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Conflict and Playmaking: The impact of a recess enhancement program on elementary school playgrounds in New York City

by

Elizabeth K. Lake

A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

2014
This manuscript has been read and accepted for the Graduate Faculty in Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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THE CITY UNIVERSITY OF NEW YORK
Abstract

Conflict and Playmaking: The impact of a recess enhancement program on elementary school playgrounds in New York City

by

Elizabeth K. Lake

Adviser: Roger Hart

As time demands for schooling increase and children’s freedom to play is under threat, the question of how play during school recess can best be designed to serve children has grown in importance. This research examines whether a peer-training program can influence children’s activity choices and social behaviors and reduce conflict on elementary school playgrounds during recess and what aspects of such a peer-training program are important to this goal. Three general recess issues are considered: conflict, activity level and choice, and gender inclusion. The data was collected as part of a Recess Enhancement Program in a select group of 21 participating elementary schools in New York City in 2003 and 2004. The research questions focused on recess before and after the intervention, and how the program changed the dynamics of play in these schools. A mixed methods technique, including observations, interviews, focuses groups, and surveys were used. Over the course of a school year, conflict rates decreased, activity levels increased in some schools (and decreased in others), and gender inclusive play decreased. The selection of the Student Leaders was the most critical aspect of the recess program’s success, and high staff turnover provided challenges to its implementation. The dissertation concludes with a discussion of implications for how recess is planned and managed in schools and what kinds of further experimentation and research is required to address the physical, social, emotional, and cognitive aspects of play.
Acknowledgements

This dissertation is dedicated to my husband, my parents, and my extended family. Their support through this lengthy process has carried me to the finish line.

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Elizabeth Lake
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Chapter 1 Introduction and Literature Review

In the context of concerns about childhood obesity and the physical activity levels of America’s youth, as well as over conflict and bullying in play, this dissertation looks at a model for improving the recess experience on school playgrounds. It does so through a critical assessment of play activities on New York City schoolyards and what happened to these as a result of a play improvement program. The researcher took advantage of the need for a critical review of the program and designed this research project to incorporate evaluative elements that would be useful to the program administrators and in addition that would also more broadly address the question of how to go about improving schoolyard play activities. Furthermore, while this research project came out of an evaluation of the program the year before, it was not designed to function as a formal study of the program’s effectiveness. Twenty-one schools partnering with Asphalt Green, a non-profit health and fitness complex located in New York City’s Upper East Side, provided an ideal setting for such a study. Their Recess Enhancement Program was created to increase sportsmanship, teamwork, conflict resolution, physical activity, and gender inclusion.

While the physical activity aspects of recess are incredibly important in today’s world of increasing child obesity, the social and psychological aspects are also worthy of investigation. The Recess Enhancement Program was designed to influence play activities and social relationships and this dissertation focuses largely on these components. But it also takes a step outside of the program to ask what dimensions of play were not addressed by it and what additional strategies could be used in city schoolyards to improve the quality of children’s play and social experiences.
Each of us has memories, fond or otherwise, of recess time during our elementary school years. Precious minutes spent gossiping, running around, playing games with friends, catching up on homework, or perhaps just spent watching others. Over the last 50 years, interest in recess has waxed and waned as public awareness of children, play, and aggression has increased. Lately, the buzz words are less about conflict or bullying, and more about obesity and activity (Health, 2013). Nevertheless, all of these issues are important for schools to be aware of in designing appropriate opportunities for their children’s time outside of classroom instruction. This dissertation examines a program aimed at enhancing the recess experience of children in New York City elementary schools. Before covering the methods, data, and implications, a thorough journey through recent literature is necessary to provide an understanding of these issues.

**Recess**

Each school day brings multiple hours of class work and typically only a few minutes for recess. Academic curriculum is set aside, desks are emptied, and playgrounds are filled. Recess has traditionally been the time of the day in which a young child can relax, release extra energy, and/or socialize with peers. Some children are given up to an hour of free time, while others may have remarkably less time. School playgrounds are handled differently. Supervision can vary widely, with some school staff or teachers supervising hundreds of children at a time. Local climates have a considerable impact on the recess activities of children in a given school. Partly due to the diverse geography of America, some children may have a recess every day, while others may considerably less (Health, 2013).

School playgrounds can range from a dusty field to a large concrete slab. They contain anything from rusty equipment to native plants and fishponds. The environment of
the school playground can potentially influence the activities of the children using it at any
given time. If a playground consists of nothing more than a grass field, the active children
will probably spend most of their time playing soccer or football. However, if a playground
consists of a concrete surface, the active children will probably spend their time playing
basketball or handball.

There is a large literature on children’s play environments, located both in and out of
schools. Many topics have been explored such as safety (Heck, Collins, & Peterson, 2001),
length of access (Christie, Johnsen, & Peckover, 1988), design (Burgess & Fordyce, 1989;
Neill, 1982; Sutton-Smith, 1992; Weinstein & Pinciotti, 1988), physical impairments (Smyth
& Anderson, 2000), rough and tumble play (MacDonald, 1992), aggression and bullying
(O'Connell, 1999; Olweus, 1990; Pepler & Craig, 1995; Pepler, Craig, & Roberts, 1998;
Percy-Smith & Matthews, 2001; Tattum & Lane, 1989), and natural vs. traditional
playgrounds (Hayward, Rothenberg, & Beasley, 1974; Moore & Wong, 1997). Our
knowledge of play environments for children has grown substantially in the last fifty years,
made possible by contributions from the disciplines of psychology, anthropology, sociology,
and geography (Frost, 1989).

History.

When the idea of a school playground comes to mind, most people think of the
traditional playground equipment. Swings, slides, monkey bars, and maybe even a sandbox
are often included in a typical playground. An examination by Frost (1989) tells of the first
American playground in Massachusetts around 1821. It consisted of a crude assembly of
metal bars that were built mainly for boys to attain physical health. The earliest playgrounds
had a strong German influence. The emergence of the playground movement, in the late
1800’s, was concerned with engaging children with purposeful activity as part of a growing
fear by reformers that large numbers of urban immigrants might become a threat to society if they were left to themselves to play freely on the streets and sidewalks of cities. They were often equipped with tools and materials that at the time were used in various occupations (Frost, 1989).

As the years went on, playgrounds became more about recreation and fun, and less about fitness and training (Frost, 1989). In the early 1900’s there was a strong influence from educators and developmental psychologists who conceptualized play as a developmental tool. Frost also points out in his article that most playgrounds are built and maintained with good intentions but more often than not fall short of meeting children’s developmental, social, and physical needs. In fact many city school playground are very blank spaces of blacktop with little or no play equipment. Most playgrounds are developed by adults, using plans and materials that appeal to adults, and follow rules that adults have established.

Over the last hundred years, playground equipment has changed very little. Colors and materials have changed, mostly from metals to plastics. New designs claim to be innovative, but still rely on the same basic principles of slides, climbing bars, and swings. Little by little, nature has been removed from typical playgrounds. In some recess areas, children have no access to trees, flowers, bushes, sand, dirt, or water. Most children play on brightly colored plastic molded equipment, designed to entertain yet remaining static. Frost (1989) promotes the use of natural materials in a child’s play environment, and insists that the equipment in a playground should be just a small aspect of a child’s play experience.

**Play Environments Research.**

Researchers have long been interested in the physical elements of the playground and their effects on play and recreation. One such study conducted in the 80’s looked at how a new play structure changed recess. Weinstein and Pinciotti (1988) followed a school in
New Jersey as it experimented with a non-traditional play structure. Observations of student’s behavior, interviews with children, parents, and the designer, as well as satisfaction of specific criteria were all measured in this case study. The school had previously had little more than a blacktop for the children to use during recess. The school had done away with the traditional playground structures due to injury, and was actively looking for alternatives. The school built a tire structure aimed at solving problems the teachers, parents, and administrators saw as important. The bulk of the study is in the observation of the children’s behavior before and after the structure was built. Overall, the presence of the new tire playground resulted in less organized games, uninvolved behavior, and roughhousing; while dramatically increasing the amount of active play (Weinstein & Pinciotti, 1988). While the parents, administrators, and teachers were pleased with the results of the installation, some of their expectations were not met. One of their goals was to have a playground structure that would include movable objects. This goal was not met due to custodial requests specifically against them (Weinstein & Pinciotti, 1988). Loose parts on a playground are seen by some as a concern or nuisance, but are commonly the most interesting elements for children (Frost, 1989).

A key aspect of the tire playground installation was the impact it had on the children’s physical activity (Weinstein & Pinciotti, 1988). Before the tire playground, the students (especially the youngest) were observed to be fairly inactive. Observers noted that even the active children had large amounts of inactivity. This occurred mostly during the organized games, in which most participants waited for turns or for the ball to come their way. The installation of the tire playground increased the activity in the children considerably by giving them more options to explore. Weinstein and Pinciotti make the point that even when only a blacktop was present, the children found ways to occupy themselves and still
enjoyed recess. However, the researchers felt that the blacktop was insufficient in meeting the children’s needs and “it fostered passivity and uninvolvment and provided few opportunities for exploration, social and physical problem solving, and the development of physical competence” (Weinstein & Pinciotti, 1988, p. 369).

While the installation of the new tire playground improved the recess experience for the children, it fell short of enhancing the natural aspects of their playground. Moore and Wong (1997) followed an elementary school in Berkeley, California as it transitioned from a bare playground to an environmental yard in the 1970’s. Moore and Wong did an intensive ten-year study during this dramatic transformation. A UC Berkeley Laboratory School, Washington Elementary School was selected to undergo a remodeling project to turn the school playground into a truly educational and community space. Removal of asphalt and pavement followed by the introduction of numerous plant species, ponds, and diversified spaces changed the entire school’s environment, and the children’s view of playgrounds, school, and life in general (Moore & Wong, 1997).

This transformation was entirely participatory; it involved the children, teachers, and parents every step of the journey. Many changes took place in the ten years that Moore and Wong (1997) studied the playground. The children first drew drafts of desirable playground environments collectively. The children were not just the subjects of the experiment, but participants and experimenters in their own right. While retaining common playground equipment such as swings and a basketball court, the school gained numerous new objects. They gained two ponds with a connecting waterfall and stream; various meeting places (bamboo room, clubhouse, and a stage); collections of various tree specimens; a garden and composting area; and many secret niches. These newly acquired environments held a strong educational value that the teachers harnessed. Environmental lessons were conducted in and
out of the classroom, science experiments were conducted in real life habitats, and gardening and composting skills were learned in the new yard.

Moore and Wong (1997) noticed many changes during the evolution of the new playground, most of them in the children themselves. They observed an increase in the behavioral repertoires of the children, an increase in general activity or involvement, and a lessoning of social conflicts and aggression. They attribute most of the yard's success to the diversity of the entire playground. Moore and Wong acknowledged the developmental, social, and physical benefits that environmental diversity brought to the school playground. During interviews of the children during and after enrollment in Washington Elementary the children expressed a strong sense of belonging and pride towards their school. They loved their new playground, and some felt it motivated them to go to school more.

When children were asked what would happen if the yard were removed, some expressed concern over the animals that had inhabited their school, while others expressed how much more fighting would occur. Some of the children commented that “nobody likes a blacked-over yard. Kids wouldn’t behave so well with each other. Now, if they have a fight, they can go in the trees and be friends again” (Moore & Wong, 1997, p. 185). In fact, the book’s preface expresses in hindsight the lack of quantitative data during the transformation years. They suspected that there indeed was a dramatic drop in the incidence of aggressive interactions once the new playground was in place. Because of time restraints, they did not collect the appropriate data to examine its existence or statistical significance.

Unfortunately, the state of the Washington Elementary School environmental yard dwindled to little more than the original garden and a fenced-off pond (Moore & Wong, 1997). However, the trend for taking the pavement out of school playgrounds is now regenerating itself. Schools scattered about the country are trying to create their own
environmental yard, and some are finding success (Stine, 1997). The Boston Schoolyard Initiative in the 1990’s started to rebuild some of its worst sites with funds from the City of Boston, and private foundations (Meyer, 1998). Slowly, the children in Boston are gaining environmental knowledge first-hand using their own playgrounds. This program has been labeled successful because of its community-based nature and participatory design.

**New Emphasis on Obesity.**

The 80’s and 90’s brought many research studies that examined how an altered or enhanced playground space affected different aspects of recess. This pattern still holds true with a new group of researchers investigating the changing physical aspects of a playground (Brink et al., 2010; Colabianchi, Kinsella, Coulton, & Moore, 2009; Ridgers, Stratton, Fairclough, & Twisk, 2007). Colabianchi and her colleagues examined what happens to the utilization rates of renovated school playgrounds after school hours. New play structures have the potential to increase vigorous play (especially in boys), but overall rates of park usage remained low even after extensive renovation efforts (Colabianchi et al., 2009). Brink et al., (2010) found similar results when examining a group of renovated playgrounds and control schools. Renovated play spaces had higher rates of activity (both during and after school hours) than control schools, and boys had the highest rates of physical activity (Brink et al., 2010).

While researchers have had a long standing interest in recess, a recent trend has focused on obesity. Childhood (and adulthood) obesity is a national health crisis in the United States and therefore it has bled over into any area of study where children are active and potentially burning calories (Health, 2013). During this early time, the concern was largely on social skills building and healthy conflict resolution (especially in a post-Columbine world). However, a major shift occurred in the early 2000’s as researchers
became more aware of the severity of the obesity epidemic, and playgrounds naturally became the arena for that effort. (Cardon, Labarque, Smits, & Bourdeaudhuij, 2009; Mowen, Kaczynski, & Cohen, 2008; Willenberg et al., 2010). There were few research studies in the 90's that used sustained physical activity as the unit of analysis in playground research, and now researchers commonly attach devices to children to measure heart rate telemetry and accelerometry (Cardon et al., 2009; Ridgers et al., 2007).

There has been much concern in recent years about children’s health, fitness, and time engaged in physical activity. Researchers have found that only half of the children during school recess engage in moderate to vigorous physical activity, commonly referred to as MVPA (Zask, van Beurden, Barnett, Brooks, & Dietrich, 2001). Others have also found that adding elements to the playground, such as increased markings, can significantly increase the levels of physical activity in the children (Stratton, 2000). One study found that playground markings have a long-standing impact on children’s activity levels, not just an immediate effect (Ridgers et al., 2007).

A mixed-methods investigation of the physical activity levels of children in Australia found that many children chose their activities and activity levels by thinking about where they want to play (Willenberg et al., 2010). In focus groups conducted at twelve elementary schools, children reported staying on the grass and avoiding the hard concrete-type surfaces to prevent injury in case of a fall. Grassy areas were preferred by children who chose to engage in both moderate and vigorous active play. Overall, 57% of the children in this study were active during recess, with 60% and 51% of boys and girls, respectively, choosing to be active. Other notable findings include that girls had higher rates of sedentary play, and that the presence of loose parts increased rates of both moderate and vigorous active play.
A study of over 1,200 children aged six to 11 found that self or parental reports of physical activity levels met or exceeded the levels recommended by the American Academy of Pediatrics (at least 60 minutes a day) in over 70% of the sample (Fakhouri, Hughes, Brody, Kit, & Ogden, 2013). Results also showed a negative correlation between the age of the child and their reported activity level. Many of the inactive children in this study reported higher than recommended levels of non-educational screen time (tablets, computers, etc.).

Another health concern for children is safety while on a playground. Each year, tens of thousands of children injure themselves on playground equipment by exhibiting risky behavior (Schwebel, 2006). Recent behavioral applications have shown that using verbal reinforcements for safe behaviors and rewarding recess workers for safety monitoring is highly effective in decreasing risk taking behaviors on slides and other playground equipment (Heck et al., 2001; Schwebel, 2006). In these studies the objective is to provide information that ultimately leads to a playground environment that protects children from injury, and promotes good physical fitness and activity.

**Activity Choices and Types of Games.**

In 1932, Mildred Parten published her seminal work on the play patterns of young children. When infants and toddlers begin to play, Parten discovered, they primarily manipulate toys and objects by themselves, eventually playing next to each other (although with limited social interaction), often referred to as parallel play. Over time this play becomes associative and eventually cooperative with social interactions becoming more frequent and confident (Parten, 1932). By the time these children develop into middle childhood (6 – 11 years old), cooperative play is used as the foundation for more advanced rule based games commonly played during recess (Berk, 2011).
While rule-based games are common during middle childhood, less active choices are common as well. Many children engage in inactive pursuits during recess, and many of those choices are largely social. It is common to see children sitting alone on the sidelines watching others play an organized game or small groups of children using recess time to talk with friends. What might encourage a child to use recess inactively, or actively? Some researchers choose to focus on the cultural values imbued with gender as a possible explanation.

Kunesh, Hasbrook, and Lewthwaite (1992) interviewed young boys and girls about their activity preferences at school and discovered clear gender differences. While at school, their female participants reported being teased by boys and “feeling embarrassed while playing actively at school” (p. 393). As the girls got older, they reported reducing the amount of time spent in active pursuits, especially while at school (Kunesh et al., 1992). Most of the girls interviewed also remarked that they still enjoyed being active, but chose to engage in physically active games at home instead of at school. Why is it socially dangerous for a young girl to be physically active in middle childhood? Messner, in his 2002 book *Taking the Field*, proposes that the gender constructs we form early in life (by age four or five) can be witnessed in the early sports arenas. In other words, when we watch young children play freely or participate in an organized sport, we can witness the early performance of rigid dichotomous gender stereotypes. Adults often witness this enactment of early gender identity and confirm their own notions about structured differences between girls and boys. These stereotypes are accessible during organized sports especially when uniforms are worn, team names are created, and cheers, songs, or chants are included in the performances. This effect often spills over into informal sports activities and ultimately recess, where boys are seen as more powerful (Messner, 2002). In her dissertation, *Gendered Athletes*, Currier emphasizes this same theme: sports are largely masculine arenas. Girls who wish to play
sports (at any level from middle childhood, up through college, and even professional) have to weigh their desire for being physically active and being feminine (Currier, 2004).

If young girls wish to be both active and remain feminine, is there a compromise that allows them to do/be both at the same time? Klomsten, Marsh, and Skaalvik (2005) asked 357 young adolescents about their activity preferences. Using this information and data collected from the Norwegian Olympic Committee and Confederation of Sports, a listing of “masculine” and “feminine” sports was created. Masculine sports included soccer, boxing, ice hockey, and martial arts. Feminine sports included dance, horse riding, aerobics, and gymnastics. In previous Norwegian studies, Klomsten et al. (2005) points out, soccer was exclusively a masculine sport, however it is increasingly becoming a popular choice for young girls as well. Klomsten et al., also point out that ironically there are no previously feminine sports that have seen an increase in male participation.

When do children become aware that some sports are feminine and some masculine? To answer this question, Schmalz and Kerstetter (2006) polled over 400 children from the ages of eight to ten. Even by the age of eight, most of the children in their study demonstrated knowledge of gender stereotypes in sports, yet few could articulate why these stereotypes existed. Schmalz and Kerstette remarked that the children, “curb their behavior and participation choices to fit the social norm of appropriate and inappropriate behavior based on gender, from lessons learned from media, community, family, and friends, yet they lack the ability to explain or understand why” (2006, p. 550). Considering this wealth of literature on gender, encouraging children to become more physically active may be more complicated than telling them they need to burn calories. In the case of children’s school recess time there is clearly a need to experiment with the influence of changing the physical and social ecology of the spaces where they play.
Conflict

This literature area represents the researcher’s initial interest in working on playgrounds. Conflict and aggression were considered to be important topics in the late 90’s and early 2000’s when the country was concerned about the level of violence and aggression that some children and adolescents seemed capable of. Asphalt Green was also concerned with this (perceived) trend, and therefore wrote conflict resolution lessons into their Recess Enhancement Program. This section will distinguish between types of conflict and aggression, and show how playground research has focused on both concepts. Finally, a review of programs similar to REP, in that they focus (or at least emphasize) building conflict resolution skills in children, will be discussed.

Perspectives on Conflict in Childhood.

A large portion of aggression research in children has been conducted in school settings, both inside the classroom and outside on the playground (Pellegrini, 1995). Most researchers who examine aggressive behavior in children use a specific set of criteria when it comes to playground behavior, due to a unique set of social exchanges. Pellegrini outlined a set of dimensions for labeling aggressive behavior and also rough and tumble play (R & T). R & T, while different from aggressive behavior, is an important aspect of children’s interaction and play behavior. R & T usually involves an open-handed hit or jab, while aggressive behavior usually involves a closed-handed hit or jab. According to Pellegrini, most children have little trouble distinguishing between the two, yet some adults misperceive both of these behaviors as aggressive acts (Pellegrini, 1995).

While R & T is seen as a prosocial activity, aggressive behavior is almost always perceived and categorized as antisocial activity. Even though R & T and aggressive behavior are separate entities, R & T can easily develop into an aggressive interaction. Pellegrini
noticed that R & T was either followed by affiliative or aggressive, antisocial behaviors. When followed by affiliative behaviors, the R & T was coded as affiliative; when followed by aggressive behaviors, the R & T was coded as aggressive and antisocial. Gender differences in R & T may serve an evolutionary purpose. Boys who typically exhibit R & T are perceived as socially preferable. This effect is especially strong when boys choose to engage in R & T play with other boys, as they are disliked by peers when they attempt to use R & T with girls (Lindsey, 2014). This socially acceptable rough play with other boys could aide in mate selection, and ultimately the survival of one’s genes (Pellegrini, 1995). However, when girls exhibit R & T, they are seen as being antisocial. This could also be attributed to evolutionary and cultural conditioning. It is interesting to note that R & T usually takes place on soft surfaces. This is due to the fact that softer surfaces result typically in fewer injuries (Pellegrini, 1995; Willenberg et al., 2010).

