

Frost (1986) and colleagues compared primary school children's behaviors on traditional, contemporary, and adventure playgrounds. They found that children were equally cooperative on all types of playscapes but exhibited more fantasy play on adventure playgrounds and more functional play on traditional playgrounds. These results are not consistent with studies in which children's exposure to specific playground designs was experimentally manipulated (Hart & Sheenan, 1986). *Within* contemporary playscapes, there is also significant variation. In short, children act very differently on different types on playscapes. As I will illustrate below, other variables also affect children's recess behavior.

Child Variables Affecting Recess Behavior

Gender and Indoor or Outdoor Preference

That boys are more physically active than girls is well documented (Eaton & Enns, 1986). These differences, often discussed in terms of temperament, are observed from infancy through childhood, though a decrement of activity as a function of age is observed in later childhood (Eaton & Yu, 1989). Further, higher levels of physical activity are elicited in low, as compared to high, spatial density environments (Smith & Connolly, 1980). That is, children are more active in spacious, as compared to restricted, environments. These two findings could be responsible for the fact that, given free choice, boys, more often than girls, prefer to go outdoors for recess. Where free choice does not exist, girls, when asked, would rather stay in than go out; boys, on the other hand, prefer to go out (Blatchford, 1988; Boulton & Smith, 1993; Lever, 1976; Serbin, Marchessault, McAffer, Peters, & Schwartzmann, 1993). This gender-related preference for outdoor play has been documented by means of behavioral observations during the preschool period (Harper & Sander,

1975) and during early adolescence (See Chapter 8 below; also see Serbin et al., 1993) and by means of questionnaires during the elementary school years (Blatchford, 1988).

Boys' preference for outdoor play is often explained in terms of their biological predisposition, or temperament, for high levels of activity (Harper & Sanders, 1975). This line of reasoning would lead to the hypothesis that boys, more than girls, should be more active both on the playground and in the classroom. Boys' activity level, according to this hypothesis, should be of higher intensity and longer duration than the activity levels of girls. Behavioral observations of boys' playground behavior are consistent with this hypothesis; for example, boys from the preschool through early adolescence periods engage in more vigorous physical activity, such as rough-and-tumble play and other forms of vigorous play, than do girls (Boulton & Smith, 1993; Humphreys & Smith, 1984; Ladd & Price, 1993; Maccoby & Jacklin, 1987; also see Chapters 6, 7, and 8 in this volume). Regarding physical activity in classrooms, boys are considered by their teachers to be more destructive and less attentive than girls (Serbin, Zelkowitz, Doyle, & Gold, 1990).

There are alternate explanations for these gender-related differences. Specifically, boys and girls may differentially prefer outdoor play because of socialization issues (Serbin et al., 1993). For example, girls may prefer indoor to outdoor play spaces because they are less likely to be disturbed indoors. That is, when boys and girls are on the playground together boys, because of their high levels of activity and their games, may intrude into girls' play spaces. Indeed, Maccoby and Jacklin (1987) proffer this as a reason for preschoolers' gender segregation. Anecdotal evidence presented by Blatchford (1988) suggests that girls and young children dislike outdoor play because boys, particularly older boys, invade their space with balls and charging bodies. Rather than reducing preference for outdoor play to a biological or social origin, it probably makes sense to consider these aspects of gender as being due to the interaction between socialization and hormonal events.

An interesting test of this hypothesis would be to examine outdoor preference at an all-girls school with age-segregated recess periods, where such intrusions do not exist; I would predict that girls' choice of outdoor play would increase. Restrictions on boys' vigorous games, like football, should also have this effect. Regarding alternate explanations for gender differences in classroom behavior, such differences are typically confounded by the gender of the teachers, who are often female. It is quite possible that female teachers

react differently to active behavior in boys versus girls.

We thus have reasonably good data that boys, more than girls, prefer outdoor play because of their propensity for physical activity. Preference for physical activity often varies also as a function of children's temperament and age.

The Roles of Temperament and Age in Children's Recess Behavior

Temperament is a construct used to describe relatively stable individual differences in children that have an early origin and a biological component. Children's physical activity, as I noted above, has often been treated as a dimension of temperament and can be measured behavioral, using direct observations or mechanical recorders, or by parent- or teacher-completed checklists. Behavioral observations, of course, are both expensive and time consuming. Eaton and Yu (1989) have found that teachers' rank orderings of children in terms of their motoric activity correlates very well (r = .69) with motion recorder measures.