A key article on aggression in school-aged children looks at the behaviors and social skills of aggressive (AC) and non-aggressive (NAC) children (Pepler, Craig, and Roberts, 1998). As explained in their article, there are many differences not only in the behavior of AC, but also in their handling of social interactions. Another variable that was examined in this study was the peer interactions with the AC and NAC. They point out in their article that AC are often perceived as not having social skills. However, most AC do have social skills, and have their own groups of friends and peers. Unfortunately, AC tend to form friendships with each other and in order to maintain those friendships they must continue their deviant behavior. The dangerous cyclical nature of aggressive friendships actually serves to reinforce the aggressive behavior, which maintains its existence in the children (Pepler et al., 1998).
Pepler et al. also pointed out key differences in the behavior of AC and NAC. AC initiate more aggressive acts than do NAC. When AC attack, they are more likely to receive a counter-attack than NAC. Also, when attacked, AC are more likely to counter-attack and are more antisocial than their non-aggressive peers. However, an interesting finding of this study shows that AC were also more prosocial than their non-aggressive peers. The researchers attributed this unexpected discovery to the high amount of activity on the part of the AC. Even though AC were more prosocial and antisocial, their proportion of prosocial behaviors was lower than that of NAC. AC spent 64% and 36% of their time engaged in prosocial and antisocial activities, respectively (Pepler et al., 1998). In contrast, NAC spent 70% and 30% of their time engaged in prosocial and antisocial activities, respectively. Interestingly, the researchers found the school environments to be highly unstructured. During their study of the schoolyard, the teachers intervened during only four percent of the observed aggressive instances. This has implications for other causes or restraints on aggressive behavior.

**Conflict Reduction Models.**

There are many ways to approach the desired reduction in childhood conflict that concerns so many school administrators. The authors of the Peacemakers program, Johnson and Johnson (2002), report that conflict is part of the daily life of a student, from kindergarten to high school. It is therefore appropriate to help children deal effectively with conflict when, not if it arises. In fact, helping the students move from a universally negative evaluation of conflict to an opportunistic view is one of the goals of the Peacemakers program. In a meta-analysis of their program, Johnson and Johnson (2002) found that in elementary school settings, conflict is most often responded to inappropriately with either “physical force” or “verbal intimidation.”
A Canadian study of the Peacemakers program initially describes the two main approaches to conflict reduction program in elementary schools: the total-student-body approach and the cadre approach (Stevahn, Munger, & Kealey, 2005). Overwhelmingly, most schools (and researchers) believe the total-student-body approach is superior on a conceptual level. When the goal is to change the culture of the school to one that deals with conflict effectively, a full scale, inclusive, implementation is a better match than one that relies on a few, select individuals to influence everyone else (Stevahn et al., 2005). This approach is not without drawbacks, however. Stevahn et al. illustrate the biggest hurdle in any school-wide program: buy-in from the teachers. Teachers are often responsible for implementing the majority of the various programs, and if they view the curriculum as an infringement on precious classroom time, it will not be successful. Often, elementary school teachers are burdened with curriculum building, increasing assessment responsibilities, and the demands that a diverse student body place on a fragile learning environment (Stevahn et al., 2005).

Regardless of these hurdles, studies show that total-student-body approaches, such as the Peacemakers program, can be an effective way to increase students’ use of conflict resolution techniques. This seems to be the unit of analysis for conflict resolution programs: an increase in use of conflict resolution techniques (see Johnson & Johnson, 1995, 2002; Stevahn et al., 2005). Because conflict is not viewed as inherently bad; looking for a reduction in conflict is not the desired outcome. Rather, using effective means of dealing with the conflict is conceptually preferred. According to these parameters, programs like Peacemakers are labeled as successful.

Are conceptualizations of conflict and bullying similar? When researchers try to affect a change in bullying, do they focus on the response to bullying, or a decrease in
bullying rates? According to recent work on bullying, the goal is to prevent bullying behaviors altogether and to bring about a culture of change in school environments. In 2003, an entire issue of *Psychology in the Schools* was devoted to the discussion of the Safe Schools Initiative. An introduction to the issue described the viewpoint of legislation aimed at making America’s schools safer (Furlong, Paige, & Osher, 2003). School safety is a national priority, and researchers recognize that it is a multifaceted problem requiring ingenuity in prevention attempts.

Separate meta-analyses of bullying programs have concluded that the majority of bullying programs studied since 1980 have shown no meaningful effect on actual bullying behaviors (Merrell, Gueldner, Ross, & Isava, 2008; Smith, Schneider, Smith, & Ananiadou, 2004). While Smith et al. focused on whole school programs, Merrell et al. included data from multiple types of programs implemented in over 15,000 students from kindergarten through high school in multiple countries. Interestingly, in both meta-analyses, most of the reviewed programs used a self-report measure of bullying as the main outcome variable. Overwhelmingly, both studies showed that bullying programs have little effect on actual behavior.

Frey et al. (2005) looked at bullying practices in third through six graders after the implementation of a program designed to increase use of prosocial behaviors and empathy. Self-reported rates of bullying and conflict did not significantly change, but observations of recess did show a decrease in bullying behaviors in participating students (Frey et al., 2005). One recent program implemented in the Midwest used a school wide Positive Behavior Support program at an elementary school (Franzen & Kamps, 2008). This program focused on encouraging and increasing positive behaviors and interactions for both teachers and students. One of the goals of the program was to decrease inappropriate behaviors, such as:
inappropriate verbal behaviors (talking back to teachers, teasing, calling names, etc.), inappropriate physical behaviors (tapping someone on head to get attention, rough play, conflict over objects, etc.), and inappropriate use of equipment (standing on jungle gym, walking up a slide, taking off shoes, etc.) to name a few (Franzen & Kamps, 2008, p. 156). After two years of implementation, rates of these inappropriate behaviors decreased in second, third, and fourth graders. In the context of the discussion, above, of rough and tumble play (R & T) however, there seems to be a lack of a universal understanding of what behaviors are problematic during recess.

In light of the literature above, the question is whether or not a recess enhancement curriculum and implementation can influence recess as a whole. Can one program increase active play, encourage students to play in mixed gender groups, and reduce conflict? What follows is a description of the recess program, the methodology of this research project, and the specific research questions that guided this dissertation.
Chapter 2 REP and Its Implementation

Asphalt Green is a not-for-profit sports and fitness complex located in New York City’s Upper East Side, near the border with East Harlem. Its facilities are situated in an old asphalt plant near the East River, which has been renovated. As a sports and fitness organization, Asphalt Green houses a state of the art gym, Olympic sized swimming pool, an outdoor regulation soccer field, and a gymnasium among other amenities. The complex is located on public land, and through an agreement with the City of New York pays no taxes in lieu of providing a third of their services to the community at no cost. Among one of their free services is a program that teaches thousands of New York City children how to swim.

Asphalt Green is located in New York City, at the time a city of eight million people. There was much controversy over the state of the educational system in the city, and much of it surrounded the equal and fair distribution of resources, trained teachers and administrators, and also the safety and condition of each school in the city’s five boroughs. Community members often decry that children in the poorer areas of the city (mainly the Harlem areas of Manhattan and the Bronx where many schools are underperforming) are simply not receiving the type of education, physical activity, and even ‘childhood’ that they deserve. Asphalt Green was aware of these disparities, and also the unique opportunity it had to serve the local community of Harlem, and it took this challenge very seriously.

An important community-based program that Asphalt Green created was the Recess Enhancement Program. Asphalt Green took notice of the need for increased physical activity in children over the last decade and became committed to using their expert
resources as a possible solution\(^1\). In 2001, they began developing a program that would aide New York City schools with recess time. They wished for the program to increase physical activity and to get kids excited about playing games and beginning a lifetime of fitness and enjoyment of sports. This new program for recess was to be a free service to local schools.

**Program Curriculum**

The program soon evolved into the Recess Enhancement Program (REP), designed to be implemented in elementary school settings. The REP package was developed to include cooperative and less-competitive games for the students to play. As REP was being put together, it was clear that the program would be about more than just games and physical activity. Several local incidents spurred Asphalt Green to include a component that would help students deal with the social aspect of recess, in addition to the physical, and therefore curricula that addressed sportsmanship, conflict resolution, and teamwork were added to the REP package.

The games in the REP package included most of the standard playground games (basketball, kickball, football, etc.) but also incorporated games that fostered more teamwork and less competition on the individual level (Alaskan kickball, Sideline basketball, etc.). The sportsmanship and conflict resolution lessons were activities meant to be completed in one or two REP sessions and were designed to help the students think more about their actions during recess. The conflict resolution lessons were designed to teach the student more about possible ways to resolve conflict, but REP never intended for the students to become the recess “police force” and put themselves in a conflict situation. The teamwork lessons required the students to work together and were intended to build camaraderie between the

\(^1\) See [www.asphaltgreen.org](http://www.asphaltgreen.org) for more details
small groups at each school. Finally, the leadership lessons were both implicit and explicit in
the curriculum. As well as formal lessons, each student participating in the program was to
have an experience leading a game and helping to organize their peers during recess.

**REP Administration**

The Recess Enhancement Program was run by two staff members at Asphalt Green.
The Program Director was in charge of hiring staff, putting together the manuals, running
staff meetings and trainings, maintaining communication with each participating school,
keeping track of funding and grant opportunities, and planning events throughout the year.
The Program Assistant was responsible for visiting each school several times during the year,
assisting staff when issues would arise, working as a Recess Specialist when necessary, and
helping the director run the program.

**Recess Specialists**

The title “Recess Specialists” was given to the staff from Asphalt Green that visited
each of the participating schools twice a week. There were six Recess Specialists hired at the
beginning of the 2003-2004 school year, in addition to the Program Assistant who worked at
a few schools at various times. The Recess Specialists attended a three-day training the week
before they were to begin the program in September. During the training they were taught
the REP games and lessons, and were given tips on how to deal with their job on several
levels: students, organization of schools, and the school staff they were going to encounter.
Most of the staff hired to be Recess Specialists had a background in sports/physical
education and/or working with children.

During the course of the school year, there were many changes in staff. By the end
of the school year, only one original staff member remained in a group of replacement
Recess Specialists. Staff members left for various reasons including: other job offers, dissatisfaction with REP work schedule, and other personal reasons.

Staff meetings were held on a regular basis during the school year at Asphalt Green. An average of two meetings was held each month, and most meetings were attended by all Recess Specialists and staff. There were a total of 14 staff meetings, each lasting approximately two hours. Meetings usually consisted of each Recess Specialist giving reports on their schools, going over REP games and new lessons to be added to the curriculum, and discussing issues that the staff felt were important to their jobs and the goals of REP.

**Student Leaders**

REP was designed to target a small sub-set of students during recess, to work with them twice a week and teach them the games and social skills. The success of the program was to depend on this group of students, who were labeled “Student Leaders.” In order for these students to be effective transmitters of the program, an additional curriculum was added to the REP package that would teach the Student Leaders how to be effective leaders and how to exhibit leadership skills. After learning the games, social and leadership skills, the Student Leaders were expected to pass on this knowledge to the other students with the help of the Recess Specialists. It was through this process that Asphalt Green envisioned change for New York City’s recess.

Student Leaders were selected by each school before the program began. Each school had their own methods for selecting students to be in the program, but guidelines for this selection were given out by Asphalt Green (see discussion of Leaders in the data for Research Question 1). Each school’s Student Leader group was different in size depending on several factors (number of total students in school, number of students present during
the participating recess period, and number of students who wanted to join the program). The Student Leader groups ranged in size from 5 to 20, with fluctuations in attendance constantly influencing the number of participants.

**School Aides**

After REP’s pilot year, it was clear that direct involvement of the school was necessary to make the program successful. One of the ways Asphalt Green tried to increase this for the next year was to involve the School Aides at each school. Asphalt Green recognized the need to have the people most responsible for controlling recess (the School Aides) join with their program. Currently, New York City public elementary school teachers are no longer responsible for supervising recess. This task has been delegated to School Aides or possibly other paraprofessionals each school has working for them. The School Aides are typically responsible for the students during lunch, taking them to out to the playground, supervising recess, and then delivering them to their appropriate teachers. In many schools, the School Aides are responsible for: setting up rules for the playground, making sure students are playing fairly, stopping any fights or conflicts, dealing with any injuries, and protecting the students from harmful elements (passersby on the street, keeping the students in during inclement weather, keeping grades separated when needed, dealing with emotional parents, etc.).

The School Aides were involved in REP by attending four trainings interspersed throughout the year. The trainings were held in November, January, March, and May at Asphalt Green’s facilities. The trainings tried to combine discussion, activities, and fellowship opportunities for the aides. The goals were to validate the School Aides’ job, empower them with effective conflict resolution skills, discuss ways to make their jobs
easier, and to teach them about REP and why the program is important. Evaluation forms were given to all in attendance after each of the four trainings and will be discussed later in the paper.

**Equipment**

In addition to training School Aides and providing Recess Specialists to work with Student Leaders, Asphalt Green provided each school with additional resources for recess. Equipment was handed out to each school in the beginning of the year, and after additional funding was secured a second batch of equipment was delivered in the late winter. The equipment included a variety of kick balls, soccer balls, footballs, basketballs, jump ropes, cones, rubber base markers, an air pump, a megaphone, and hula hoops. An equipment cage was also provided to each school that wanted one. This equipment was given to ensure that the Recess Specialists and Student Leaders would have equipment to work with during recess; however the equipment was to be made available to all students during recess time.

**Organization of REP 2003-2004**

The 2003 – 2004 school year started with 20 public elementary schools entering into a partnership with Asphalt Green. Twelve of these had continuing partnerships with Asphalt Green after having REP in their schools during the 2002 - 2003 school year, and eight were scheduled to receive the program for the first time. An additional school joined the program mid-Winter, which changed the total number of schools served to twenty-one and new schools to nine.

The first week of REP for most of the schools was September 29th – October 3rd. On the average, it took the Recess Specialists about two weeks to start working with their Student Leader groups. There were many factors that made this difficult at first (school
administrators were not prepared to start program, Student Leaders had not been selected yet, teachers were unaware of program, Student Leaders were not yet used to meeting with REP group on a regular basis, etc.) for the Recess Specialists, but eventually all Student Leader groups were up and running.

**Table 2-1**

*Timeline of Expectations for Student Leaders*

<table>
<thead>
<tr>
<th>September 29 – November 28</th>
</tr>
</thead>
</table>

1. Games

   a. Learn new cooperative REP games
   b. Knowledgeable and can explain the rules

2. Lessons (at minimum)

   a. At least 1 leadership lesson (ideal leader)
   b. At least 1 conflict resolution lesson
   c. At least 1 sportsmanship lesson
   d. Getting to Know Your School workshop

3. Practice games and lessons within the group

4. Every SL should have 2 opportunities to lead a game

In the beginning, the Recess Specialists were instructed to inform the Student Leaders about REP, teach them a few games, and begin with a few lessons. By the end of the fall, the Student Leaders were expected to be much more active in the program, as outlined by the Program Director during an early staff meeting (see Table 2-1). Asphalt Green did not expect the Student Leaders to be able to change recess immediately, but gradual change through their teaching was expected.
While the Student Leaders were learning games and lessons in the early part of the year, the program did not become fully expanded to other students until the middle of the school year. The Student Leaders had to learn the games themselves before teaching them to others, and they had to have adequate social skills and the confidence in their leadership abilities in order to be respected by their peers. New York’s severe winter weather often put a damper on outside activities during the school day, and this slowed down the program’s progress even further. Many of the public elementary schools have inadequate indoor space for recreation, and the Recess Specialists and Student Leaders had to improvise in order to continue with REP during the colder months. The program expectations for the Student Leader groups were to continue learning and playing the REP games, continue learning and practicing the social skills, and to begin the process of including other students during their meetings or on the playground (weather permitting).

By the end of the school year, the Recess Enhancement Program was to be in full swing. The Student Leader groups were expected to work with other students on a regular basis, start inclusive games on the playground, help run activities with good teamwork and sportsmanship, be good leaders during recess, and (if they wished to) they could also assist with any conflicts that arose. The Recess Specialists were also expected to fully facilitate this transformation of recess through their guidance of the Student Leader groups at each of their schools. All of this was to take place before the last week of REP, June 14th through the 18th.

Stages of Implementation – Each School’s Progress

During the pilot year of REP, the program was examined in terms of the steps that need to be taken in order for successful implementation. The Six Stages of Implementation
(see Table 2-2) were created as a result of this process and were meant to outline the program’s goals as it relates to the Recess Specialists and Student Leaders. The stages were used during the course of the 2003 – 2004 school year as tools for the Recess Specialists to gauge their progress with each school, and to help them identify where they needed to concentrate.

**Table 2-2**

*Recess Enhancement Program’s 6 Stages of Implementation*

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Recess Specialists train SL in games</td>
</tr>
<tr>
<td>2.</td>
<td>Recess Specialists train SL in lessons (social skills)</td>
</tr>
<tr>
<td>3.</td>
<td>SL play / practice games with SL group</td>
</tr>
<tr>
<td>4.</td>
<td>SL demonstrate lessons (skills) during play with SL group</td>
</tr>
<tr>
<td>5.</td>
<td>SL play new games with others</td>
</tr>
<tr>
<td>6.</td>
<td>SL demonstrate skills with others</td>
</tr>
</tbody>
</table>

The Six Stages of Implementation were also used twice during the school year to specifically gauge the level of implementation of the program for Asphalt Green. At staff meetings, the Recess Specialists evaluated each school site in terms of progress along the six stages. The assumption was that each group would begin on stage one initially and work up to ultimately spend the last part of the school year in stage five and six. Ideally, the Student Leader groups would use the skills taught through REP to help them interact with their peers during each recess period. All staff members were interviewed in January to assess how each school was progressing in the program, along with an additional assessment at the end of the school year with each available staff member. What resulted was a realistic view of
what REP was able to accomplish given the difficult task of enhancing recess in 21 New
York City elementary schools.

The following chapter considers how this and other research tools were used during
the year of data collection. After which the data itself will be presented according to the
research questions.
Chapter 3 The Research Design

At the end of the pilot school year (2002/2003), Asphalt Green and the researcher began talking about the possibility of continuing the evaluative efforts in the form of a doctoral dissertation that would also serve the interests of Asphalt Green. By collaborating on this project it would be possible to conduct a more thorough critique of the intervention than would be possible in a traditional evaluation. Also, it would be possible to construct a research project into the program itself and to ideally add participatory elements. While the program evaluation of the pilot year of REP had been focused mainly on implementation, this new research project would also examine the contributions of the program to children’s play and social interaction during recess.

Research Questions

The research questions that guided this dissertation were:

1. Can a peer-training program influence children’s activity choices and social behaviors and reduce conflict on elementary school playgrounds during recess? More specifically:
   a) Can a peer-training program influence play and social interaction?
   b) Can a peer-training program influence gender inclusion?
   c) Can a peer-training program influence playground conflict?

2. What aspects of a peer training program are successful in positively influencing play and social interaction and how might these be improved upon?

To answer these general questions a number of specific questions are examined:
1. What were the play, physical activity and social dynamics of recess before and after the intervention of the Recess Enhancement Program (REP) by the Asphalt Green organization in New York City public elementary schools?

2. What were the patterns of power and influence during recess, how did they change as a result of the program intervention and what was the impact of these changes on recess behavior?

Structure of Methods

While this research was not intended to follow a true participatory research design, (i.e., with Student Leaders designing their own interviews and surveys, and Recess Specialists creating workshops), it nevertheless involved the direct participation of the program’s consumers throughout the school year. The research methodology was designed to involve both the Recess Specialists and the Student Leaders. The researcher and Asphalt Green agreed that both of these groups of participants had insights that were valuable to the program and its growth and improvement.

The methodology of this research was largely modeled after a pretest-posttest design. Data was collected throughout the school year, but was centered on the beginning of the program in each of the Case Study schools and the end (see Cozby, 2004 for a general discussion of this methodology). The research was not designed to follow a strict pre and post model, but rather to mirror its phases of implementation. The data collection was split into three general time frames: pre-intervention (collected September – December of 2003); mid-intervention (collected January – March of 2004); and late-intervention (collected April – June of 2004).
The research methods generated both quantitative and qualitative data. Quantitative data is both desirable and practical in a research project of this size (Martin, 2008). It provides a large viewpoint of what the program is doing quantitatively, and also serves as a quick feedback mechanism, which is extremely important during this type of research endeavor. Qualitative data provided a description of the events surrounding the program, and supported the quantitative data by highlighting themes left undiscovered by surveys and behavioral maps. The bulk of the qualitative data came from the richest resource of the study, the Student Leaders themselves. As Cohen and Stern (1971) relate about the value of qualitative data, “when we have come to see children’s behavior through the eyes of its meaning to them, from the inside out, we shall be well on our way to understanding them” (p. 5).

During the 2003 – 2004 school year there were 21 schools participating in REP. This large sample of schools could present a challenge to any solo researcher. In order to deal with this challenge and still benefit from the diversity of participating schools, the research was designed to study a small sub-set of participating schools intensively. This finally resulted in three schools selected (in collaboration with Asphalt Green) as case study schools (see Table 3-1), with the remaining 18 named as survey schools. The three case study schools were representative of the larger group of REP schools (see below for School Demographics), and were all in different geographical locations in Manhattan. The case study schools were highly involved in the research, while only some data was collected at each of the survey schools. Each of the case study schools was to receive the program for the first time, while only six of the survey schools were new to the program, and the remaining 12 survey schools were partnering with REP for a second year.
Table 3-2

Research Schools by Group

<table>
<thead>
<tr>
<th>Research Group</th>
<th>School #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study Schools</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Survey Schools - New</td>
<td>4 - 9</td>
</tr>
<tr>
<td>Survey Schools - Second Year</td>
<td>10 - 21</td>
</tr>
<tr>
<td>Control School</td>
<td>22</td>
</tr>
</tbody>
</table>

In order to gain a comprehensive view of recess in elementary schools in New York City, a control school was selected to participate in the research project (School 22). This school did not receive the recess program during the 2003 – 2004 school year, but was on the waiting list for the following year. This school was selected also because it was similar to other participating schools in terms of size, student demographics, and geographic location. The principal at this school graciously allowed the research to take place even though the school was not yet receiving the program. One of the benefits of using a control school was to counteract some of the potential demand characteristics generated in the case study and survey schools (Cozby, 2004). These schools might have been affected by the elements of the program other than the curriculum (i.e. REP Staff visits, seeing the researcher at recess, filling out a recess survey etc.), and so the control school was important for providing an additional context for the data.

School Demographics

The 21 participating schools were a good representative of the types of public elementary schools New York City has to offer. Three of the participating schools were
alternative (Schools 3, 19, and 20), with smaller sizes and a different approach to learning. These three schools had an average size of 195 students. The two schools in the borough of Queens, were very large with over 1,000 students in each, while the average size for all other participating non-alternative schools was 644. The schools drew students from a wide spectrum of social-economic classes, but the majority of the schools did have high percentages of their students qualifying for free school lunches. The average percent qualifying in all the participating schools was around 70. In addition, the average ethnic makeup of the 21 participating schools was 16.4% White, 30.5% Black, 45% Hispanic, and 8.12% Asian and others. The ethnic makeup of the control school (School 22) was 2.7% White, 39.1% Black, 55.6% Hispanic, and 2.6% Asian and others.

**Sources of Data**

It was apparent early on that the research project would need data from multiple sources in order to be useful. The research relied on all of REP’s participants throughout the year: Recess Specialists, Student Leaders, School Aides (or other involved para-professionals), Principals, and other students not directly involved in the program. An additional source of data came from observations taken on each of the case study playgrounds, both at the beginning and the end of the program’s implementation.

**Recess Specialists.**

The Recess Specialists were the catalysts for the program, and could therefore claim ownership to a great deal of power and knowledge. Each of the 12 staff meetings was an opportunity to capture the progress of REP in each school, and therefore the researcher was always present. Detailed notes were taken at each meeting, handouts were copied, and any
other visuals were recorded for research purposes. There were three staff meetings in which special topics were covered, and careful notes were taken during these discussions.

The Recess Specialists were interviewed twice during the year to gain further information about the program. These interviews lasted approximately 85 minutes each, and were conducted in mid-January through early February and again in late June. The interviews covered several topics pertaining to each of their schools: progress in terms of the 6 Stages of Implementation, barriers or struggles, their opinion on REP’s impact, comments the Student Leaders had made to them, and their own recommendations for the program. There were a total of six mid-year interviews, and six interviews conducted at the end of the program.

**Student Leaders.**

The Student Leaders were an integral part of this research and without their participation most of the data would not have been possible. The Student Leaders were critical aspects both to the program (because of their dual role as learners and teachers of REP) and to the participatory elements of the research (because of their knowledge of recess, recess issues, and firsthand experience of the program). The Student Leaders were involved in the research throughout the school year. They provided information through surveys handed out mid-year and again at the end of the program and interviews conducted at the case study schools.

The first source of information from the Student Leaders was a Student Survey handed out at two different times during the year: once in February, and again in June. The Student Survey asked the Student Leader about conflicts they had either seen or been a part of during recess time.
The Student Survey was designed to document the student’s experience of conflict during recess, and discover if it is experienced firsthand, or witnessed. The first page listed numerous types of conflict situations, and asked the student to check a box for “Last time on playground,” “This year,” “Ever,” or “Never” if they had seen any of the conflicts during the appropriate time periods. The second page was identical, but asked the student to check the boxes for conflicts they themselves had been involved in. In order to make the distinction clear between the first two pages, they were printed on different color paper.

In February, the Recess Specialists handed out the Student Surveys to their Student Leader groups and had them fill them out during one (or sometimes two) REP meeting(s). Part one of the survey asked about conflicts that the student had seen and been a part of in recent time. There were a total of 42 situations that each student had to respond to, first for conflicts they had seen and then for conflicts they had been a part of. For analysis, the survey questions were put into discrete categories: verbal aggression, verbal conflict, sportsmanship, physical aggression, and conflicts with adults. Each category was labeled yes if the student replied that they had experienced at least one type of that conflict during recent recess experiences.

In June, the Student Leaders filled out the Student Survey during the Field Day at Asphalt Green. This version was very similar to the first, with the exception of a simpler range of questions for the conflicts. The students were asked to put a check if they had experienced the conflict “Last time on playground” or “Last 5 times on playground.”

The second source of information from the Student Leaders was a set of interviews done at the three case study schools. A total of 13 Student Leaders were interviewed (see

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2 In fact, the first page was white, while the second was green, Asphalt Green’s signature color.
Table 3-3). Four of the Student Leaders were interviewed twice (once at the beginning of the program, and then again at the end), these Student Leaders came from Schools 1 and 2 (two Student Leaders from each school). The other nine Student Leaders were interviewed once each, with eight from School 3 and one from School 2.

**Table 3-3**

**Student Leader Interview Demographics**

<table>
<thead>
<tr>
<th></th>
<th>Total Student Leaders Interviewed</th>
<th>Gender of Student Leaders</th>
<th>Grade of Student Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>School 1</td>
<td>2</td>
<td>Male (1) Female (1)</td>
<td>4th (1) 5th (1)</td>
</tr>
<tr>
<td>School 2</td>
<td>3</td>
<td>Male (2) Female (1)</td>
<td>4th (1) 5th (2)</td>
</tr>
<tr>
<td>School 3</td>
<td>8</td>
<td>Male (4) Female (4)</td>
<td>5th (7) 6th (1)</td>
</tr>
<tr>
<td><strong>Totals:</strong></td>
<td><strong>13 Total</strong></td>
<td><strong>Male (7) Female (6)</strong></td>
<td><strong>4th Grade (2)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>5th Grade (10)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>6th Grade (1)</strong></td>
</tr>
</tbody>
</table>

There were two interview protocols used in this project. The first, a pre-interview, was given early in the program (see Appendix A). For Schools 1 and 2, this took place in December, when the program was still in its beginning phase. For School 3, the pre-interviews took place as the first two groups of Student Leaders were in the program. The pre-interview was administered to ten Student Leaders. The second, a post-interview, was given during the final stages of the program in all three schools, in June of 2004 (see Appendix B). This interview was administered to a total of seven Student Leaders.

The pre-interview protocol was designed to establish the state of recess during the early stages of REP and to provide qualitative depth that would enhance the other sources of data. It examined the following: the typical activities of the Student Leader during recess,
status of conflict during recess, general problems with recess, what the School Aides are
doing during recess, and the Student Leader’s general thoughts about the program. During
the pre-interview, a map of each Student Leader’s playground was used to gather additional
data. Each interview involved the Student Leader drawing his or her typical recess activities
on the map.

The post-interview protocol was designed to track the changes in recess due to the
program, and also to allow the Student Leaders to actively critique the program in the hopes
that it would lead to a stronger implementation in years to come. The protocol examined the
following: the typical activities of the Student Leader during recess, how these activities have
changed over the year as a result of the program, how the program has affected the Student
Leader’s perception of their own abilities, feelings, and social interactions, how the program
has affected overall recess, the status of bullying during recess and the program’s impact on
bullies, and finally the Student Leader’s recommendations for the program. As in the pre-
interview, a map of the Student Leader’s playground was used during the post-interview.
Each of these interviews also involved the Student Leader drawing his or her typical recess
activities on the map.

**School Aides.**

Elementary School Aides hold a variety of positions and perform many duties over
the course of a typical school day. School Aides can be seen: guiding the children to and
from busses at all times of the day; lining up children before school; working in the office
doing clerical duties; making announcements over the intercom; working one on one with
special needs students; monitoring the cafeteria during lunch time; and also supervising
recess time. It is this role as recess supervisor that made the School Aides especially valuable
for understanding of REP’s influence.
During the first year of implementation, Asphalt Green realized that the School Aides would be a powerful ally in the attempt to transform recess in elementary schools. As a result, during the second year of implementation, Asphalt Green made a greater effort to incorporate them into the program. This was accomplished by holding four events throughout the year specifically designed to enhance School Aides’ training on recess topics. These trainings were spaced throughout the year, and involved School Aides from numerous participating schools. The trainings provided a unique opportunity for School Aides to meet each other and informally discuss their jobs in a professional setting. The researcher attended each of the four trainings and took notes on the types of issues they expressed concern over, and how they approach their jobs. At the end of each of the trainings, a simple evaluation form (created by Asphalt Green) was given to each participant to assess the effectiveness and helpfulness of the trainings. This data was used only by Asphalt Green to gauge the effectiveness of their trainings, and was not used in the research analysis.

The School Aides were also asked to fill out a short survey twice during the school year. The first was filled out in the beginning of the program, and assessed the following issues about an average recess period: equipment taken out, equipment brought by students, common activities, common problems/concerns, and what they would like to see change about recess. The first form also asked the School Aide to identify how long they had worked at their present school. There were a total of 18 surveys filled out by School Aides at 14 schools, including three surveys from the control school.

At the end of the school year, every REP school was given another set of School Aide surveys (through the mail, or at the last School Aide Training), as well as the control school. The second survey asked the School Aides to provide information about: their jobs, an average day at recess, how they think recess had changed over the year, further needs they
have for their position, and also provided a space for additional comments. Specifically, they were asked about the following situations during recess: physical fighting, verbal arguments, girls and boys playing together, arguments over equipment, students sharing equipment, cheating during a game, students resolving their own conflict, teasing or bullying of student, fighting over an area or space, students showing good sportsmanship, and students following the rules.

There were a total of 38 surveys returned from 16 schools, which includes four surveys from the control school. The School Aides’ responses were split into three groups: 27 REP School Aides (those who supervise the recess period that is directly involved with REP), seven non-REP School Aides (those who supervise recess that is not directly involved with REP, but who are at REP schools), and four Control School Aides (which had no REP running in its school).

**Principals.**

While elementary school principals are not typically supervising recess every day, they are still valuable sources of information about how recess can affect the whole school climate. Each principal had his or her own goals for recess, especially given that each agreed to partner with the program in the beginning of the school year. Asphalt Green recognized the power of a school principal who is completely invested in the program, and therefore the Program Director and Program Assistant held continuous meetings with principals from the schools and also agreed to send them surveys to obtain additional data.

Every REP school was given a principal survey at the beginning of the school year (October 2003), and nine of the 20 participating schools returned the surveys to Asphalt Green. Also, the control school was given a principal survey, which was returned during the same time period. There were a total of 10 pre-surveys filled out by principals (48% return
rate), which provided detailed information about each school, recess, their playgrounds, and administrative concerns about recess time.

At the end of the school year, every REP school was given another principal survey, and 10 participating schools returned the surveys to Asphalt Green. Also, the control school was given a principal survey, which was returned during the same period. There were a total of 11 post-surveys filled out by principals (52% return rate), which provided information about administrative concerns and how they had changed over the year, the administrative assessment of REP’s impact, and also further comments or concerns about REP.

**Other Students.**

The students at REP schools who were not Student Leaders (referred to as Other Students hereafter) were involved in the research at different levels depending on which schools they attended. Other Students at case study schools were observed at recess early and late in the school year as part of the observational data collection. These students also filled out the Student Surveys in February and again at the end of the school year, but only if they were in the same recess period as REP. Other Students at survey schools were never observed during recess and no direct data was ever collected from them. Recess Specialists were asked about the way the program influenced Other Students in their interviews, and their interaction with the Student Leaders and the program in general.

Other Students at the Control and Case Study schools participated in the same surveys handed out to the Student Leaders in February and again in June. Other Students in the same grades as the Student Leaders were asked to fill out the surveys during class time.

**Recess Observations**

A last piece of data was collected exclusively at the three case study schools. Observations were taken during recess time in the beginning and end of the program by the
researcher. These observations used a hand-sketched template of each playground, and systematically recorded the types of activities that occurred, as well as the gender of the participants and how large the group involved was. The observations were only taken on a non-REP day; that is, a day in which the Recess Specialists were not visiting the school and the Student Leaders were not meeting as a group. The observations were taken at Schools 1 and 2 October through December, and again in May and June. The observations were taken at School 3 in January through March, and again in May and June. There were a total of seven observations taken at School 1, six observations taken at School 2, and six observations taken at School 3.

The process of collecting the observations was as follows. The researcher first visited the playground during recess at least two or three times in order to get acquainted with the schedule and routine of recess and the layout of the physical space. A detailed template was created for each playground which noted the presence of: playground equipment, markings on the surfaces, trees and other shade providing structures, bordering buildings or streets, movable parts of the playground, and the variety of surfaces present. Once the detailed template was created, a simplified version was drawn to facilitate and standardize the observations.

During data collection, the researcher used the appropriate template to facilitate the recording of data. The school number, date, and weather conditions were included at the top of the sheet. The time at which recess started was noted and the time at which the students were allowed to start playing (not always the same). For example, there were days where the students were led into the playground by a SA or a physical education teacher and told to line up before beginning to play. Once all of the children were lined up and quiet, they were allowed to disperse and begin playing. (The delay between the start of recess and the start of
play was as much as 10 minutes in one case.) The researcher then gave the students a few minutes to establish their activities and social groups, and then began recording the observations. Each playground was divided into distinct areas to make the observations easier. For example, School 1’s playground was divided into four data collection areas, and both School 2 and 3 had their playgrounds split into five different areas. Each area was observed for approximately three to five minutes (until all behaviors had been recorded), after which the observations of the next area began. The succession of areas was identical for each data collection period.

There were many points of data collected once the observations began. The activity, the quantity of students involved in the activity, and the gender of the student(s) were noted next to the activity. There was a lot of inactive behavior recorded during the observation phases, and they were recorded also. Activities like sitting and talking were recorded separately from sitting and watching a game. It was important to also capture students engaging in social activities, not just physically active games. This is not to suggest that students engaged in games such as Basketball or Kickball do not talk and are not social, but rather the majority of their behavior is geared towards the game and not socializing. Also noted during the observations were: the number of School Aides supervising, the presence of any fighting or conflicts that were seen by the researcher, how the School Aides reacted to the incident (if a conflict occurred), and the time recess was ended (see Cohen & Stern, 1971 for a discussion of qualitative observational techniques).

Other Sources

Other sources of data include informal notes taken after visiting each school, impromptu meetings or discussions with school staff, and general reactions to the program as the year progressed. Also, at one of the Case Study schools (School 2), there was a Recess
Committee formed out of the regular PTA meeting. The researcher and Program Director were invited to two of these meetings to discuss what the program was about and how we could deal with some of their specific recess concerns. Notes were taken at both of these meetings, and were used to add further knowledge about the recess situation at this school.

Now that the methodology has been discussed, the data for the three research questions will be presented: Chapter 5 looks at the power dynamics of recess, Chapter 6 addresses the spatial ecology of elementary school playgrounds before the intervention, and Chapter 7 address the contributions of the peer-training interventions.
Chapter 4 Play and Social Interaction Before the Intervention

After examining the power dynamics of recess, an additional research question was examined: What are the social and physical activity dynamics of elementary school recess before the intervention? This question surveyed data from all 22 schools involved in the research, and relied on observations, surveys, and interviews. Three themes from the data emerged, which help illustrate what recess was like before REP was started in each school. The three themes were: children often chose to be active at recess, children preferred to select games (gender and friendships play a lesser role) as a way to direct their recess behavior, and conflict was a fairly common occurrence during recess. Each theme will be discussed separately, with supporting data provided for each section.

Theme 1: Choosing to Be Active During Recess

Before we can understand anything about recess, it is necessary to investigate exactly what children are doing with their time on the playground. Are they active or inactive? Are they burning off the excess calories from lunch, or are they using the time to socialize with friends? The answer seemed to be both. First, the data from the observations on the three case study schools shows how many children were engaged in active play during recess and how many were not. Second, data from the interviews show consistency across schools.

Observational Data.

The observational data obtained from the Case Study schools provides a picture of what happens on a typical day of recess in elementary school. The observations included information on: activity type, number of students involved, gender, location of activity, and what objects were used (if used at all). These observations were taken either before REP
began, or during its first few weeks of implementation. Each school was observed three times in order to provide the data for the first research question.

**School 1 – Observational Data Before REP Implementation.**

The observations from School 1 took place early in the school year before REP was implemented. The total number of students out during the three recess periods ranged from 49 to 68 (see Table 4-1). Data from each observation at School 1 will be presented separately first, and then combined further below in the summary section.

**Table 4-1**

*School 1 Demographics from Observations 1-3*

<table>
<thead>
<tr>
<th>Observation</th>
<th>Number of Supervising Staff</th>
<th>Number of Boys</th>
<th>Number of Girls</th>
<th>Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>45</td>
<td>23</td>
<td>68</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>30</td>
<td>19</td>
<td>49</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>30</td>
<td>32</td>
<td>62</td>
</tr>
</tbody>
</table>

Observation #1 accounted for the activities of 68 students, which included 45 boys and 23 girls\(^3\). Only one inactive activity was recorded during this observation day: Talking (both Standing and Sitting). Conversely, there were seven other active activities that were viewed: Tag, using the Playground Equipment, Football Toss, Jump Rope, Kickball, Dodge Ball, and Playing with Sticks (see Table 4-2).

---

\(^3\) This figure may seem low or lop-sided, and the proportions may not represent the student body. Students at this school can go to the library instead of the playground, and there are often other activities going on during recess time.
Table 4-2

*School 1 Activities from Observations 1-3*

<table>
<thead>
<tr>
<th>Observation</th>
<th>Most Popular Activity</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dodge Ball (19)</td>
<td>Dodge Ball (19)</td>
<td>Talking (14)</td>
</tr>
<tr>
<td>2</td>
<td>Talking &amp; Kickball (10 each)</td>
<td>Basketball (8)</td>
<td>Talking (6)</td>
</tr>
<tr>
<td>3</td>
<td>Kickball (12)</td>
<td>Kickball (12)</td>
<td>Jump Rope (10)</td>
</tr>
</tbody>
</table>

Observation #2 accounted for the activities of 49 students, with 30 boys and 19 girls. While Talking was the only inactive activity recorded, there were six active activities viewed: playing with Toys, using the playground Equipment, Double Dutch, Jump Rope, Kickball, and Basketball.

Observation #3 accounted for the activities of 62 students, with 30 boys and 32 girls. There were three inactive activities viewed: Watching others, Talking, and Sitting with an object. There were eight active activities viewed: playing with Toys, using the Playground Equipment, Double Dutch, Football Toss, Jump Rope, Kickball, Tag, and Basketball.

*School 2 –Observational Data Before REP Implementation.*

The observations from School 2 took place early in the school year before REP was implemented. The total number of students out during the three recess periods ranged from 75 to 99 (see Table 4-3). The same data was recorded as at School 1, namely: activities, gender, group size, and conflict. Data from each observation at School 2 will be presented separately first, and then combined further below in the summary section.
Table 4-3

School 2 Demographics from Observations 1-3

<table>
<thead>
<tr>
<th>Observation</th>
<th>Supervising Staff</th>
<th>Boys</th>
<th>Girls</th>
<th>Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>35</td>
<td>40</td>
<td>75</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>51</td>
<td>48</td>
<td>99</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>52</td>
<td>39</td>
<td>91</td>
</tr>
</tbody>
</table>

Observation #1 accounted for the activities of 75 students, with 35 boys and 40 girls. There were four inactive activities viewed: Talking, Sitting and Eating, Sitting and Watching, and Game Boy. There were six active activities viewed: Basketball, using the Big Equipment, Jump Rope, Football Toss, Catch, and practicing Karate (see Table 4-4).

Table 4-4

School 2 Activities from Observations 1-3

<table>
<thead>
<tr>
<th>Observation</th>
<th>Most Popular Activity</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Basketball (13)</td>
<td>Basketball (12)</td>
<td>Jump Rope (11)</td>
</tr>
<tr>
<td>2</td>
<td>Talking (29)</td>
<td>Basketball (17)</td>
<td>Talking (18)</td>
</tr>
<tr>
<td>3</td>
<td>Basketball (23)</td>
<td>Basketball (16)</td>
<td>Jump Rope (10)</td>
</tr>
</tbody>
</table>

Observation #2 accounted for the activities of 99 students, with 51 boys and 48 girls. There were five inactive activities viewed: Talking, Sitting and Eating, Watching, Game Boy, and Talking with a School Aide. There were six active activities viewed: Basketball, using the Big Equipment, using the Bar Equipment, Football Toss, Tag, and using the Small Equipment.

Observation #3 accounted for the activities of 91 students, with 52 boys and 39 girls. There were six inactive activities viewed: Talking, Sitting on the Flag Pole base, Sitting on the
Fountain, Sitting under the Big Equipment, Game Boy, and playing with Cards. There were
seven active activities viewed: Basketball, using the Big Equipment, using the Bar
Equipment, Tag, Climbing the Fence, Jump Rope, and Catch.

School 3 – Observational Data Before REP Implementation.

The observations from School 3 took place midway through the school year before
REP was implemented. The total number of students out during the three recess periods
ranged from 25 to 33 (see Table 4-5). As above, the data was collected in a similar fashion as
Schools 1 and 2, and the data will be presented separately first, and then combined further
below in the summary section.