To my knowledge, no empirical research has been conducted on the relation between children's temperament and their recess behavior, per se. Clearly, such research is needed. For example, it may be that children who are temperamentally very active have a greater "need" for recess than less active children. We do know that negative associations exist between children's activity level and self-direction in classrooms (see Martin, 1988, for a summary of temperament and classroom research). Further, we know that the longer children sit in classrooms the less attentive they become; these same inattentive children tend to be active on the playground at recess (see Chapter 5). It may be that making a provision for recess after specific periods of seat work would increase the attention of active children.

Age is another related, child-level moderator variable to the extent that physical activity seems to decline during the elementary school years (Eaton & Yu, 1989). Consequently, children's "need" for outdoor recess may decline with age. The research finding that children, as they move through adolescence, less frequently choose to play outdoors (see Chapters 9 and 10) supports this proposition. Further, gender and age seem to have interactive effects on physical activity observed on the playground at recess. Gender differences for preschool children's vigorous behavior on the playground were not observed by Smith and Hagan (1980) whereas there were significant gender differences observed by Pellegrini and Davis (see Chapter 5) in a sample of 9-year-old school children. Multiage stud-

ies, preferably longitudinal studies, where moderator variables like temperament and gender can be tracked across childhood will be necessary to address this age and gender interaction more thoroughly.

Thus, children's behavior on the playground at recess is moderated by a number of child-level variables. These child-level variables, however, interact with aspects of the larger school environment.

School-Level Variables Affecting Playground Behavior

If a poll were conducted with a large sample of professional educators and parents, asking them why recess should be included in the school curriculum, the most commonly voiced rationale would probably relate to some aspect of "surplus energy theory," such as children needing recess to "blow off steam." The validity of surplus energy theory is questionable (Smith & Hagan, 1980), for it is based on outmoded concepts linking energy and motivation. However, the idea that children may "need" or benefit from periodic changes from sedentary class work is both reasonable and rooted in other, more current, psychological theories, such as Fagen's (1981) deprivation theory of play and Berlyne's (1966) novelty theory of play. The effect of recess timing, or the amount of time that children are expected to work at their seats before going out to recess, on children's behavior has been addressed in two experimental field studies using within subjects research designs. Both these studies assumed that children's physical activity would vary as a function of their previous confinement to a sedentary environment.

Smith and Hagan (1980) studied three and four year olds in two English nursery classes. The children stayed in the classroom for shorter (45 mins.) or longer (90 mins.) periods before going outdoors for recess. Smith and Hagan based their hypotheses on the idea that the motivation for active physical play could increase as a function of deprivation. The indoor-classroom conditions were organized such that active play was almost entirely prevented. The hypotheses were supported: children were more active (level of intensity) for a longer period (duration) after the longer, compared to the shorter, confinement periods. Further, a decrement of activity on the playground was observed as a function of time spent outdoors. No gender differences were observed. The study suggested that confinement resulted in increased physical activity; physical activity, in turn, decreased as a function of time exercising.

Extending this approach to older children, Pellegrini and Davis (reported in full in Chapter 5) examined the effects of confinement on 9-year-old boys' and girls' classroom *and* playground behavior in an American elementary school. As in the Smith and Hagan study, children were confined for shorter and longer periods and the duration and intensity of their playground behavior was observed. Pellegrini and Davis also found the confinement increased the intensity of children's playground activity. They found significant gender effects at this older age: boys were more active on the playground than were girls, particularly after the longer confinement period. Further, frequency and levels of active behavior of the boys decreased as a function of time on the playground. These results support the general model outlined above: boys are more active on the playground than are girls, and their levels of activity can be increased by previously limiting their opportunity for vigorous physical activity.

This line of inquiry, though preliminary, has important implications for future research and educational policy. One pressing question for educators is determining the optimal length for recess periods. We have very little information on this topic. This information would be valuable in terms of theory (play deprivation theory and arousal theory would predict a decrement of activity in recess as a function of time) and certainly valuable for educational policy. The findings of Pellegrini and Davis suggest that children's active play at recess does not last very long; there are marked decreases after the first six or seven minutes. Future work should document the specific duration of active play and how it varies as a function of the age and gender of children, their previous confinement, and the length of the recess period.

From a policy perspective, it seems important to answer these questions in order to design recess periods that maximize benefits, in terms of subsequent attention in class, and minimize children's boredom on the playground. The anecdotal evidence provided by Blatchford (1989), from both educators and children in Britain, suggests that dinner/lunch play of over one hour is too long, to the extent that children become bored and sometimes aggressive toward the end of these periods.

However, duration of play periods and play bouts alone does not address the whole issue of possible benefits of physical activity exhibited at recess, especially if one is concerned with the physical exercise dimensions of recess. It is probably true that high-intensity physical play bouts are characterized by short durations. Some of the literature on training of muscle strength and cardiac capacity suggests