Table 4-5

School 3 Demographics from Observations 1-3

<table>
<thead>
<tr>
<th>Observation</th>
<th>Supervising Staff</th>
<th>Boys</th>
<th>Girls</th>
<th>Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>20</td>
<td>13</td>
<td>33</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>20</td>
<td>12</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>17</td>
<td>8</td>
<td>25</td>
</tr>
</tbody>
</table>

Observation #1 accounted for the activities of 33 students, with 20 boys and 13 girls.

Talking was the only inactive activity viewed, while there were four active activities:

Basketball, Football, Kickball, and Jump Rope (see Table 4-6).

Observation #2 accounted for the activities of 32 students, with 20 boys and 12 girls.

Talking was the only inactive activity viewed, while there were five active activities:

Basketball, Double Dutch, Kickball, Catch, and Wall Toss.
Table 4-6

School 3 Activities from Observations 1-3

<table>
<thead>
<tr>
<th>Observation</th>
<th>Most Popular Activity</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Talking (10)</td>
<td>Basketball (8)</td>
<td>Talking (9)</td>
</tr>
<tr>
<td>2</td>
<td>Kickball (9)</td>
<td>Basketball (8)</td>
<td>Double Dutch &amp; Kickball (4 each)</td>
</tr>
<tr>
<td>3</td>
<td>Talking (11)</td>
<td>Basketball (10)</td>
<td>Talking (8)</td>
</tr>
</tbody>
</table>

Observation #3 accounted for the activities of 25 students, with 17 boys and 8 girls. Talking was the only inactive activity viewed, while there were two active activities: Basketball and Football Toss.

Summary of Three Schools.

By combining the observations for each school, the data can be put into a larger picture of each playground’s recess. Data from the observations were combined to obtain a “baseline” account of activities, gender mixing, and group dynamics in the three case study schools before REP was fully implemented. This data will also be used to answer Research Question 2 in the next chapter.

School 1

Putting the three observations from School 1 together produces data on 179 students. There were a total of 105 boys and 74 girls observed during the three recess periods. Overall the most popular activities were Talking and Kickball. The most popular activities for boys were Kickball and Dodge Ball, while girls preferred Talking and Jump
Rope (see Table 4-7). Nearly all of the boys and more than half of the girls were active at School 1. Overall, 78% of students were active (see Table 4-8).

Table 4-7

Summary of Popular Activities by Gender Before REP Implementation

<table>
<thead>
<tr>
<th>School</th>
<th>Most Popular Activity</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Talking (34 / 19%)</td>
<td>Kickball (26%)</td>
<td>Talking (39%)</td>
</tr>
<tr>
<td></td>
<td>Kickball (31 / 17%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jump Rope (22 / 12%)</td>
<td>Dodge Ball (18%)</td>
<td>Jump Rope (24%)</td>
</tr>
<tr>
<td></td>
<td>Dodge Ball (19 / 11%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Basketball (56 / 21%)</td>
<td>Talking (33%)</td>
<td>Talking (26%)</td>
</tr>
<tr>
<td></td>
<td>Talking (53 / 20%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equipment (44 / 17%)</td>
<td>Talking (14%)</td>
<td>Equipment (22%)</td>
</tr>
<tr>
<td></td>
<td>Jump Rope (23 / 9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Basketball (26 / 29%)</td>
<td>Talking (46%)</td>
<td>Talking (57.5%)</td>
</tr>
<tr>
<td></td>
<td>Talking (24 / 27%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kickball (17 / 19%)</td>
<td>Kickball (19%)</td>
<td>Kickball (18%)</td>
</tr>
<tr>
<td></td>
<td>Catch / Toss (12 / 13%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

School 2.

Putting the three observations from School 2 together produces data on 265 students. There were a total of 138 boys and 127 girls observed during the three recess periods. Overall the most popular activity was Basketball. The most popular activities for boys were Basketball and Talking, while girls preferred Talking and using the Equipment (see Table 4-7). Over half of the boys and girls were active at School 2. Overall, 63% of students were active (see Table 4-8).

School 3.
Putting the three observations from School 3 together produces data on 90 students. There were a total of 57 boys and 33 girls observed during the three recess periods. Overall the most popular activity was Basketball. The most popular activities for boys were Basketball and Kickball, while girls preferred Talking and Kickball (see Table 4-7). Almost all of the boys and a little more than half of the girls were active at School 3. Overall, 73% of students were active (see Table 4-8).

Table 4-8

Summary of Activity Levels by Gender Before REP Implementation

<table>
<thead>
<tr>
<th>Observation</th>
<th>Percentage Active</th>
<th>Average Percentage Active</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td>School 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>98%</td>
<td>39%</td>
</tr>
<tr>
<td>2</td>
<td>87</td>
<td>68</td>
</tr>
<tr>
<td>3</td>
<td>87</td>
<td>69</td>
</tr>
<tr>
<td>School 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>69</td>
<td>67.5</td>
</tr>
<tr>
<td>2</td>
<td>65</td>
<td>42</td>
</tr>
<tr>
<td>3</td>
<td>65</td>
<td>74</td>
</tr>
<tr>
<td>School 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>95</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>95</td>
<td>83</td>
</tr>
<tr>
<td>3</td>
<td>82</td>
<td>0</td>
</tr>
</tbody>
</table>

The observation data show that the majority of children are active during recess, especially if they are male. At Schools 1 and 3, over 90% of male students were active during recess time. Conversely, the school with the highest amount of active females showed only 60% as active. Overwhelmingly, female students are choosing to talk during recess and male students are playing physically active games, such as basketball, kickball, or dodge ball. The majority of the females who were active chose to play either jump rope or kickball.
**Student Leader Interviews.**

Student Leaders were asked about their typical activities during recess, in order to supplement the observational data. These Student Leaders were asked to talk about their most common activities during recess. Basketball was the most common among these ten SLs, with Kickball, Tag, Talking/Hanging Out, and Jump Rope/Double Dutch the next most popular activities.

All five male Student Leaders reported playing active games, such as Basketball and all but one routinely played Kickball during recess. Only two of the five male Student Leaders reported Talking or “hanging out” as a recess activity. In fact, one male student at School 3 said, “we only talk to each other during games.” None of the male Student Leaders played Jump Rope or Double Dutch, even though these were very popular activities for their female counterparts.

While all of the female Student Leaders interviewed stated that they enjoy Talking or “hanging out” with friends, most of them also said they enjoyed more active games as well. Four of the five females said they play with Jump Ropes, and only one female reported no interest in playing Tag. Similarly, four females listed Basketball as one of their common recess choices.

Overwhelmingly, almost all of the Student Leaders interviewed stated that the equipment available each day played a large role in what type of activity they chose. Most of the schools had limited access to balls, cones, jump ropes, hula hoops, etc. and therefore this equipment was often “hoarded” by staff, fought over by students, or rationed out to the most responsible children. Most of the Student Leaders (or their friends) brought equipment from home. This extra step guaranteed access to equipment, thereby facilitating the choice of recess activity.
Overall, these elementary school students chose to be active during recess, especially if they were male. The most common activities chosen at the REP Case Study schools were: Basketball, Kickball, Tag, and Jump Rope/Double Dutch. In all three Case Study schools, the most popular activity (active or not) for girls was Talking. Boys were substantially more active than girls at Schools 1 (91% versus 59%) and 3 (91% versus 42%), and often played games such as Basketball, Kickball, Tag, or even Dodge Ball.

Theme 2: Children Choose Games, Not Gender

Student Leader Interviews.

Time after time, each child interviewed at the beginning of the school year had a similar response to the question about how children form groups during recess. Describing how a game of Tag is assembled, Nathan (School 2) says, “I usually round up my friends and then we start getting other kids, because I only have five friends that know how to play tag. And there are other kids that sometimes…they don’t play tag, so they go look for them. We ask them, and if they say ‘no’, that’s alright and we keep searching for about five more minutes.” To Nathan, and other Student Leaders interviewed, all you need to play a game is a group of willing friends or peers. David, a Student Leader at School 1 said, “Usually it is just any class, any gender [sic]. If there is anybody on the playground who wants to play, they are able to play.” Gary, a Student Leader at School 3 said, ”I just play with anybody.” To him, and David above, groups are formed around activities; they are not typically exclusionary by way of gender or friendship status.

However, some Student Leaders reported only playing activities with the same gender, but attributed that to the fact that girls tend to play different games than boys. The playground observations seem to support this theme: a substantial number of students at all
three schools played in gender inclusive groups, but many of the gender exclusive groups were formed around gender preferred activities. For example, most of the female Student Leaders interviewed stated that they do play games with boys, but never played Jump Rope or Double Dutch with boys. Games that were likely to be played by both genders together tended to be variants of Tag, or team games such as Basketball, Kickball, or Dodge Ball.

Out of the 10 Student Leaders interviewed at the beginning of the program, eight reported that they regularly play or hang out with members of both genders during recess. The only two who didn’t were females at School 3.

**Observational Data.**

The observational data gathered at the three Case Study schools included information about group morphology. For School 1, over the three observational periods (see Table 4-9) there was an average of four students playing alone, and an average of three dyads (two children per dyad). There was an average of 26 boys playing only with boys, and an average of 15 girls playing only with girls. Out of the 179 students combined in the observations, there were 55 who were playing in mixed gender groups (group = three or more children). This translates to about a third of students engaged in mixed gender play.

**Table 4-9**

*School 1 Percentage of Students in Social Group Types Before Implementation*

<table>
<thead>
<tr>
<th>Observation</th>
<th>Gender</th>
<th>Alone</th>
<th>Dyads</th>
<th>Single Gender</th>
<th>Mixed Gender (Overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male (M)</td>
<td>0%</td>
<td>9%</td>
<td>69%</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>Female (F)</td>
<td>0</td>
<td>17</td>
<td>43</td>
<td>57</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>17</td>
<td>0</td>
<td>67</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>0</td>
<td>11</td>
<td>37</td>
<td>63</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>17</td>
<td>20</td>
<td>93</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>6</td>
<td>13</td>
<td>91</td>
<td>9</td>
</tr>
</tbody>
</table>
For School 2, there was an average of one student playing alone, and an average of seven dyads (see Table 4-10). There was an average of 31 boys playing only with boys, and an average of 21 girls playing only with girls. Out of the 265 students combined in the observations, there were 107 who were playing in mixed gender groups. This translates to almost half of the students engaged in mixed gender play.

Table 4-10

School 2 Percentage of Students in Social Group Types Before Implementation

<table>
<thead>
<tr>
<th>Observation</th>
<th>Gender</th>
<th>Alone</th>
<th>Dyads</th>
<th>Single Gender</th>
<th>Mixed Gender (Overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male (M)</td>
<td>3%</td>
<td>9%</td>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td></td>
<td>Female (F)</td>
<td>0</td>
<td>8</td>
<td>45</td>
<td>55</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>0</td>
<td>16</td>
<td>57</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>0</td>
<td>17</td>
<td>44</td>
<td>56</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>2</td>
<td>10</td>
<td>77</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3</td>
<td>33</td>
<td>64</td>
<td>36</td>
</tr>
</tbody>
</table>

For School 3, there were no students playing alone, and there was an average of less than one dyad per observation (see Table 4-11). There was an average of 13 boys playing only with boys, and an average of four girls playing only with girls. Out of the 90 students combined in the observations, there were 41 who were playing in mixed gender groups. This translates to almost half of the students engaged in mixed gender play.

In all three schools, most students chose to play in large groups (more than three people), and a small minority played alone during recess. Students who played alone tended to be male. At most schools, less than half of the students played in groups that included
both genders. This means that the majority of students are playing in gender segregated
groups of more than three people.

Table 4-11

School 3 Percentage of Students in Social Group Types Before Implementation

<table>
<thead>
<tr>
<th>Observation</th>
<th>Gender</th>
<th>Alone</th>
<th>Dyads</th>
<th>Single Gender</th>
<th>Mixed Gender (Overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male (M)</td>
<td>0%</td>
<td>0%</td>
<td>65%</td>
<td>35% 48%</td>
</tr>
<tr>
<td></td>
<td>Female (F)</td>
<td>0</td>
<td>31</td>
<td>31</td>
<td>69 53</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>0</td>
<td>0</td>
<td>55</td>
<td>45 53</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>0</td>
<td>0</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>0</td>
<td>0</td>
<td>82</td>
<td>18 32</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>0</td>
<td>0</td>
<td>37.5</td>
<td>62.5</td>
</tr>
</tbody>
</table>

Theme 3: Conflict Happens Most Days

A major concern that was clear from multiple data sources was the existence of
conflict during recess. Surveys filled out by the principals (n= 10) showed that safety of the
students, specifically safety from fights or accidents resulting from physical activity, was a
priority. The principal at School 13 said that “safety of the students is my greatest concern.
Many feel it is "playing" to run after one another and push each other.” Principals also
reported concerns about the physical injuries that can sometimes result from rough or
unstructured play. The principal at School 15 was most concerned about “kids running
through games or to get balls for games.”

Another concern that was common was the desire to help the students get along and
play with one another. The principal at School 3 said, “students will often mock each other
(‘trash talk’) and brag” while playing games. Another principal remarked that this seemed to
be a choice by the students. This was a source of frustration; illustrated by a principal who
said there are “too many students who fail to participate in constructive play. Arguments and fights continue despite our best efforts” (School 2). Overall, seven of the ten principals discussed a lack of adequate adult supervision and the existence of conflict as a major source of concern about recess.

This data is not surprising given the role of the principal in the school. When things go wrong on the playground or in the school building, it is often the principal who receives the bulk of the blame. When children are injured or have their feelings hurt because of teasing or bullying, it is a concern for the administration. However, this is not isolated data. When the School Aides (those designated to supervise recess) were asked about their biggest recess concerns on an early survey (n = 18), they reported dealing with arguments or disagreements between the students, with 13 of them mentioning this issue on the open ended question.

The data suggests that School Aides are an established and valuable source of information for schools, especially recess. In response to the question, “how long have you been working at this school,” the School Aides’ responses ranged from 13 months to 25 years. The average length of employment was 91 months, or just over 7 years. The average length of employment for the three School Aides at the Control school was 84 months, or 7 years. It is clear that each day (see Table 4-12) School Aides are dealing with a number of issues which require them to intervene. Please note that this survey question asked about intervening in a conflict; if the survey question had asked about just seeing a conflict, the response rate would almost certainly have been higher.
<table>
<thead>
<tr>
<th>School Type</th>
<th>Physical Fighting</th>
<th>Verbal Conflicts</th>
<th>Argument over Equipment</th>
<th>Cheating during a Game</th>
<th>Teasing or Bullying of a Student</th>
<th>Fight over an Area or Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study</td>
<td>1 (25%)</td>
<td>2 (50%)</td>
<td>3 (75%)</td>
<td>1 (25%)</td>
<td>3 (75%)</td>
<td>0%</td>
</tr>
<tr>
<td>n = 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey</td>
<td>5 (50%)</td>
<td>4 (40%)</td>
<td>3 (30%)</td>
<td>2 (20%)</td>
<td>4 (40%)</td>
<td>3 (30%)</td>
</tr>
<tr>
<td>n = 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>1 (33%)</td>
<td>1 (33%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>n = 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When asked which situation required them to intervene on the day they filled out the survey, nearly half of them said yes to Physical Fight, Verbal Argument, and Teasing / Bullying. When asked what they would like to see change, many of the School Aides (n= 14) also reported wanting to see the students get along with one another better, and have less arguments and disagreements during recess. Their responses ranged from: “it would be nice if they were more civil” (School 13) to “less fighting, less arguments, more cooperation between grades” (School 14) to “they have so much hate inside them” (School 6), to the hopeless response of “there are way too many changes to be made” (School 1).

Principals and School Aides can provide data on conflict, but data from the Recess Specialists who were on New York City playgrounds every day for months on end will also illustrate what recess is really like. In the beginning of the year, most of the Recess Specialists (RS) found their schools’ recess times to be very chaotic and fast paced. Some of the schools had a fair amount of structure (ball games were played in designated areas and jump ropes were to be used in other areas, etc.), but most seemed to be unorganized. Some schools had
only 10 – 15 minutes for recess, while others had 30. This made implementing the Recess Enhancement Program a daunting task for some of the schools.

After REP had been running for a couple of months in each school, the RSs were interviewed to assess the progress and implementation of the program and to identify any early barriers to success they were experiencing. Out of six RSs interviewed, five mentioned that they were having significant issues with conflict and sportsmanship both within their SL groups and recess overall. The RS assigned to School 8 reported “so much conflict, and such little space…it is dangerous.” Another RS working at School 16 stated that “many of the kids have bad attitudes and don’t like to listen to adults.” Even when the RS worked well with their small group of SLs, the bigger challenge seemed to be the children outside of the program. “My program runs well when it is small,” says the RS from School 13, “but when we try to play games with the other kids they (SLs) are intimidated by the bullies and bigger kids.” Most of the RS reported a culture of conflict, bad sportsmanship, and lack of good relationships with adults as major barriers to the implementation of REP. This data is in line with what the Principals and School Aides also reported above.

**Student Surveys.**

Another source of conflict data comes from the Student Surveys handed out mid-year to students at the three groups of schools. The total number of completed surveys was 585. The breakdown of the numbers is seen below (Table 4-13). Students at the Control School, Survey Schools, and Case Study Schools filled out the Student Survey in February of 2004. At the control school, grades 4 - 6 filled out the survey. At the survey schools, only the Student Leaders filled out the survey (grades 3 – 6). At the case study schools the grades that were present during REP recess filled out the surveys (grades 4 and 5 for schools 1 and 2, and grades 5 and 6 for school 3). The Student Survey asked about seeing and being a part of
conflict during different time periods. The data from this survey was designed to understand how elementary students experience conflict during recess on New York City playgrounds.

Table 4-13

Demographics of Student Survey Handed out Before Implementation

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Number of Surveys Completed</th>
<th>Percentage of Surveys Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control School</td>
<td>134</td>
<td>22.9%</td>
</tr>
<tr>
<td>Survey Schools</td>
<td>167</td>
<td>28.5</td>
</tr>
<tr>
<td>Case Study Schools</td>
<td>284</td>
<td>48.5</td>
</tr>
<tr>
<td>3rd Grade</td>
<td>4</td>
<td>0.7</td>
</tr>
<tr>
<td>4th Grade</td>
<td>223</td>
<td>38.1</td>
</tr>
<tr>
<td>5th Grade</td>
<td>242</td>
<td>41.4</td>
</tr>
<tr>
<td>6th Grade</td>
<td>116</td>
<td>19.8</td>
</tr>
<tr>
<td>Males</td>
<td>282</td>
<td>48.2</td>
</tr>
<tr>
<td>Females</td>
<td>303</td>
<td>51.8</td>
</tr>
<tr>
<td>Non-REP School</td>
<td>134</td>
<td>22.9</td>
</tr>
<tr>
<td>REP Schools</td>
<td>451</td>
<td>77.1</td>
</tr>
</tbody>
</table>

The categories for survey data collection came from the Asphalt Green curriculum, which contained examples of types of conflicts, good/bad sportsmanship, and building respect for adults. The category Verbal Aggression included situations such as: “teasing, laughing, or calling someone names,” “gossiping or lying about someone,” and “leaving someone out of a game because they don’t like the person.” The category Verbal Conflict included situations such as: “arguing over who is better at a game or skill,” “arguing over an out in a game,” and “arguing over who can use space for a game.” The category Lack of Sportsmanship included situations such as: “roofing balls on purpose,” “walking through a game and messing it up,” and “someone accidentally gets hurt by another game and gets mad.” The category Physical Aggression included situations such as: “hitting, slapping, or punching someone with their hand,” “tripping someone,” and “pulling someone’s clothing.”
The category Conflict with Adults included one situation: “not listening to a School Aide or teacher during recess.”

As described in the methodology chapter, both sides of the survey listed types of conflict situations. The student was asked to identify when or if they had witnessed (or participated in) each type of conflict. The responses for “Last time on playground” and “This year,” were nearly identical, and so this data was collapsed into one category called recently. In other words, if a student selected the box “last time” he/she also checked “this year” 96% of the time. “Ever,” was a category only used by a small portion of participants (.8%), and so was pulled out of the analysis4. “Never” was coded as a no choice for the conflict options. Students overwhelmingly reported seeing each type of conflict either during their last visit to recess or since the beginning of the year (see Table 4-14). The only conflict that a large majority did not report seeing was Conflict with Adults. Most students reported being a part of Verbal Aggression and Verbal Conflict, about half reported being a part of Lack of Sportsmanship and Physical Aggression; and approximately one fourth reported being a part of Conflict with Adults.

To understand what goes on during recess, the conflict survey data was explored further. Were there any gender or grade differences? Because this data looks at answers of “yes” and “no,” simple Crosstabs were run to detect differences between groups of participants and their categorical answers to the conflict questions. Due to the large sample size of 585 and the number of comparisons being made, a conservative alpha level of .01 was used to avoid Type 1 errors (Field, 2013). After running a Chi-Square analysis it was

4 Even though useful data was obtained from this survey, it was challenging for the younger students to fill out. One 4th grader remarked, “Your survey hurt my brain.” The second survey given at the end of the year was simplified, while still retaining the conflict categories.
apparent that there were several patterns. There were gender differences, grade differences, and school differences.

Table 4-14

**Student Survey before Implementation: Seeing and Participating in Conflicts**

<table>
<thead>
<tr>
<th>At recess, have you recently…</th>
<th>Survey Respondents Replying &quot;Yes&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes Responses</td>
</tr>
<tr>
<td><strong>Seen</strong></td>
<td></td>
</tr>
<tr>
<td>Verbal Aggression</td>
<td>549</td>
</tr>
<tr>
<td>Verbal Conflict</td>
<td>544</td>
</tr>
<tr>
<td>Lack of Sportsmanship</td>
<td>502</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>509</td>
</tr>
<tr>
<td>Conflict with Adults</td>
<td>360</td>
</tr>
<tr>
<td><strong>Been a part of</strong></td>
<td></td>
</tr>
<tr>
<td>Verbal Aggression</td>
<td>403</td>
</tr>
<tr>
<td>Verbal Conflict</td>
<td>418</td>
</tr>
<tr>
<td>Lack of Sportsmanship</td>
<td>289</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>272</td>
</tr>
<tr>
<td>Conflict with Adults</td>
<td>137</td>
</tr>
</tbody>
</table>

Note. Attrition did not start until the second half of the survey. 584 students began the first half of the survey, and by the last question the total was reduced to 531.

A Chi-Square analysis was performed to understand if there were any significant differences between the conflict reported by male and female students (see Table 4-15). Only one significant difference was detected: males reported more direct experiences of conflict involving a Lack of Sportsmanship, $X^2 (1, N = 555) = 6.899, p = .009$. Conflict with Adults was approaching significance, $X^2 (1, N = 531) = 3.901, p = .048$. The rest of the items showed no significant gender differences.
Table 4-15

*Student Survey Data By Gender, Before Implementation*

<table>
<thead>
<tr>
<th>At recess, have you recently…</th>
<th>Percentage of Survey Respondents Replying &quot;Yes&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male Students</td>
</tr>
<tr>
<td>Seen</td>
<td></td>
</tr>
<tr>
<td>Verbal Aggression</td>
<td>94.7%</td>
</tr>
<tr>
<td>Verbal Conflict</td>
<td>94.3%</td>
</tr>
<tr>
<td>Lack of Sportsmanship</td>
<td>87.6%</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>86.5%</td>
</tr>
<tr>
<td>Conflict with Adults</td>
<td>62.5%</td>
</tr>
<tr>
<td>Been a part of</td>
<td></td>
</tr>
<tr>
<td>Verbal Aggression</td>
<td>71.6%</td>
</tr>
<tr>
<td>Verbal Conflict</td>
<td>74.2%</td>
</tr>
<tr>
<td>Lack of Sportsmanship*</td>
<td>57.8%</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>51.3%</td>
</tr>
<tr>
<td>Conflict with Adults</td>
<td>29.7%</td>
</tr>
</tbody>
</table>

Note. Chi-Square analysis conducted across gender. *p<.01

Grade differences were apparent also after comparing the data for each grade (see Table 4-16). Third grade could not reliably be used in the analysis due to a low sample size (n = 4). This changed the total amount of surveys used for analysis to 581. Grades 4 and 5 only had one difference that was approaching significance: seeing Conflict with Adults, $X^2 (1, N = 448) = 4.856, p = .028$. Grades 4 and 5 differed from grade 6 on all items except seeing a Lack of Sportsmanship. In all of these significant cases, the older grades reported seeing and participating in more conflicts.
In addition to grade and gender differences, there were several significant differences between the groups of schools (see Table 4-17). A chi-square test was performed and a relationship was found between REP status (receiving the program or control school) for Verbal Conflict Seen, $X^2 (1, N = 584) = 7.713, p = .005$. Both Verbal Aggression Seen, $X^2 (1, N = 584) = 4.270, p = .039$; and Lack of Sportsmanship Seen, $X^2 (1, N = 584) = 4.751, p = .029$ were approaching significance. In each case, the control school reported more conflicts “seen” than the survey schools (except for Physical Aggression, $X^2 (1, N = 584) = 1.533, p = .216$ and Conflict with Adults, $X^2 (1, N = 565) = .030, p = .863$, which showed no significant differences).
Table 4-17

Student Survey Data By School Type, Before Implementation

<table>
<thead>
<tr>
<th>At recess, have you recently...</th>
<th>Percentage of Survey Respondents Replying &quot;Yes&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-REP School</td>
</tr>
<tr>
<td>See</td>
<td></td>
</tr>
<tr>
<td>Verbal Aggression</td>
<td>97.7%</td>
</tr>
<tr>
<td>Verbal Conflict*</td>
<td>98.5%</td>
</tr>
<tr>
<td>Lack of Sportsmanship</td>
<td>91.7%</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>90.3%</td>
</tr>
<tr>
<td>Conflict with Adults</td>
<td>63.1%</td>
</tr>
<tr>
<td>Been a part of</td>
<td></td>
</tr>
<tr>
<td>Verbal Aggression**</td>
<td>88.5%</td>
</tr>
<tr>
<td>Verbal Conflict**</td>
<td>90.8%</td>
</tr>
<tr>
<td>Lack of Sportsmanship**</td>
<td>68.0%</td>
</tr>
<tr>
<td>Physical Aggression**</td>
<td>71.8%</td>
</tr>
<tr>
<td>Conflict with Adults**</td>
<td>39.7%</td>
</tr>
</tbody>
</table>

Note. Chi-Square analysis conducted across school types. *p<.01  **p<.001

A chi-square test was also performed on the relationship between REP status and being a part of the conflicts (see Table 4-17). In all cases, the Non-REP school (Control School) students reported higher rates of conflict involvement than their REP school peers. This was true for all “part of” conflicts: Verbal Aggression, X^2 (1, N = 565) = 24.7333, p < .001; Verbal Conflict, X^2 (1, N = 562) = 23.845, p < .001; Lack of Sportsmanship, X^2 (1, N = 555) = 16.846, p < .001; Physical Aggression, X^2 (1, N = 551) = 34.471, p < .001; and Adult Conflict, X^2 (1, N = 531) = 16.630, p < .001.

Student Leaders.

There were ten Student Leader (SL) interviews conducted in the beginning of the program, across the three case study schools. The interview portion on conflict started with an open ended question about recess, and then the students were asked specific questions
about when and where conflict typically occurs and with who. The data below will be presented using the same conflict categories created for the Student Survey (Verbal Aggression, Verbal Conflict, etc.). The students were first asked, “Are there any conflicts on the playground?” All of the 10 SLs reported yes to this question. The answers ranged from, “not too many…I’ve only seen two this year” to “sometimes” to “yes, but they don’t last long” to “yes, a whole lot.” In response to this beginning question, seven SLs gave a Verbal Conflict example, three used a Lack of Sportsmanship example, and two reported a Physical Aggression example.

None of the SLs exemplified the first question using Verbal Aggression or Conflict with Adults. No examples of Conflict with Adults is not surprising given the smaller number of Survey respondents who had seen or participated in this type of conflict. However, Verbal Aggression was one of the highest reported types of conflict seen and experienced during recess (see survey data above). It is possible that the SLs weren’t thinking about examples of teasing, gossiping, and calling people names when first asked about conflict; however they did report being familiar with this type when asked directly in the follow-up questions.

When asked about their experiences with Verbal Aggression, most SLs (n = 9) had seen instances of someone else being teased or bullied during recess. Nathan at School 2 gave the example of a larger sized boy who “liked to boss everyone around” but he stopped once “someone bigger came around and he realized how it felt to be bullied.” All of the SLs from School 3 agreed that Verbal Aggression was a common occurrence during recess.

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5 Some SL’s mentioned more than one type of conflict in their first examples, so the total is greater than 10.
6 It is also important to note that these examples came before most of the RSs had begun to cover conflict lessons with them in their Student Leader Groups.
According to Lucy (School 3) most of the Verbal Aggression takes the form of leaving someone out of a game or activity by saying “oh no, you can’t play here, you don’t know how to do this.” This happens mostly in group games, such as kickball or basketball, and involves a lesser skilled student pushed out of a game by a more dominant peer. Amy at School 1, shared that her male friend frequently gets teased by other boys in their class (both in and out of recess time).

She reported that:

Everybody teases him about his weight, and he hates it. And sometimes they tease him about his Mom and stuff. So he comes to me and says, ‘what should I do because they keep on teasing me’ and they never stop whatever he does. I said, ‘why don’t you act like it doesn’t hurt you.’ He did it, but they still kept on teasing him.

(Amy, School 1)

Most of the other examples were boys teasing girls or other boys about their appearance, skill level, or asserting their physical dominance. Ernest (School 3) explained that most of the teasing (Verbal Aggression) is directed at the girls on the playground, from the older boys. However, according to him, “the girls don’t take it that much, they just ignore it.” The female SLs interviewed had a different perspective.

While many of the SLs gave examples of boys teasing girls, Nanette (School 3) gave a heart-felt description of what it feels like when it happens to her. Boys tease girls “mostly all the time” and mostly make fun of their bodies. During a theater activity, the boys and girls were expected to do movement exercises, and the boys teased and mimicked the girls. She "gets that bad feeling" when that happens, so she and other girls don't do the movements to avoid teasing. According to Nanette, this is the same process that happens on the playground. Girls will often not participate in sports or activities to pre-emptively avoid
Verbal Aggression. She continues by saying that “you don’t want to say nothin’ ‘cause you’re so mad and then girls keep it inside, like me, I keep it inside. Because if I say something, it doesn’t matter, ‘cause I’m a girl” (Nanette). Another female student reported that boys are sometimes teased by females and left out of jump rope, even if they ask nicely (Amy, School 1). Also, according to Lucy (School 3) the only people who experience Verbal Aggression are boys from other male students. It appears that both genders are on the receiving end of Verbal Aggression, and that this can affect the kinds of activities they choose to participate in during recess.

Often, examples of both seeing and participating in Verbal Conflict were mixed in with discussions of Lack of Sportsmanship conflicts. For example, Nathan (School 2) said Lack of Sportsmanship can sometimes begin when people run into each other during games. One student gets mad (whether they are hurt or not) and starts to yell at the other student; then a back and forth Verbal Conflict emerges until an adult intervenes. Other SLs reported that Verbal Conflicts can occasionally start over disputed territory, or perceived lack of space. Three SL examples involved Jump Rope activities that either infringed upon someone else’s space, or when girls were hit by errant balls from other games while they were Jump Roping nearby. Nanette (School 3) used this example, and said these types of Verbal Conflicts are “girls against boys, of course!”

The most common example of Verbal Conflicts starting with Lack of Sportsmanship involved the interpretation of the rules of games. Nathan (School 2) described what happens when some kids change the rules, “they will say ‘no, you have to tag me 3 times,’ and then ‘now you have to tag me 10 times.’” At School 3, students typically argue over kickball rules, such as an out or safe. This happens mostly when “a kid is new to the game and doesn’t know the rules” of kickball (Acacia, School 3). While these types of Verbal Conflicts do occur,
most SLs reported that they ended quickly with or without the assistance of an adult. Amy (School 1) said that fights don’t last long because “in the end, the students just say ‘whatever’ and continue playing.” Nanette (School 3) gives another example of how the Verbal Conflicts end: “we just use a do-over….and that’s it!” Most of these types of examples illustrated a unifying principle of recess: time is limited and most students do not want to spend recess arguing; they would much rather play.

One of the most common Verbal Conflicts given by students at Schools 1 and 3 started with access to equipment. Amy (School 1) reported that at the beginning of recess there is often “a fight over the kick ball, and there are people scrambling” to be the first to grab it. Gary (School 3) shared a similar experience that involved equipment from the gym that was controlled by a few students. According to Gary, those students “only share the balls with their friends, and that can be unfair.” These conflicts are more likely when there is not enough equipment to go around (Lucy, School 3) or when larger and/or stronger kids take the equipment away from their weaker peers, which often means more boys than girls get equipment (Nanette, School 3). Interestingly, all three SLs from School 2 stated that there were no conflicts arising from access to equipment, while all but one of the SLs from Schools 1 and 3 spoke strongly about these experiences.

Physical Aggression is the topic of concern on many principals’ minds, but does it occur very often? The majority of the SLs reported witnessing aggressive acts that turned physical during recess (or at times directly before or after recess). The only two who reported not seeing or participating in Physical Aggression said, “I was too busy playing with my friends” (Sally, School 2) and that people only get hurt from one another if “there is an accident, like if you don’t watch where you are going” (Lucy, School 3). Most of the students who have witnessed Physical Aggression state that it is not overly common and that the
encounters are usually brief (stopped by an adult: Ernest, School 3; during a game on the monkey bars that continued after the fight: Amy, School 1). David at School 1 said that most of the Physical Aggression he witnesses comes after threats are made, and occur in fluid spaces, such as stairways or hallways in or out of the classroom and buildings. He has witnessed multiple cases of “slapping” and also one time “two kids got into the worst fight I have ever seen. They just rolled up into a ball and started punching each other.” Nanette at School 3 remembered that the Physical Aggression cases were more common in the “beginning of the school year, over real dumb things; especially when the new kids didn’t know each other for so long.”

Only one SL described a personal experience with Physical Aggression in which they themselves were the aggressor. Acacia (School 3) described herself as “not a fighter,” but then told the story of when she punched a classmate. She had been walking in the hallway going out to recess, and a boy spit on her. This was very gross and a large insult, so she immediately punched him back. Afterwards, she “said sorry ‘cause I knew it was wrong.” When asked to describe what she was feeling at that time, she said, “if it gets too far, I get too mad. My face gets red when I’m really mad, my ears…Oh my God…” In her opinion, she was reacting to a foul behavior on the part of a male student, but afterwards she knew it was not the right response. She described herself as not a “fighter” because she didn’t go looking for the conflict; she was reacting to someone else’s misbehavior.

In terms of Conflict with Adults, no SLs reporting seeing or participating in this type of conflict during recess. Most of the SLs reported that when they misbehave in the classroom, recess is either shortened or withheld from them; however these examples did not include misbehavior directed at the school’s adults. All of the SLs seemed to have good
relationships with the School Aides, and viewed them as a resource in case of an emergency, fight, or problem.

**Observational Data.**

Only two conflicts occurred during the nine early observations of recess, and both conflicts were at School 1. The first instance was a verbal conflict between two female students, and was stopped quickly by the physical education instructor called “Coach.” He instructed them to “talk and work it out” and left them alone to do so. They quickly ended the conflict and played separately until the end of recess. The second instance was a physical conflict (hitting) between one female student and a dyad of one female and one male. The physical contact was briefly stunted by the nearest SA, but flared up again and again throughout the 40 minute recess period. Initially the fight was both physical and verbal, but as time wore on it became entirely verbal, mostly due to the separation of the students involved by the SA.

At both School 2 and 3, no conflicts were identified during the initial observations at the beginning of the REP year. While it is possible that no conflicts occurred during these days, it is also possible that some were missed in areas that were not under observation at any given moment or that some occurred in the transition space from cafeteria to the playground. The second observation at School 1 also revealed no instances of conflict.

**Summary of Recess Before the Intervention.**

Recess before the REP intervention had three patterns: boys were more active than girls, most students played in gender exclusive groups of three or more that focused on a chosen activity, and conflict was common. Overall, female students at all three schools chose Talking over any other activity and male students chose to be active by playing Basketball,
Kickball, and Dodge Ball more than other games. Students selected the games or activities first, and then found the appropriate friends to join them. Students commonly played a game or engaged in an activity with same-sex peers.

Conflict was a common experience during recess, however this data is complex. Three data sources (Principals, School Aides, and Recess Specialists) reported that conflict was a daily experience during recess, with an emphasis on poor sportsmanship. Through the Recess Survey, high numbers of students reported observing conflicts (with over 86% of students reporting recently seeing Verbal Aggression, Verbal Conflict, Lack of Sportsmanship, and Physical Aggression) between students recently and over half of students surveyed said that they had recently watched a student have a conflict with an Adult. Sixth grade students reported seeing higher rates of conflict than students in grades four and five. Interviews with Student Leaders showed that indeed levels of verbal aggression are especially high, boys tend to be the ones doing teasing, and girls tend to use more verbal aggression than physical. Clearly, conflict in its many forms was a common experience in recess before the REP implementation.
Chapter 5 Play and Social Interaction After The Implementation

The remaining research question of this project was: Can a peer-training program influence children’s activity choices and social behaviors on elementary school playgrounds during recess in the course of a school year? In other words, did a program designed to enhance recess have any effect on the playground experience at participating schools? In this section, data will be presented that shows how REP affected activities, gender inclusion, and conflict.

In order to examine what effects REP had on recess, data collected before the full program was implemented (please see the discussion of this data in the previous chapter) will be compared to data from the end of the school year. The data sources for this question include Playground Observations, Student Leader Interviews, Student Surveys, Recess Specialist Interviews, and Principal and School Aide Surveys.

Can a Peer-Training Program Influence Play?

Before we can understand anything about how recess changed, it is necessary to investigate exactly what children were doing with their time on the playground at the end of the school year. Are they more or less active or inactive? Are they engaging in the same types of games and activities, and are some still using the time to socialize with friends? First, the data from the observations on the three Case Study schools will be presented, and then data from Student Leader Interviews and School Aide Surveys will demonstrate how students were using recess time at the end of the school year.

Observational Data.

As in the beginning of the year, the observations at the end of the school year included information on: activity type, number of students involved, gender, location of
activity, and what objects were used (if used at all). These observations were taken either in late May, or early June. For Schools 1 and 2, REP had been running in their schools for approximately seven and a half months, and for School 3, REP had been running for approximately four and a half months. Each school was observed at least three times in order to provide the comparative data for the second research question.

**School 1 – Observational Data After REP Implementation.**

The observations from School 1 took place late in the school year after REP had been running for approximately seven and a half months. The total number of students out during the four recess periods ranged from 70 to 95 (see Table 5-1). Data from each observation at School 1 will be presented separately first, and then combined further below in the summary section.

**Table 5-1**

**School 1 Demographics from Observations 4 - 7**

<table>
<thead>
<tr>
<th>Observation</th>
<th>Number of Supervising Staff</th>
<th>Number of Boys</th>
<th>Number of Girls</th>
<th>Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>47</td>
<td>30</td>
<td>77</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>55</td>
<td>32</td>
<td>87</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>55</td>
<td>40</td>
<td>95</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>40</td>
<td>30</td>
<td>70</td>
</tr>
</tbody>
</table>

Observation #4 accounted for the activities of 77 students, with 47 boys and 30 girls. There were four inactive activities viewed: Talking (both Standing and Sitting), Sitting and Doing Hair, Sitting and Watching, and Sitting and Reading. There were six active activities viewed: Basketball, using the Playground Equipment, Football Toss, Playing with Dirt, Kicking Balls, and Walking Around (see Table 5-2).
Table 5-2

School 1 Activities from Observations 4 - 7

<table>
<thead>
<tr>
<th>Observation</th>
<th>Most Popular Activity</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Talking (23)</td>
<td>Football Toss (13)</td>
<td>Playground Equipment (13)</td>
</tr>
<tr>
<td>5</td>
<td>Basketball (28)</td>
<td>Basketball (28)</td>
<td>Talking (15)</td>
</tr>
<tr>
<td>6</td>
<td>Basketball (21)</td>
<td>Basketball (21)</td>
<td>Double Dutch (18)</td>
</tr>
<tr>
<td>7</td>
<td>Basketball (20)</td>
<td>Basketball (20)</td>
<td>Jump Rope (10)</td>
</tr>
</tbody>
</table>

Observation #5 accounted for the activities of 87 students, with 55 boys and 32 girls. There were four inactive activities observed: Talking (both Standing and Sitting), Sitting and Watching, Drinking from the Water Fountain, and Sitting on a Playground Ball. There were five active activities observed: using the Playground Equipment, Dodge Ball, Basketball, Playing with Dirt, and Walking Around. Also, during this observation period, several boys (7) and girls (4) were involved in a large, physical fight at the back of the playground.

Observation #6 accounted for the activities of 95 students, with 55 boys and 40 girls. There were three inactive activities: Talking, Sitting and Watching, and Using a Cell Phone. There were six active activities: Role Playing Game, using the Playground Equipment, Double Dutch, Jump Rope, Kickball, and Basketball.

Observation #7 accounted for the activities of 70 students, with 40 boys and 30 girls. There were four inactive activities: Talking (both Standing and Sitting), Sitting and Watching, Fixing a Shoe, and Drinking Water. There were six active activities: using the Playground Equipment, Double Dutch, Jump Rope, Dodge Ball, Playing with Dirt, and Basketball.
School 2 – Observational Data After REP Implementation.

The observations from School 2 took place late in the school year after REP had been running for approximately seven and a half months. The total number of students out during the three recess periods ranged from 93 to 109 (see Table 5-3). Data from each observation at School 2 will be presented separately first, and then combined further below in the summary section.

Table 5-3

School 2 Demographics from Observations 4 - 6

<table>
<thead>
<tr>
<th>Observation</th>
<th>Number of Supervising Staff</th>
<th>Number of Boys</th>
<th>Number of Girls</th>
<th>Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>67</td>
<td>42</td>
<td>109</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>56</td>
<td>37</td>
<td>93</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>59</td>
<td>38</td>
<td>97</td>
</tr>
</tbody>
</table>

Observation #4 accounted for the activities of 109 students, with 67 boys and 42 girls. There were four inactive activities: Talking (both Standing and Sitting), Sitting and Reading, Playing Card Games, and Game Boy. There were ten active activities: using the Big Equipment, using the Small Equipment, Red Light Green Light, using the Bar Equipment, Double Dutch, Basketball, Football, Kickball, Kicking an Improvised Ball (clump of paper), and playing with a Skip-It (see Table 5-4).

Observation #5 accounted for the activities of 93 students, with 56 boys and 37 girls. There were two inactive activities: Talking (both Standing and Sitting) and Knitting and Playing with Dolls. There were eight active activities: using the Big Equipment, using the Small Equipment, Basketball, Jump Rope, Football, Bounce Balls, Double Dutch, and Dodge Ball.
Table 5-4

School 2 Activities from Observations 4 - 6

<table>
<thead>
<tr>
<th>Observation</th>
<th>Most Popular Activity</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Basketball (19)</td>
<td>Basketball (19)</td>
<td>Double Dutch (15)</td>
</tr>
<tr>
<td>5</td>
<td>Talking (19)</td>
<td>Dodge Ball (12)</td>
<td>Talking (12)</td>
</tr>
<tr>
<td>6</td>
<td>Double Dutch (17)</td>
<td>Football (13)</td>
<td>Double Dutch (17)</td>
</tr>
</tbody>
</table>

Observation #6 accounted for the activities of 97 students, with 59 boys and 38 girls.

There were six inactive activities: Talking (both Standing and Sitting), Sitting and Eating, Standing and Watching, Game Boy, Knitting and Playing with Dolls, Talking with School Aide. There were eleven active activities: using the Big Equipment, using the Small Equipment, Tossing a Soccer Ball, Basketball, Baseball Toss, Double Dutch, Jump Rope, Football, Football Toss, Tennis Ball Toss, and Tossing a Ball over the Fence.

School 3 – Observational Data Before REP Implementation.

The observations from School 3 took place late in the school year after REP had been running for approximately four and a half months. The total number of students out during the three recess periods ranged from 21 to 31 (see Table 5-5). Data from each observation at School 3 will be presented separately first, and then combined further below in the summary section.

Reminder: School 3 joined REP approximately 3 months after Schools 1 and 2. That is why they received less time with the program before the “post” data was collected.
Table 5-5

*School 3 Demographics from Observations 4 - 6*

<table>
<thead>
<tr>
<th>Observation</th>
<th>Supervising Staff</th>
<th>Boys</th>
<th>Girls</th>
<th>Total Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2</td>
<td>13</td>
<td>18</td>
<td>31</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>15</td>
<td>16</td>
<td>31</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>13</td>
<td>8</td>
<td>21</td>
</tr>
</tbody>
</table>

Observation #4 accounted for the activities of 31 students, with 13 boys and 18 girls.

There were two inactive activities: Talking (both Standing and Sitting) and Looking through a Backpack. There were two active activities: Basketball and Tossing Balls (see Table 5-6).

Table 5-6

*School 3 Activities from Observations 4 - 6*

<table>
<thead>
<tr>
<th>Observation</th>
<th>Most Popular Activity</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Talking (16)</td>
<td>Basketball (9)</td>
<td>Talking (15)</td>
</tr>
<tr>
<td>5</td>
<td>Talking (12)</td>
<td>Kickball (9)</td>
<td>Talking (12)</td>
</tr>
<tr>
<td>6</td>
<td>Kickball (12)</td>
<td>Kickball (11)</td>
<td>Frisbee (4)</td>
</tr>
</tbody>
</table>

Observation #5 accounted for the activities of 31 students, with 15 boys and 16 girls.

There was one inactive activity on the playground that day: Talking. There were four active activities: Basketball, Handball, Kickball, and Playing with a Beach Ball.

Observation #6 accounted for the activities of 21 students, with 13 boys and 8 girls.

The attendance at recess was particularly small this day due to a classroom-wide punishment in effect by one of the teachers. There was one inactive activity: Sitting and Watching. There were three active activities: Basketball, Kickball, and Frisbee.

*Summary of Three Schools.*
By combining the observations for each school, the data can be put into a larger picture of each playground’s recess at the end of the school year. Data from the second group of observations were combined to obtain a post-intervention (REP) level and type of activities. This data will further be compared to the data from before the intervention, to help answer the first part of Research Question 2.

_School 1._

Putting the four observations from School 1 together produces data on 329 students. There were a total of 197 boys and 132 girls observed during the four recess periods. Overall the most popular activity was Basketball. The most popular activities for boys were Basketball and Talking, while girls preferred using the Equipment and Talking. Nearly all of the boys (78%) and more than half of the girls (61%) were active at School 1. Overall, 71% of students at School 1 were active.

_School 2._

Putting the three observations from School 2 together produces data on 299 students. There were a total of 182 boys and 117 girls observed during the three recess periods. Overall the most popular activity was Basketball. The most popular activities for boys were Basketball and Football, while girls preferred Double Dutch and Talking. A majority of the boys (81%) and over half of the girls (68%) were active at School 2. Overall, 76% of students at School 2 were active.
Table 5-7

Summary of Popular Activities by Gender After REP Implementation

<table>
<thead>
<tr>
<th>School</th>
<th>Most Popular Activity</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Basketball (78 / 24%)</td>
<td>Basketball (40%)</td>
<td>Equipment (28%)</td>
</tr>
<tr>
<td></td>
<td>Equipment (54 / 16%)</td>
<td>Talking (10%)</td>
<td>Talking (25%)</td>
</tr>
<tr>
<td></td>
<td>Talking (52 / 16%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Watching Others (29 / 9%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Basketball (40/13%)</td>
<td>Basketball (21%)</td>
<td>Double Dutch (32%)</td>
</tr>
<tr>
<td></td>
<td>Talking (39/13%)</td>
<td></td>
<td>Talking (18%)</td>
</tr>
<tr>
<td></td>
<td>Double Dutch (38/13%)</td>
<td>Football (18%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Big Equipment (33/ 11%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Talking (28/34%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Kickball (22/ 27%)</td>
<td>Kickball (54%)</td>
<td>Talking (64%)</td>
</tr>
<tr>
<td></td>
<td>Basketball (17/20%)</td>
<td>Basketball (41%)</td>
<td>Frisbee (10%)</td>
</tr>
<tr>
<td></td>
<td>Frisbee (4/5%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

School 3.

Putting the three observations from School 3 together produces data on 83 students. There were a total of 41 boys and 42 girls observed during the three recess periods. Overall the most popular activity was Talking. The most popular activities for boys were Kickball and Basketball, while girls preferred Talking and Frisbee (see Table 5-7). Almost every boy (98%) at School 3 was active, whereas the rate for girls was closer to a quarter (26%). Overall, 61% of students at School 3 were active.
Table 5-8

*Summary of Activity Levels by Gender After REP Implementation*

<table>
<thead>
<tr>
<th>Observation</th>
<th>Percentage Active</th>
<th>Average Percentage Active</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td>School 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>70%</td>
<td>47%</td>
</tr>
<tr>
<td>5</td>
<td>91</td>
<td>47</td>
</tr>
<tr>
<td>6</td>
<td>69</td>
<td>75</td>
</tr>
<tr>
<td>7</td>
<td>83</td>
<td>70</td>
</tr>
<tr>
<td>School 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>87</td>
<td>79</td>
</tr>
<tr>
<td>5</td>
<td>88</td>
<td>49</td>
</tr>
<tr>
<td>6</td>
<td>69</td>
<td>74</td>
</tr>
<tr>
<td>School 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>92</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>100</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>100</td>
<td>63</td>
</tr>
</tbody>
</table>

The observational data from the end of the school year show that most of the time, the majority of children are active during recess, especially if they are male. At Schools 1 and 2, males had a range of 69 - 91% activity level. Likewise, female students at Schools 1 and 2 had a range of 47 - 79% activity level. These two schools had overlapping activity rates for males and females, but males were on the higher end of that spectrum. School 3 benefitted from a smaller, more active male sample on the observation days, and so their active levels are near-ceiling. Ironically, the female students at that same school were the least active of the year-end observations. Overall, female students were largely choosing to talk during recess. Female students also chose active games, as well, such as double dutch, frisbee, and using the playground equipment. Male students were primarily playing physically active.
games, such as basketball, kickball, or football, although a significant minority chose to talk during recess.

**Student Leader Interviews.**

The SLs were asked again about their typical activities during recess, in order to supplement the observational data and allow a comparison from before to after intervention. As before, the SLs were asked to talk about their most common activities during recess, who they did them with, what equipment they used, and how they thought their non-REP recess periods had changed over the school year.

There were a total of seven SL interviews at the end of the school year. Four of those interviews were with the same SLs as the beginning of the year (Amy and David from School 1, and Nathan and Sally from School 2); the remaining three SLs were members of the last REP group at School 3. Even though these three students had not been interviewed earlier in the year, they were present at School 3 before the program started and could speak to how REP changed (or did not change) their experience of recess.

Six out of the seven reported that Basketball was a commonly chosen recess activity for them at the end of the year. Other popular activities were Kickball and Double Dutch (both, n = 3), and Talking and Tag (both, n = 2).

All four male SLs reported playing active games during recess, such as: Basketball, Kickball, Tag, and Baseball. Two male SLs also said that they enjoy rope games, with one reporting Jump Rope as a common activity, and the other, Double Dutch. Only one SL

---

8 Reminder: Each school had a RS come twice a week to work with the SL groups; so here the SL’s were asked about recess the other three days a week.
(David, School 1) engaged in inactive activities during recess: Talking (about comics on a bench with a male friend), Relaxing and Thinking, and Watching Others.

The three female SLs all enjoyed playing active games on the playground, with two commonly playing Double Dutch, two choosing Basketball, and two either playing Tag or Running Around with Friends. Only one SL (Jane, School 3) reported that she routinely Talks with her friends at recess. This was the only inactive activity reported by a female SL at the end of the school year.

The SLs were then asked how they viewed recess at the end of the year, and if they felt that REP had changed recess (or their own experience of recess) in any way. When students were asked “has REP changed the amount or type of activities during recess?” the answers ranged from, “it’s about the same” to “yeah, maybe a little” to “yeah, I think more people are playing games” to “it is certainly more active now.” Regardless of this first answer, all of the SLs agreed that a large majority of the students who want to play active games can do so if they wish. Sally (School 2) illustrated this point: “nobody is not in a game; everybody is playing all together.” Four of the seven SLs used the example that now students have increased knowledge of playground games, and therefore they have more options to choose from. David (School 1) gave credit to the SLs who were “teaching people these new games, and they found these games very entertaining.”

Overwhelmingly, almost all of the Student Leaders interviewed stated that the equipment available each day still played a large role in what type of activity they chose. Most of the schools had even more limited access to balls, cones, jump ropes, hula hoops, etc. then at the beginning of the year and therefore this equipment was often “hoarded” by staff, fought over by students, or rationed out to the most responsible children. Most of the Student Leaders (or their friends) still brought equipment from home. This extra step
guaranteed access to equipment, thereby facilitating the choice of recess activity. Amy
(School 1) commented, “that’s why I use the playground (equipment); because it is always
there!”

The scarcity of equipment was a surprising finding due to the nature of the REP
partnership. All schools that agreed to run REP in their recess were given equipment (balls,
ropes, cones, bases, bats, and an equipment cage for storage) to ensure that the RS and SLs
at each school had the necessary equipment to play the games in the curriculum. Each SL
interviewed at the end of the year stated that there was still a shortage of equipment some
days, and that it directly affected their activity choices. For example, if a group of students
wanted to play Double Dutch and there were not enough sets of ropes, there may be long
lines. Students eventually wander elsewhere or end up spending their time inactively Talking
or Watching others. There appears to be a desire to be active, but the playground
environment does not always support the student’s activity choices.

Overall, most of the students at REP Case Study schools chose to be active,
especially if they were male, or if they were female in School 1 or 2. The most common
activities chosen were: Basketball, Kickball, Double Dutch, Talking, and using the
playground Equipment. As a whole, approximately 60 – 70% of the students in these
schools were active during recess time; with individual school observations ranging from 45
to 86% active.

School Aide Surveys.

In the middle of the school year, Asphalt Green became aware that equipment was
an important issue for the schools. Each participating school was given a new round of
equipment after the first of the year, and the School Aides were asked about access to
equipment on the end of the year surveys. Surveys were sent out to all participating REP
(and Control) schools in mid-May. Thirty-eight surveys were returned, 27 from SAs who worked during REP recess periods, seven from non-REP recess periods (still at REP schools, though), and four were returned from the Control school.

At the end of the survey, SAs were asked “any additional comments about recess at this school?” Nineteen SAs filled out this optional question, and nine of those (47%) commented about a lack of equipment. One SA at School 8 said that “additional equipment is always useful, especially very soft balls since they tend to be flying weaponry. Our balls seem to disappear frequently.” Another SA from School 19 agreed by saying, “recess means a great deal to students” and it is “very important to have enough equipment, different games to play, teaching children the importance of sharing space and trying to get everyone involved in different ways at playing and respecting each other.” Other SAs simply put “we need more equipment” or “we need more jump ropes.”

The SAs were also asked about their perception of student activity levels since the beginning of the school year. The data show that the majority of the SAs judged that their students were either engaging in the Same or More amount of physical activity. Two SAs checked that their students were both More and Less physically active (more than one response was allowed). Several Aides supervised large recess periods (many with more than 100 children), so it is possible they were aware that some students had increased their levels, while others were less active than several months prior.
Table 5-9

**Student Activity Levels: Responses from School Aide Survey, After Implementation**

Compared to the beginning of the school year, students are _____ physically active.

<table>
<thead>
<tr>
<th></th>
<th>Less</th>
<th>Same</th>
<th>More</th>
</tr>
</thead>
<tbody>
<tr>
<td>REP Recess n = 25</td>
<td>3*</td>
<td>9</td>
<td>14 (56%)</td>
</tr>
<tr>
<td>Non-REP Recess n = 6</td>
<td>1</td>
<td>0</td>
<td>6 (100%)</td>
</tr>
<tr>
<td>Control School n = 3</td>
<td>0</td>
<td>2</td>
<td>1 (33%)</td>
</tr>
</tbody>
</table>

*Response rate (and %)

Note: School Aides were allowed to select more than one option.

**Comparing Recess Activities Before REP and After Implementation.**

In order to understand if and/or how a peer-training program can influence play, a comparison between the before and after implementation data is required. First, a comparison between activity choices will be made, and then a comparison between before and after activity levels will be examined.

At the beginning of the school year, the most popular activity choices during recess seemed to be based on the gender of the student (see Table 5-10). Boys preferred Basketball, Kickball, Dodge Ball, and Talking (in order of %). Girls preferred Talking, Jump Rope, Equipment, and Kickball. By the end of the school year, the most popular activity choices during recess were still different based on the gender of the student. Boys still preferred Basketball and Kickball games, and Talking. However, due to the popularity of an athletic School Aide at School 2, Football became more common at the end of the school year for males. Girls still preferred Talking and using the Equipment, and Double Dutch replaced
Jump Rope to become the second most popular game. Because Frisbee became popular late in the year at School 3, it moved up as the fourth most popular activity for girls.

**Table 5-10**

*Summary of Activity Choices by Gender: Comparing Survey Data Before and After Implementation*

<table>
<thead>
<tr>
<th>School 1</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>Kickball</td>
<td>(26%)</td>
<td>Basketball (40%)</td>
</tr>
<tr>
<td>Dodge Ball</td>
<td>(18%)</td>
<td>Talking (10%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School 2</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>Basketball</td>
<td>(33%)</td>
<td>Basketball (21%)</td>
</tr>
<tr>
<td>Talking</td>
<td>(14%)</td>
<td>Football (18%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School 3</th>
<th>Most Popular Boy Activity</th>
<th>Most Popular Girl Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>Basketball</td>
<td>(46%)</td>
<td>Kickball (54%)</td>
</tr>
<tr>
<td>Kickball</td>
<td>(19%)</td>
<td>Basketball (41%)</td>
</tr>
</tbody>
</table>

Next, a comparison will be made between the students’ choices of activity level before and after implementation (see Table 5-11). Before the implementation of REP, boys at Schools 1 and 3 were at near-ceiling rates of active play. After the implementation of the program, rates of active play increased at Schools 2 and 3 for boys, and decreased at School 1. Before the implementation of REP, girls at all three schools were moderately engaged in active play. After the implementation of the program, rate of active play increased slightly in School 2, decreased in School 3, and remained stable in School 1.
Table 5-11

Summary of Activity Levels by Gender: Comparing Survey Data Before and After Implementation

<table>
<thead>
<tr>
<th></th>
<th>Average Boy Activity Level</th>
<th>Average Girl Activity Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>School 1</td>
<td>91%</td>
<td>78%</td>
</tr>
<tr>
<td>School 2</td>
<td>66%</td>
<td>81%</td>
</tr>
<tr>
<td>School 3</td>
<td>91%</td>
<td>98%</td>
</tr>
</tbody>
</table>

Note: Values are percentages of students engaged in active play.

According to the data discussed above, some REP school populations saw a moderate increase in active play. On the other hand, other REP school populations saw a drop in active play at the end of the school year. The data from the School Aides and Student Leaders helps illustrate some of the reasons why this may be. One of the most salient points from the SLs was that other students might have increased their knowledge of active games (through REP, potentially), but that did not immediately translate into choosing to engage in active play during recess. Even after learning about new games, a significant portion of females at all three schools used recess to Talk and socialize with peers (especially at School 3). However, at Schools 1 and 2, rates of Talking decreased from before to after measures, which correspond to more active play choices and an increase (at both schools) in rates of female active play. A shortage of equipment was also expressed by both SA and SLs and might have affected the students’ ability to play actively.

Can a Peer-Training Program Influence Gender Inclusion?

Student Leader Interviews.
At the beginning of the school year, the SLs explained how games were chosen and “teams” selected. Children felt free to play games that they wanted to, and playmates were gathered by interest level in a chosen activity, and not by gender. Student Leaders at the end of the year expressed similar processes were still occurring, at least for them personally.

All interviewed SLs felt sure that they could play just about any game or join any activity on the playground at the end of the year, but some explained that their level of confidence while doing so had increased because of the program. David (School 1) described his confidence as a product of being “a little more in tune with my friends out there.” His visibility on the playground had increased and more students knew him by name, which gave him a sense of belonging that he had not known earlier in the year. Nathan (School 2), Jane, and Jeff (both from School 3) described it as feeling more “comfortable” on the playground. Nathan and Jane attributed their increased comfort to a perceived decrease in recess conflict. Earlier in the year, Jane describes, she did not like “being around the whole environment, you know fighting…you don’t want to get hit like that.” Her level of comfort increased at the end of the year because the students had “other things to do” than fight. Jeff (School 3) explained it this way: “I got better at sports and I know and play Asphalt Green\(^9\) with other kids, and I know how they play.” For Jeff, this was especially true with basketball. He learned through participating in REP how to shoot better, which made him feel “more comfortable” and thus increased his confidence during recess.

Not all SLs felt this way; three of the students interviewed said that they were no more or less confident or comfortable with recess at the end of the year. As Kevin (School 3) puts it, he “still feel(s) the same…like I’ve always been comfortable with recess.”

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\(^9\) This is what the students at School 3 called REP: Asphalt Green.
also was the only SL who “didn’t really learn nothin’, cause most of the games I was good at” before joining REP. For this SL, participating in REP was not necessarily a learning opportunity, but rather a fun experience. Sally (School 2) simply stated that recess was “even more funner” than in the beginning. Amy (School 1) also felt that she learned mostly about conflicts from REP, and this did not directly translate to an increased comfort level with recess.

Regardless of feeling more or less confident in their activity choices, the main question was if SLs did those activities with the opposite gender more than before. All seven SLs at the end of the year played games with both boys and girls. At least two SLs routinely played one or more of the following activities with both boys and girls: Double Dutch, Tag (or Chase), Basketball, and Kickball. Less commonly mentioned examples were: Jump Rope, Talking, and Baseball.

**Observational Data.**

The observational data gathered at the three Case Study schools at the end of the school year included information about group morphology. For School 1, over the four observational periods (see Table 5-12) there was an average of five students playing alone, and an average of two dyads (two children per dyad). There was an average of 39 boys playing only with other boys, and an average of 22 girls playing only with other girls. Out of the 329 students combined in the observations, there were 87 who were playing in mixed gender groups (group = three or more children). This translates to 26% of the students engaged in mixed gender play at the end of the school year.
Table 5-12

School 1 Percentage of Students in Social Group Types After Implementation

<table>
<thead>
<tr>
<th>Observation</th>
<th>Gender</th>
<th>Alone</th>
<th>Dyads</th>
<th>Single Gender</th>
<th>Mixed Gender (Overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (M)</td>
<td>4%</td>
<td>9%</td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>Female (F)</td>
<td>3</td>
<td>0</td>
<td>33</td>
<td>67</td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>11</td>
<td>4</td>
<td>84</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>3</td>
<td>19</td>
<td>81</td>
<td>19</td>
</tr>
<tr>
<td>5</td>
<td>M</td>
<td>4</td>
<td>4</td>
<td>69</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>8</td>
<td>0</td>
<td>75</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>M</td>
<td>10</td>
<td>5</td>
<td>88</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>7</td>
<td>0</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>5</td>
<td>8</td>
<td>89</td>
<td>11</td>
</tr>
</tbody>
</table>

For School 2, there was an average of four students playing alone, and an average of seven dyads (see Table 5-13). There was an average of 46 boys playing only with boys, and an average of 32 girls playing only with girls. Out of the 299 students combined in the observations, there were 63 who were playing in mixed gender groups. This translates to 21% of the students engaged in mixed gender play at the end of the school year.

Table 5-13

School 2 Percentage of Students in Social Group Types After Implementation

<table>
<thead>
<tr>
<th>Observation</th>
<th>Gender</th>
<th>Alone</th>
<th>Dyads</th>
<th>Single Gender</th>
<th>Mixed Gender (Overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (M)</td>
<td>4%</td>
<td>9%</td>
<td>87%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>Female (F)</td>
<td>0</td>
<td>0</td>
<td>79</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>5</td>
<td>18</td>
<td>54</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>0</td>
<td>16</td>
<td>81</td>
<td>19</td>
</tr>
<tr>
<td>5</td>
<td>M</td>
<td>0</td>
<td>22</td>
<td>86</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>5</td>
<td>8</td>
<td>89</td>
<td>11</td>
</tr>
</tbody>
</table>
For School 3, there was an average of one (female) student playing alone, and there was an average of three dyads per observation (see Table 5-14). There was an average of seven boys playing only with boys, and an average of twelve girls playing only with girls. Out of the 83 students combined in the observations, there were 26 who were playing in mixed gender groups. This translates to almost a third (31%) of the students engaged in mixed gender play at the end of the school year.

**Table 5-14**

**School 3 Percentage of Students in Social Group Types After Implementation**

<table>
<thead>
<tr>
<th>Observation</th>
<th>Gender</th>
<th>Alone</th>
<th>Dyads</th>
<th>Single Gender</th>
<th>Mixed Gender (Overall)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Male (M)</td>
<td>0%</td>
<td>0%</td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>Female (F)</td>
<td>6</td>
<td>33</td>
<td>83</td>
<td>17</td>
</tr>
<tr>
<td>5</td>
<td>M</td>
<td>0</td>
<td>53</td>
<td>53</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>6</td>
<td>0</td>
<td>81</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>M</td>
<td>0</td>
<td>15</td>
<td>15</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>12.5</td>
<td>25</td>
<td>87.5</td>
<td>13</td>
</tr>
</tbody>
</table>

What does this data tell us about gender inclusion as a result of the year-long program in these case study schools? If we combine the observational data from before and after the implementation, trends in group morphology may become apparent. Since one of Asphalt Green’s goals was to increase gender inclusion on the playground, the number of mixed-gender groups should ideally increase from before to after if the program was successful. As displayed in Table 5-15, mixed-gender groups did not increase universally from the pre to post observations. In fact, at nearly all of the schools, the percentage of gender inclusive groups either held stable or decreased at the end of the program.
Table 5-15

**Summary of Mixed-Gender Play Levels: Comparing Before and After Implementation**

<table>
<thead>
<tr>
<th></th>
<th>Average Boy Mixed-Gender Play</th>
<th>Average Girl Mixed-Gender Play</th>
<th>Overall Mixed-Gender Play</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
<td>Before</td>
</tr>
<tr>
<td>School 1</td>
<td>(26) 25%</td>
<td>(42) 21%</td>
<td>(29) 39%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(55) 31%</td>
</tr>
<tr>
<td>School 2</td>
<td>(44) 32%</td>
<td>(43) 24%</td>
<td>(63) 50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(107) 40%</td>
</tr>
<tr>
<td>School 3</td>
<td>(19) 33%</td>
<td>(21) 51%</td>
<td>(22) 67%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(41) 46%</td>
</tr>
</tbody>
</table>

Note: Number in parentheses represents total number of students. School 1 had an additional observation in the after column, thus resulting in a higher raw score.

Considering that the number of mixed-gender groups did not see an increase at the end of the year, did the program affect gender inclusion at participating schools? The answer may not be so simple. All of the REP students interviewed felt comfortable at both the beginning and the end of the school year playing in mixed-gender groups and playing games with students of the opposite gender. This means that during recess there was a perception that each child has the option to play in a mixed-gender group. As the SL interviews illustrate, however, their level of confidence when entering or playing a game increased as a result of the program. This increased confidence may lead them to pursue a variety of games, including (but not limited to) mixed-gender activities. Thus, a lack of increase in mixed-gender play at the end of the school year does not directly imply that students’ confidence about such activities was not affected by the program.

**Can a Peer-Training Program Influence Playground Conflict?**

Student Surveys.
Students at the Control School, Survey Schools, and Case Study Schools filled out the Student Survey in early June of 2004. There were a total of 459 completed post surveys, compared to a total of 585 pre surveys (see Table 5-16). The format of the survey was exactly the same as before, but the time periods were simplified for ease of completion and the order of “seen” and “part of” were reversed. This survey was designed to capture the rate of conflict at the end of the school year, and allow comparisons between recess before and after the REP implementation.

Table 5-16

**Student Survey Participants After Implementation**

<table>
<thead>
<tr>
<th>Group</th>
<th>Total Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>96</td>
<td>20.9%</td>
</tr>
<tr>
<td>Survey</td>
<td>89</td>
<td>19.4%</td>
</tr>
<tr>
<td>Case Study</td>
<td>274</td>
<td>59.7%</td>
</tr>
<tr>
<td>3rd Grade</td>
<td>2</td>
<td>.4</td>
</tr>
<tr>
<td>4th Grade</td>
<td>181</td>
<td>39.4%</td>
</tr>
<tr>
<td>5th Grade</td>
<td>197</td>
<td>42.9%</td>
</tr>
<tr>
<td>6th Grade</td>
<td>79</td>
<td>17.2%</td>
</tr>
<tr>
<td>Boys</td>
<td>229</td>
<td>49.9%</td>
</tr>
<tr>
<td>Girls</td>
<td>230</td>
<td>50.1%</td>
</tr>
<tr>
<td>Non-REP</td>
<td>96</td>
<td>20.9%</td>
</tr>
<tr>
<td>REP</td>
<td>363</td>
<td>79.1%</td>
</tr>
</tbody>
</table>

In the chapter above, it was established that there were significant differences in before implementation conflict in the Control school and the 21 REP schools (see Table 4-17). The Control school reported significantly higher numbers of all been a part of conflicts, and higher rates of seeing Verbal Conflict. The first analysis of the after implementation data, therefore, should separate out the REP schools from the Control school (see Table 5-17). As before, the data is categorical (“yes” or “no”) and crosstabs were used to analyze the reported frequency of each type of conflict. Also, due to the large sample size (with before and
implementation data combined, n = 1044) and the large number of comparisons an
alpha of .01 was used to limit the risk of Type 1 errors (Field, 2013).

Table 5-17

**Student Survey Data By School Type, After Implementation**

<table>
<thead>
<tr>
<th>At recess, have you recently…</th>
<th>Percentage of Survey Respondents Replying &quot;Yes&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-REP School</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Seen</td>
<td>---</td>
</tr>
<tr>
<td>Verbal Aggression</td>
<td>96.8%</td>
</tr>
<tr>
<td>Verbal Conflict</td>
<td>95.7%</td>
</tr>
<tr>
<td>Lack of Sportsmanship</td>
<td>92.5%</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>91.4%</td>
</tr>
<tr>
<td>Conflict with Adults</td>
<td>82.8%**</td>
</tr>
<tr>
<td>Been a part of</td>
<td>---</td>
</tr>
<tr>
<td>Verbal Aggression</td>
<td>90.6%</td>
</tr>
<tr>
<td>Verbal Conflict</td>
<td>89.6%</td>
</tr>
<tr>
<td>Lack of Sportsmanship</td>
<td>80.0%*</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>76.8%</td>
</tr>
<tr>
<td>Conflict with Adults</td>
<td>51.6%</td>
</tr>
</tbody>
</table>

Note. Chi-Square analysis compared before and after implementation data for each school type. Non-REP percentages of conflict increased from before to after, while REP percentages decreased. *approaching significance at p<.05 **p<.01 ***p = .000

When the data from the REP schools were compared, several types of conflict reporting were significantly lower at the end of the school year. For the seen conflicts, all were significantly lower at the p = .000 level. Verbal Aggression seen: $X^2(1, N=805) = 31.99$, p=.000; Verbal Conflict seen: $X^2 (1, N=805) =36.12$, p=.000; Lack of Sportsmanship seen: $X^2 (1, N=804) = 39.46$, p=.000; Physical Aggression seen: $X^2 (1, N=803) = 56.56$, p=.000; and Conflict with Adults seen: $X^2 (1, N = 788) = 13.36$, p = .000. For the part of conflicts, two were approaching significance part of Lack of Sportsmanship: $X^2 (1, N=789) = 5.57$, p=.018 and part of Verbal Aggression: $X^2 (1, N = 797) = 4.36$, p=.037 and being a part of
Physical Aggression was significantly lower after the intervention $X^2 (1, N=781) = 10.73$, $p=.001$. This means that the students at the REP schools reported higher rates of conflict at the beginning of the year, and lower at the end of the year.

To see how this contrasts without the intervention, the data from the non-REP school (Control School) was compared. These data show that both categories of conflict (seen and part of) remained significantly higher than the REP schools (all comparisons were at the $p = .000$ level). When comparing the Control school’s data from the beginning of the school year to the end, one type of conflict (seeing Conflict with Adults) significantly increased, $X^2 (1, N=223) =10.30$, $p=.001$. One other conflict, being a part of Lack of Sportsmanship, was approaching significance, $X^2 (1, N=223) =4.01$, $p=.045$. In sum, schools who partnered with REP saw a decrease in conflict. The Control school saw no decrease in conflict at the end of the year, but rather an increase in certain types of conflict.

To explore the after implementation data further, Chi-square analyses were used to examine gender and grade level effects. It is possible that either the male or female students at the Control school accounted for the majority of the increased conflict. After running a Chi-square analysis on gender, it was confirmed that the significant increase in seeing Conflict with Adults, can be attributed to an increase in reported conflict by females, $X^2 (1, N = 118) = 8.17$, $p = .004$. Subsequently, being a part of Lack of Sportsmanship was approaching significance, and this can also be attributed to an increase by female students that was also approaching significance, $X^2 (1, N = 120) = 5.48$, $p = .019$.

Next, grade level effects on conflict rates were examined by running Chi-squares using REP Status and grade level as layers while comparing before and after data. Table 5-18 shows that REP students in fourth, fifth, and sixth grades had significant decreases in seen conflicts from before to after implementation. In the fourth grade, seeing Lack of
Sportsmanship was significantly lower, $X^2 (1, N = 352) = 9.27, p = .002$; and seeing Physical Aggression was significantly lower, $X^2 (1, N = 351) = 15.357, p = .000$.

Table 5-18

**Student Survey After Implementation: “Seeing conflicts” by Grade and REP Status**

<table>
<thead>
<tr>
<th>At recess, have you recently…</th>
<th>Percentage of Survey Respondents Replying &quot;Yes&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grade 4</td>
</tr>
<tr>
<td></td>
<td>R</td>
</tr>
<tr>
<td>Verbal Aggression</td>
<td>86.1</td>
</tr>
<tr>
<td>Verbal Conflict</td>
<td>82.2</td>
</tr>
<tr>
<td>Lack of Sportsmanship</td>
<td>70.0*</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>68.3**</td>
</tr>
<tr>
<td>Conflict with Adults</td>
<td>52.8</td>
</tr>
</tbody>
</table>

*Note. NR = Non-REP School, R = REP Schools; All chi-square comparisons were before vs. after implementation; All significant differences show lower percentages in the after implementation condition. *p<.01  **p<.001*

There were several significant changes from before to after implementation for fifth grade: seeing Verbal Aggression, $X^2 (1, N = 356) = 24.49, p = .000$; seeing Verbal Conflict, $X^2 (1, N = 356) = 28.36, p = .000$; seeing Lack of Sportsmanship, $X^2 (1, N = 355) = 27.13, p = .000$; seeing Physical Aggression, $X^2 (1, N = 355) = 31.06, p = .000$. There were three significant changes from before to after implementation for sixth grade: seeing Physical Aggression, $X^2 (1, N = 91) = 9.75, p = .005$; being a part of Lack of Sportsmanship, $X^2 (1, N = 90) = 10.87, p = .001$; and being a part of Conflict with Adults, $X^2 (1, N = 83) = 8.65, p = .002$ (see Table 5-19).
Table 5-19

**Student Survey After Implementation: “..a part of conflicts” by Grade and REP Status**

<table>
<thead>
<tr>
<th>At recess, have you recently...</th>
<th>Percentage of Survey Respondents Replying &quot;Yes&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Grade 4</strong></td>
</tr>
<tr>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Been a part of:</td>
<td>R</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Verbal Aggression</td>
<td>60.2%</td>
</tr>
<tr>
<td>Verbal Conflict</td>
<td>68.0</td>
</tr>
<tr>
<td>Lack of Sportsmanship</td>
<td>37.0</td>
</tr>
<tr>
<td>Physical Aggression</td>
<td>31.5</td>
</tr>
<tr>
<td>Conflict with Adults</td>
<td>17.1</td>
</tr>
</tbody>
</table>

*Note.* NR = Non-REP School, R = REP Schools; All chi-square comparisons were made before vs. after implementation. The two significant differences show lower percentages in the after implementation condition. *p = .001** **p = .002

**Comparing Pre and Post Surveys.**

The conflict surveys can provide tangible evidence of whether or not REP influenced aggressive behavior in the participating schools. The above data from the post surveys were compared to the pre surveys discussed earlier. Comparing the rates of conflict, both “being seen” and “being part of”, allows us to track changes with and without the intervention of the Recess Enhancement Program.

In summary, there was a significant decrease in the majority of conflict witnessed by and participated in at REP schools. At the REP schools, the majority of the decrease in conflict occurred in the fourth and fifth grades. There was a corresponding lack of change in almost all of the conflict types in the non-REP control school, except for two types of
conflict that appeared to become more common at the end of the school year. The majority of the increase in reported conflict came from female students at the Control school.

**Student Leader Workshops.**

At the end of the school year, the RSs met with their SL groups to discuss how the program affected recess in their schools. Out of the 21 participating schools, 14 workshops and summary sheets were completed. The workshop included a revisiting of the types of games most students see and engage in, and then each group discussed how they felt the program had affected recess (with emphasis on conflict and sportsmanship). In some schools, the SLs were able to come to a consensus about the effects of the program, but at a few, the students remained divided (the data below reflects this). At the end, each RS filled out a Closing Activity sheet for each of their schools.

Overall, the students had mixed reactions to questions about how conflict had changed over the school year. Four of the schools’ SL groups had split decisions when asked, “Do your student leaders at this school believe there are more, the same amount, or less conflict than at the beginning of the school year?” Two groups were split between more and less, one group was split between more and the same, and one group had SLs who believed each of the three responses was correct. If you count each of these divisions as a group, then six groups believed there was more conflict, five believed there was the same conflict, and seven believed there was less conflict.

How could these data be so mixed? At least three of the more schools explained their vote due to more fights at the end of every year, regardless of REP involvement. At least four more schools said that REP affected mostly REP students, and that it had little influence on recess at large. In fact, this was the reasoning given by all of the same schools: SLs were
changed for the better, but recess itself hadn’t changed much. All of the groups who said there were less conflicts, used an increase in sportsmanship as their main explanation.

Nearly all of the SL groups voted that sportsmanship had either stayed the same (9 groups) or become better (5 groups), while two groups said students had worse sportsmanship at the end of the year. Again, most of the same and better groups explained that REP participants experienced the biggest changes (this time in sportsmanship), and that the larger recess was affected to a lesser extent. Students gave examples such as a reduction in leaving people out of games, better knowledge of the rules of games which led to better adherence to the rules, students getting along better, and being better teammates. At School 9, the SLs agreed that they thought games were more fun without conflict, and that winning or being first to kick became less important as the school year progressed. The two worse sportsmanship groups identified that they were aware of more conflict over rules of games, and that students were still being left out of games at the end of the year.

**Observational Data.**

During the end of the year observations, many different types of conflict were identified. At both School 1 and 2, Rough and Tumble Play (R & T) was used by large groups of boys. As described in the literature review of Chapter 2 this type of play) can mistakenly be identified by adults as aggressive acts or the beginnings of conflict, but often are seen as affiliative behaviors by the boys themselves. In both cases, the male students were allowed to engage in R & T without intervention from the SAs. At School 2 (Observation #4), a female student fell and scraped her knee hard enough to cause bleeding. A small group (three total) of female students nearby began to laugh at her, and this caused

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10 This awareness might have led to a perceived increase in conflict or poor sportsmanship = confirmation bias.
her to cry and seek the assistance of a SA. The SA evaluated the injury and sent the girl to
the office for a bandage, and told the girl to “just ignore” the teasing classmates. At no time
during this recess period did the SA say anything to the small group of girls. According to
the conflict survey, this type of interaction is labeled as *Verbal Aggression* (it includes
situations such as: “teasing, laughing, or calling someone names”).

The biggest conflict witnessed during the observations was at School 1 during
Observation #5. A mixed group of male (7) and female (4) students began to have a verbal
conflict near the playground equipment about halfway through the recess period. This
conflict was not boys vs. girls, but rather seemed to be multiple dyad conflicts and sub-
conflicts. Insults about the students themselves were thrown and eventually comments about
family members were thrown in (At one point, a female student said to a male, “at least my
mom can tie her shoes.”). This group conflict lasted a full minute before breaking up
naturally and each participant went to a different location on the playground. Interestingly,
this was the loudest observed recess period of the entire year, with both a table saw buzzing
in a construction project 20 feet away from the playground equipment and two loud trucks
revving their engines across the street.

The only other observed conflict was also at School 1 in the last observation of the
school year (Observation 7). This conflict was between a female SL and a non-SL male. The
two students had a verbal conflict that started over a game of jump rope. It was brief, but
another SL had enough time to contemplate intervening, which he decided against. He
explained, “I didn’t know how to handle the situation.” Throughout the school year, the SLs
were trained in ways to stop a conflict, but the REP curriculum did not provide examples of
what to do if your fellow SL is fighting with another student. The following day, the RS used
this conflict as a launching pad for a discussion on leadership and sportsmanship with the entire SL group.

As in the earlier observations, no conflicts were identified at School 3. While it is possible that no conflicts occurred during these days, it is also possible that some were missed in areas that were not under observation at any given moment or that some occurred in the transition space from cafeteria to the playground.

At the end of the school year, was there less conflict on REP playgrounds? The answer is not simple. The interview and observational data show that conflict was still a part of regular recess activity, and that the students were aware of this. Conflict came in different shapes and sizes, and is clearly handled on a case by case basis at each school. The student surveys showed that most students see conflict on a regular basis, but fewer are participating in the different types of conflict. Also, REP schools had a decrease in many types of conflicts over the school year while the Control school held previously high rates of conflict, and saw an increase in two types of conflict at the end of the year.

**Limitations of the research methodology**

While the observations of recess were thorough and systematic, inherent in this methodology is the impossibility of observing all children at once. Potentially important data in one area of the schoolyard was missed while recording was taking place in another. Steps were taken to ensure that the observational data was an accurate snapshot of recess, including: using a systematic approach throughout, allowing play to begin for 5 minutes before recording started, visiting each play yard multiple times before starting the observations, and using an established technique that was used in previous work by the researcher. Nevertheless, with the relatively small number of observation periods it is
possible that the activity levels and choices, gender mixing, and conflict rates of each of the three Case Study schools were different than what was recorded. Another area of limitation in the data gathering was in the dissemination and collection of the Student Surveys to the SL’s in all participating schools, and Other Students at the Control and three Case Study Schools. While these surveys generated significant data, they had two major drawbacks: 1 - each survey included a long list of each type of conflict that could have confused some children and 2 - the researcher did not track the survey participants from pre to post dissemination. The surveys were particularly challenging for the younger students to fill out, especially considering that some SL groups included 3rd graders who have emerging literacy skills. The biggest drawback of the surveys was that the researcher had no means to track which participants took the pre and post surveys. Because the surveys were handed out by the RSs and (in the Case Study and Control schools) by teachers, instead of handled by the researcher herself, the ability to identify and track participants was not possible. This means that the pre and post surveys were largely completed by the same students, but there were undoubtedly students who only filled out one survey. The data could not be analyzed using a repeated measures technique, because no connections could be made for participants from time 1 to time 2. This presents a problem when using chi-square analyses, as each cell is assumed to be independent from the next (Field, 2013). These data were neither completely independent nor were they tracked using repeated measures techniques. Chi-square analyses were the only statistical techniques employed for the Student Survey data, and therefore the comparisons should be interpreted with caution.

Including both qualitative and quantitative methodology created a tremendous amount of data; in hindsight it would have been better to focus collection efforts on one or two methods, such as observations and interviews with students. Each participating school
received fewer than eight observations (total of before and after implementation), which limits the external validity of the results. Recess observations were especially challenging to capture because they tended to occur in the middle of the day around the same time as each other. At most, one recess observation per day was collected. Increasing the number of Case Study sites would have increased the sample size of the some of the data sources, again affecting generalization of the results.
Chapter 6 Changing Patterns of Power and Influence on Children’s Play as a Result of the Intervention

This chapter will discuss how issues of power existed on the playground before REP was implemented, and how those dynamics changed (if at all) during the school year. At each site, different employees seemed to control access to recess, set the rules, and enforce them at unequal levels. Finally, the selection of the Student Leaders proved to be one of the key features of success in many of the REP schools. In this chapter, we will look at the combination of recess control and selection of SLs as variables in the equation of REP success.

Who Controls Recess: Notes Before Intervention

In all of the participating schools, the recess schedule was set by the administration before the school year began. However, most administrators (principals and vice/assistant principals) were not in direct control or supervision of recess during the year. The pattern and rhythm of recess was usually left to School Aides (paraprofessionals), occasionally a Physical Education teacher or a School Counselor/Psychologist, and even more rarely a parent or neighborhood volunteer. Some of these adults worked together in teams with other adults, and some were left to supervise dozens of children alone. This led to a great variety in the type and amount of rules implemented in each school’s recess. In fact, depending on the absence of a SA or other school staff, recess rules could fluctuate daily.

During the first SA training (held by Asphalt Green in November), several SAs remarked that they had never spoken with other professionals about how to handle recess and lunch periods. This is all the more striking considering that the SAs had held these
positions for an average of seven and one half years (some over 20 years). Adam, a SA from School 1, explained that not only was there a lack of training for staff who supervise recess, but there was often a rift between administration/teachers and other staff members (including janitors, security, and paraprofessionals) to the point that there was little respectful communication across the professional boundary and teamwork was rare. Considering the limited training involved in becoming a school paraprofessional (and limited education, as most SAs had little more than a high school diploma or equivalent), most SAs developed their own best practices for recess using intuition, judgment, and experience on the job.

The time at which recess began at REP schools was rarely consistent. SAs at most of the REP schools were responsible for the shift from cafeteria to playground. Each school had its own rhythm for this time of day. In some, students were allowed down a flight or two of stairs from the cafeteria to the playground once a bell rang, others let students walk out to the play yard when finished with lunch (lunch and recess were lumped together), and still other schools required a lining up procedure in the cafeteria which was then marched to the yard together. At the first SA training, many SAs reported that this was one of the most challenging times of the day. Students run around, others push each other to claim territory on the yard, and the yelling and arguing quickly increase the volume of tight spaces. The resulting response from this chaotic transition is that many SAs created and enforced strict rules about the transition out to the yard. These rules often included consequences that could delay the start of actual recess time.

How does a SA delay the start of recess time? Two of the Case Study schools used a lining up technique where the students had to line up against a wall (or hallway) and remain quiet for a required amount of time before being released outside to play. At School 3, the
lead SA frequently required the cafeteria to be cleaned up by students before dismissing them onto the playground, which could delay recess by several minutes. During an early (before REP implementation) observation at School 1, the PE instructor disapproved of the way the students descended the stairs and therefore required all of them to sit down against a wall for nearly 10 minutes. The concern at the time was safety of the students, but this punishment reduced their play time by 75% that day. The withholding of a pleasant activity can be easily recognized as negative punishment, but a PE teacher withholding physical activity seems to send mixed messages about the value of play. According to the SL interviews, this is a frequent (at all schools) punishment for individual students and relatively less common for an entire class. However, some SAs rely on social pressure to facilitate good behavior by punishing whole classes as Amy (School 1) says, “We are a group, so we have to get punished as a group.”

Several SLs were asked in the beginning of the year interviews to talk about their relationship with the SAs in their schools. Most of them saw their SAs as a source of safety, an adult to go to in times of conflict, crisis, or need. When asked the question, “what are the school aides doing during recess?” the most common answer was a variation of watching. “Keep(ing) an eye on the playground”, “watch(ing) for fights”, and “sit(ting) and chat(ting), but alert” seemed to sum up the activities of the typical SA. David (School 1) described the PE instructor as “on guard” for conflicts, and School 3’s head SA Judy sometimes was asked to define an out or foul for team games, according to Gary. All of the SLs referred to the SAs or supervising staff as people of authority and reported no conflicts with them. This may not always the case at each school, REP or non-REP.

The Recess Specialists from REP became aware of early challenges in their respective schools very quickly. During the first staff meeting in early October, each RS described
challenges such as lack of appropriate space to work with SL groups, not enough equipment for teaching of games, slow SL selection process, and idiosyncratic rules to be followed at some schools. For example, at one school all games except Kickball were allowed, at another all male and female students were separated in the lunch room and on the playground, one school’s playground was on the roof and equipment was lost more than it was retained, and at least three participating schools shared their playgrounds with the public. At School 21, students were not allowed to play games with balls unless the REP Staff member was present. Many of these challenges were the result of rules created by SAs in their attempt to control the complexity of recess. (i.e. banning Kickball, no balls unless REP day).

Other challenges were products of administrative decision making. The administration at School 9 responded to their genuine lack of space by separating the school by gender (boys eat lunch while girls play, and vice versa). The NYC Parks Department and the Department of Education created the Schoolyards to Playgrounds program to increase the number of accessible parks for each neighborhood. Two REP schools participated in this program, which opened up their playground to the public during specific hours. At one Case Study school (School 2), children shared space with adult users of the park/playground. This kind of arrangement significantly increased the supervision responsibility of each SA during recess. Ultimately, each REP school had its own unique features, students, rules, and equipment and therefore each RS had to tailor their approach to each school environment.

**Who Controls Recess: The Selection of Leaders**

At the end of the school year, the RSs reported that SLs at 17 (out of 21; roughly 80%) participating schools had matured as a direct result of participation in REP. The

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11 Through the Schoolyards to Playgrounds program: [http://www.nycgovparks.org/greening/planycl/schoolyards](http://www.nycgovparks.org/greening/planycl/schoolyards)
remaining four schools’ SLs failed to show a discernable change after attending REP meetings for the better part of a full school year. At some REP schools, only a few SLs seemed to benefit from the recess program, while at others nearly all the SLs demonstrated growth in confidence, leadership and other social skills, and physical abilities. Why would this be? What would lead to an unequal contribution to students’ lives? The greatest factor seemed to be the REP Student Leader selection process at the beginning of the year.

New York City schools that wished to participate with Asphalt Green’s Recess Enhancement Program had to comply with a set of criteria in order for the partnership to be complete. This partnership included selecting appropriate SLs for the program, and guidelines were provided to each school to facilitate this process. Ideal students for the program would be able to miss a few minutes of class twice a week (in most schools), be capable of physical activity, demonstrate leadership or a potential for leadership, have adequate oral communication skills, and stand to benefit from participation in the program. Each school liaison was responsible for seeing this process through, and ultimately either the teachers or administrators at each school selected (or approved) the students to participate in the program.

Even though the program was described both in written form and through face-to-face meetings, some students who were not appropriate for the program were selected in a few schools. For example, at Schools 6, 14, and 20 at least half of the SL groups were students labeled as having behavioral problems by the administration (ADHD, Conduct Disorder, or other disruptive behavioral patterns). In these cases, administrators and/or teachers either mistook the program as a mode of reform for problematic students, or saw REP as an opportunity to remove disruptive students from the classroom a couple times a week. These SL groups presented a unique challenge to the RS in these schools, especially
considering the fact that SLs were to be the models of sportsmanship, demonstrate confident leadership, and to facilitate conflict resolution around their peers. Throughout the school year, teachers asked the RSs to discipline their SLs for behaviors that occurred in the classroom or to address non-REP issues with their SLs. This further challenged the RSs who were hired to lead a recess enhancement program and were little-prepared to intervene in this way.

Other SL groups were challenging even without the presence of children with behavioral problems. In most SL groups, there were a few students who misunderstood what the program was about and simply wanted to play games during recess. After volunteering for what they thought would be a fun program, they complained that there were too many lessons and that REP was boring. This factor tugged at the morale in several SL groups, and dropouts were common (for example, at School 10 the SL group initially was 17 strong and by the end of the first month had only six students left). Even at School 1, a Case Study school, one SL named David preferred to spend recess time in the library and not out on the playground. If it was a REP day, he willingly participated in the program, but most of the other days a week he kept to himself and read indoors. This was common at this school, where most of the SLs were only out for recess one non-REP day a week (mostly due to choosing alternative activities during the lunch hour). At two schools (12 and 20) SLs were not selected until the end of the first month of REP participation, and so RSs at those schools quickly found themselves behind schedule with their SL groups.

In many ways, the greatest hurdle for the RSs at each school was the implementation of the REP curriculum. Several schools had inadequate space, communication problems, lack of staff support (liaison), mismatched expectations, and inappropriate SL selections. These factors made the responsibilities of the RS hard to manage, and ultimately played a
role in the high staff turnover. Out of six RSs hired at the beginning of the school year, only one\textsuperscript{12} remained by June. This discontinuity in staff further challenged the success of REP during the 2003-2004 school year.

\textsuperscript{12} The number increases to two if you add the program assistant who stepped in and became a RS when a staff member resigned.
Chapter 7 Conclusions and Implications for Influencing Recess

This dissertation shows that recess is a complex, dynamic time of the school day. Many people hold power over recess: administrators, school aides, teachers, physical education instructors, and students. At the REP schools, the Recess Specialist and Student Leaders were intended to have more influence on the playground and to effect change; however this was not an easy proposition. Recess can be a time filled with conflict, play, inactivity, and bullying. It can also provide children with a sense of release from academic pressures and confidence in their physical abilities. In this chapter, the data is discussed in light of related theory and research. This is followed by a self-critique of the research, what the implications of the findings are for schools now and for further intervention and research on the subject.

Activity Levels

There was a clear gender difference in the activity choices during recess. Physical activity levels for males were consistently higher than females at Schools 1 and 3. Other research shows that in 200 observations of school playgrounds, approximately 67% of children were active during play (Colabianchi et al., 2009). In that study, over 60% and 70% of females and males, respectively, were active during the observations of both renovated and control spaces. These rates are very similar to what was found at the end of the school year in this research project. Whether or not students participate in a recess program, some children will choose not to be active during recess. School administrators and health policy advocates should be aware of these numbers and understand that these levels of activity are normal and that “inactive” includes the normal human activities during free time of rest, observation of others and social interaction while not moving.
What implications does this have for our considerations of childhood obesity?

Currently, some of the highest rates of overweight and obese youth (under 18) have been found with girls from minorities (Berk, 2011; Dolgin, 2011). Considering this program runs in public schools with a significant portion of minority groups, the application of a successful program is all the more important to counteract the obesity problem. Programs aimed at reducing obesity should theoretically target the population with the highest risk factors; therefore including games typically chosen by girls which might encourage them to become more physically active. Also, targeting the teasing behaviors that boys tend to focus on young girls who are active, would be a valuable addition to these obesity intervention programs.

Access to equipment is an essential key to recess activity. If we want children to be physically active, we must provide adequate equipment and restock as necessary. How many children would love to play basketball or kickball, only to be relegated to tag or hand games due to lack of equipment? Many of the children in REP brought their own equipment from home (most often basketballs, other playground balls, or jump ropes), and this only added to the weight of their already burdened backpacks. The availability of equipment is related to power struggles in many schools between administrators and staff and with the students who vie for the first chance to “score” for the day. Any program or school that wishes to increase levels of activity during recess needs to provide an ample supply of equipment and ensure that the distribution is fair and equitable across genders.

Gender

One of Asphalt Green’s goals was to increase mixed-gender play during recess.

Considering the realities of gender dynamics and cultural factors in sex-role stereotyping, this
may be a restrictive vision of utopian play. This program likely increased mixed-gender play potential, but did not seem to increase mixed-gender rates of play. The data show that males continued to choose highly active games, which are typically thought of as masculine (football, kickball, basketball, etc.), while females either chose to be inactive and talk, or play traditionally feminine games (jump rope or double dutch) or use the playground equipment.

The sample population for this dissertation was predominantly fourth through sixth graders, who are on the cusp of puberty (Dolgin, 2011). The literature review showed that girls who are on the onramp to adolescence decrease their participation in active games during recess, especially those games that are considered to be masculine (Klomsten et al., 2005; Schmalz & Kerstetter, 2006).

More important than a higher percentage of males and females playing together is the goal of a higher percentage of all children who express confidence that they can participate in any game that they wish during recess. A more comprehensive approach to the issue of gender inclusion in play would be for all children to have a thorough knowledge of games, an increased self-esteem and confidence in physical ability, an improvement of their sportsmanship, and appropriate leadership and self-advocacy skills.

**Leadership**

This dissertation showed that the selection of the SLs affected the implementation of REP. The selection of the leaders is especially critical when a cadre or dissemination program is chosen for the mode of delivery. When your entire curriculum hinges upon a few 4th and 5th graders using new skills and knowledge to teach and lead their peers, the type of student selected is arguably the most important part of your program. Especially in School 1
where most of the SLs chose day after day to stay inside and go to the library to read or create comic books, the dissemination phase of the program was never launched properly.

Most of the SLs (at all schools) were changed for the better by becoming a leader in the recess program, however the goal of REP is not to change individual student’s lives, but rather to improve recess as a whole. Even the RS were not able to fully agree on who makes an idea leader for REP, however they did agree that the SLs should enjoy being physically active and possess either current leadership skills or nascent ability. In order for a cadre or dissemination program to be fully implemented and effective, the participating students should be selected very carefully.

The leadership of the program was contextualized by a system of supervision at each school. Asphalt Green realized during the pilot year of REP (the year before this data was collected) that the School Aides could wield a tremendous amount of power during recess, and therefore needed to become a part of the program. As in similar program assessments, REP is best implemented when the school buys-in to the curriculum and the theory behind the implementation (Stevahn et al., 2005). SAs typically control equipment, the timing of recess, and intervene on daily conflicts. Most of the SAs at REP schools reported little to no training as part of their job, and therefore the need is great to teach them about intervening in conflict situations, gender dynamics, and the importance of appropriate physical activity.

Recognizing the resources and capital already at play during recess would be beneficial to any program running in an elementary school. Working broadly with both students and staff would not only give the program a higher chance of success, but would also pay tribute to the rights of each individual involved. A relatively comparable study to this dissertation explained that the ideal research would “acknowledge the importance that the new sociology on childhood places on designing research methodologies that involve
and respect the perspectives of children” (Willenberg et al., 2010, p. 211). This ideal model for research would also benefit any intervention program as well.

**Conflict**

In line with the preponderance of bullying program evaluations, this research project relied on self-reports of conflicts experienced during recess. This was not, however, the only measure of conflict. SLs had mixed reports about the amount of conflict at the end of the school year, and compared to before REP was implemented. The surveys (self-reported data) showed that REP participating schools showed a decrease in conflicts seen during recent recess. Conversely, the surveys showed that the Control school did not show a decrease at the end of the school year, but rather kept fairly high rates of conflict. At this school, conflict rates were near ceiling, with half of the items above a 90% level of reporting. According to the creators of the Peacemakers program, conflict is a daily occurrence for most elementary students, so the Control data is not surprising (Johnson & Johnson, 2002).

Most of the conflict literature highlights the value of experiencing conflict, even for children. Learning how to manage conflict and our responses to it, are valuable lessons for anyone, especially children who spend approximately 40% of their waking hours with peers (Berk, 2011). Conflict resolution theory is based in the belief that teaching children to deal with conflict over opinions, possessions, or rights helps them to avoid an escalation of their interactions into a physical conflict. The rate of seeing Physical Aggression was as high as 91.4% at the Control school, which is a cause for alarm. These data provide a strong case for continual conflict resolution curriculum in the schools, whether externally supported (as with Asphalt Green’s REP) or internally generated and implemented.

**Limitations of the research methodology**
Including both qualitative and quantitative methodology created a tremendous amount of data but in hindsight it would have been better to have focused collection efforts on one or two methods, such as observations and interviews with students. Each participating school received fewer than eight observations (total of before and after implementation), which limited the external validity of the results. Recess observations were especially challenging to capture because they tended to occur in the middle of the day around the same time as each other. At most, one recess observation per day was collected. Increasing the number of Case Study sites would have increased the sample size of the some of the data sources, again affecting generalization of the results.

Limitations of the intervention and the need for further research.

The physical environment of school play and the need to experiment with changing the physical affordances for children’s play and social interaction.

The review of literature on the factors influencing children’s play and social interaction revealed that changes to the physical environment can significantly influence how children play but the school recess implementation studied in this dissertation involved primarily social interventions, although some items of games equipment were included in this. Research in environmental psychology has found that increasing the physical diversity of a play space affords children with opportunities to engage in a greater diversity of types of activity and with different sized groups of children (Moore & Wong, 1997; Parsons, 2011). Had this recess intervention program also included physical modifications to schoolyards such as green plantings and the creation of spaces of different sizes and a variety of play
equipment within the schoolyards as part of their implementation the impacts on children’s play and social behavior would no doubt have been greater.

**The need for a focus on gender issues in the intervention.**

Considering the importance of gender to this area of research, it would be prudent to further explore the impact of a recess program on the perceptions of gender stereotypes and activity choices. Future research could bring these two literature areas together to see how the implementation of a program is able to “push back” against such strongly held cultural beliefs about gender. While the Student Survey collected data on the gender of the participant, this dimension was not fully explored in the Student Leader Interviews. Future research on play opportunities in school should include both qualitative and quantitative data on the intersection of gender and activity choices.

**The need for a broad agenda for intervention and research on play in schools.**

According to a recent policy statement by the Council for School Health (2013), recess is in danger of being eliminated in some school districts and under-valued in many more. Play is a vital part of childhood. Future research should continue to focus on play in and out of recess, and maintain firm boundaries between active play and exercise. One of the assumptions of many educational administrators is that physical education and play are the same. But the council’s policy statement quite rightly recognizes that “recess is a compliment to, not a replacement for, physical education” (2013, p. 186). If designed and managed well, play time in school offers children many opportunities beyond just exercising their bodies, including the learning of important social skills such as how to self-organize time with others, to play cooperatively and to deal with conflicts. The future research
agenda for play in schools should not be overrun and narrowed by the current crisis of obesity.

**The need for more deeply participatory and transformative interventions with children.**

The intervention used in this study was based on a traditional hierarchic model of youth leadership to achieve change on the schoolyards of New York City. This was in keeping with most types of school interventions with children. But, as reviewed in the Literature Review (Chapter One) when the goal is to change the culture of the school to one that deals with conflict effectively, a full scale, inclusive, implementation is a better match than one that relies on a few, select individuals to influence everyone else (Stevahn et al., 2005). Furthermore, the leadership model relies on the principle that a select number of children can be trained as leaders to effectively influence their peers. There has however been in recent years a growing recognition by many advocates and educators working with children that a more deeply participatory process involving all children offers the opportunity for broader, more inclusive, involvement and greater potential for increasing motivation to be involved in transforming conditions. This perspective has grown particularly out of the children's rights movement that has taken place in many nations outside of USA (Hart, 1992, 1997) and of the youth social justice moment that has recently developed within the USA (Fine & Torre, 2006). The research strategy that is typically used is called “participatory action research” (Fine & Torre, 2006; Hart et al., 1997; Reason, 1994). Rather than being given a problem and a training of what to do to change the problem, children themselves are involved in defining the problem, investigating the problem, taking action based on the results of their investigation and then evaluating the impacts of their actions. The potentials of this strategy for transforming play opportunities and activities in
schoolyards and school grounds are great for there is the opportunity for continuous revisiting and improvement of play opportunities over time. There is also the value to the children’s schooling for them to be able to learn about how research can be useful in practical ways in everyday life and how to conduct research. Much work is already been carried out in such participatory ways with children on the redesign of school environments for play (e.g. Landscapes for Learning). The potential is equally great for children to be creatively involved in expanding the repertoire of types of play for children of all ages and abilities through such participatory action research.
Appendix A

Questions for Interviews with REP Student Leaders

Activities
What are some of the most common things you do during recess?
Where are these activities located on the playground?
Who do you do these activities with? (Gender and Grade)
What materials/equipment/objects-parts of the environment-surfaces are important for your play?
What are some of the ways people form groups on the playground?

Conflicts/Problems
Are there any conflicts on the playground?
Fighting over equipment?
Use of space?
Rules of games?
Physical confrontations?
Teasing/bullying?
Boys vs. Girls?
Younger vs. Older Students?
Where do the conflicts occur?

Are there any other problems that occur during recess?
Access to equipment?
Time given for recess?
Recess taken away as a punishment?
Not enough space?

School Aides
What are the school aides doing during recess?
Where are they on the playground?
Do you ever talk to the school aides?
If yes, about what?

REP
How do you think REP could make your recess time better?
Are the games in the REP manual fun?
Are the games in the REP manual easy to play and remember?
Are there games that you would like to play with the REP team?
What do you think about the sportsmanship lessons?
What do you think about the conflict resolution lessons?
Are these lessons helpful to you; have you used them?
What have you learned about being a leader on the playground?
What would you do to improve REP for the student leaders?
What would you do to improve REP for the rest of the students during recess?
What would you do to improve recess at your school?
Appendix B

Questions for End-of-Year Interviews with Student Leaders

Recess Activities
What do you do during recess?
Where do you do these activities?
Who do you do these activities with?
What equipment do you use during these activities?
How have your activities during recess changed over the year?

REP Changed Student?
How has REP affected your feelings toward recess?
How has REP affected your feelings toward other students?
How has REP affected your feelings toward yourself?
Self-esteem
Self-image
Leadership abilities
Athletic ability
How has REP affected your opinions regarding physical activity?

REP Changed Recess?
How do you think REP has changed recess in your school?
Activity
Conflicts/Arguments
Sportsmanship
Inclusion (gender, ability level, non-friends, etc.)

Recommendations
What recommendations do you have for the program?
Staff
Student Leaders
Set-up
Games / Lessons

Anything else?
Appendix C

Conflict Categories from Student Survey (Before and After)

Verbal Aggression
Teasing, laughing, or calling someone names
Cursing or yelling at someone
Lying to someone
Gossiping or lying about someone
Leaving someone out of a game because they don't like the person
Leaving someone out of a game because they are not good at the game

Verbal Conflict
Arguing over who is better at a game or skill
Conflicts between girls and boys
Arguing over who can use space for a game
Arguing over picking teams
Arguing over the rules of a game
Arguing over the possession of the ball in a game
Arguing over turn taking in a game
Arguing over who is pitcher, catcher, first base, or other positions
Arguing over cheating during a game
Arguing over a score in a game
Arguing over an out in a game
Arguing because someone made a mistake in a game
Arguing over playing too rough in a game
Arguing during a game because of what happened in class or lunch

Lack of Sportsmanship
Leaving someone out of a game because they don't want to share equipment
Getting mad about losing and starting a fight
Bossing someone around
Conflict over taking up too much space with a game
Walking through a game and messing it up
Someone accidently gets hurt by another game and gets mad
Not sharing the equipment with others
Roofing balls on purpose

Physical Aggression
Using the equipment to hurt someone else on purpose
Stealing someone else's property
Threatening to hurt someone
Hitting, slapping, or punching someone with their hand
Kicking someone with their foot
Pushing or shoving someone
Tripping someone
Pulling someone's hair
Pulling someone's body
Pulling someone's clothing
Biting another person
Choking another person
Spitting on or near someone

Conflict with Adults
Not listening to a school aide or teacher during recess
References


