JOURNAL OF
SCHOOL HEALTH

RESEARCH ARTICLE

Playing Fair: The Contribution of High-Functioning Recess to Overall School Climate in Low-Income Elementary Schools

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ABSTRACT

BACKGROUND: Recess is a part of the elementary school day with strong implications for school climate. Positive school climate has been linked to a host of favorable student outcomes, from attendance to achievement. We examine 6 low-income elementary schools' experiences implementing a recess-based program designed to provide safe, healthy, and inclusive play to study how improving recess functioning can affect school climate.

METHODS: Data from teacher, principal, and recess coach interviews; student focus groups; recess observations; and a teacher survey are triangulated to understand the ways that recess changed during implementation. Comparing schools that achieved higher- and lower-functioning recesses, we link recess functioning with school climate.

RESULTS: Recess improved in all schools, but 4 of the 6 achieved a higher-functioning recess. In these schools, teachers and principals agreed that by the end of the year, recess offered opportunities for student engagement, conflict resolution, pro-social skill development, and emotional and physical safety. Respondents in these four schools linked these changes to improved overall school climate.

CONCLUSIONS: Recess is an important part of the school day for contributing to school climate. Creating a positive recess climate helps students to be engaged in meaningful play and return to class ready to learn.

Keywords: recess; school climate; play; emotional safety; physical safety.

Citation: London RA, Westrich L, Stokes-Guinan K, McLaughlin M. Playing fair: the contribution of high-functioning recess to overall school climate in low-income elementary schools. J Sch Health. 2015; 85: 53-60.

Received on January 20, 2014
Accepted on July 9, 2014

Recess has been called "the fourth R"[1] and is thought to be an important part of the elementary school day because the free play and physical activity associated with recess are key inputs to both learning and a well-behaved classroom.[2] Play itself is so critical for children's healthy development that it has been recognized by the United Nations High Commission for Human Rights as a right of every child[3] and by the American Academy of Pediatrics as an essential part of children's social, emotional, cognitive, and physical well-being, especially for those who are economically disadvantaged.[4] Because recess offers opportunities for both positive play and conflict, students' recess experiences can have powerful implications for how they experience their school's climate.

A positive school climate includes 4 main components: (1) physical and emotional safety at school; (2) positive relationships with peers and adults; (3) support for learning; and (4) institutional environment that fosters school connectedness and engagement.[5] Positive school climate promotes positive developmental outcomes for youth[6,7] including health promotion

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This study was conducted with funding from the Robert Wood Johnson Foundation. This research was conducted through the John W. Gardner Center for Youth and Their Communities at Stanford University, where all authors were affiliated at the time of data collection and analysis.

and risk reduction efforts among youth;[8-10] students' self-esteem[6] and social adjustment;[11,12] and overall school satisfaction.[13]

School climate research has neglected recess as a critical context that influences climate, focusing more on what happens inside classrooms.[14] For elementary students, recess provides opportunities to develop positive social relationships with peers[15,16] and to practice skills such as self-regulation, sharing, problem solving, and conflict resolution.[17-19] Recess also can be a time when students experience negative peer interactions. About half of all discipline incidents at schools occur during recess[20] and bullying occurs nearly twice as often on the playground as in the classroom.[21] As a result, recess may not feel emotionally or physically safe for students. Common playground struggles include exclusion and boredom,[22,23] which can lead to behavioral problems.[24] The more students are bullied, the less they enjoy recess and the more they dislike school in general.[25]

This study examines how implementing a high-functioning recess can contribute to a positive overall school climate in low-income elementary schools. We analyze data collected as part of an implementation study of Playworks, a program designed to provide safe, healthy, and inclusive play and physical activity to low-income schools. We document how changes that occurred at recess in 6 low-income elementary schools during their first year implementing Playworks and examine how creating a higher-functioning recess contributed to overall school climate. Schools implemented Playworks at different paces and with varying degrees of success. We compare schools with higher- and lower-functioning recesses at the end of the first year of implementation to investigate teacher, student, and principal perceptions about the extent to which changes in recess contributed to an improved recess experience and overall positive school climate.

METHODS

Playworks, a nonprofit organization operating in 23 US cities, sends trained, full-time ''coaches'' into low-income elementary schools with the goal of improving recess by increasing opportunities safe, meaningful play, and physical activity.[26] Coaches are trained to work with students to establish recess games with a common set of rules, introduce conflict resolution tools, and encourage positive language and inclusive behavior. They integrate these skills into the recess culture by playing alongside students and working closely with upper grade students who are trained as junior coaches to lead games and help resolve conflicts at their own and younger students' recesses.

Playworks does not promote a ''structured recess,'' which is more like a physical education class that offers prescribed activities.[27] Students are free to participate in any of the Playworks offerings, or another activity they wish to initiate.

Procedure

Six San Francisco Bay Area schools in 4 school districts that were newly implementing Playworks were identified to participate in the study during the 2009-2010 school year. The top panel of Table 1 shows that the schools were characterized by large non-White and English learner populations, and had high percentages of students receiving free and reduced-price lunches. The schools also faced academic challenges as demonstrated by the low percentage of students who were proficient in Math or English Language Arts.

The study team collected multiple types of data at each school at 3 points during the school year. In the fall and spring, we conducted interviews with the principal, 3 to 4 teachers (a total of 21), and the recess coach at each school using a semistructured protocol. We also conducted a focus group in the fall and spring with 6 to 10 fourth- and fifth-grade students who were junior coaches at each school.

Each school had 2 recess periods per day. In fall, winter, and spring we conducted semistructured observations of both recesses for different grade levels. In the spring we conducted a teacher survey in the 6 schools using a confidential, web-based questionnaire with an overall response rate of 65% (N = 93).

Data Analysis

We audiotaped and transcribed interviews and focus groups. We developed a coding system consistent with the grounded theory approach to data analysis,[28] including a set of descriptive and analytic codes and subcodes. We coded the data in multiple rounds, achieving an average percent agreement of 93% and Cohen's kappa coefficient of 0.61. In total, 11% of documents were coded by at least 2 coders to establish inter-rater reliability.

This analysis does not allow us to draw causal conclusions about the effects of Playworks. A randomized controlled trial of 14 schools nationwide (with 11 control schools) was conducted in 2010-2012 and found that Playworks reduced bullying, improved safety, increased physical activity, and improved some measures of school climate.[29,30] This implementation analysis was conducted apart from the trial.

RESULTS

Recess Functioning

Aligned with the criteria set out by the American Academy of Pediatrics for high-quality recess,[27] we find that schools with the best-functioning recess

Table 1. **School Characteristics**

	School 1	School 2	School 3	School 4	School 5	School 6
Student demographics and academic performance						
Female	45%	49%	45%	47%	48%	46%
Ethnicity						
Latino	84%	70%	82%	81%	52%	66%
Asian/Pacific Islander/Filipino	15%	14%	12%	5%	13%	26%
White	1%	12%	4%	4%	27%	5%
African American	1%	3%	2%	8%	4%	2%
Other/no response	0%	1%	1%	3%	5%	1%
English learner	64%	54%	62%	58%	55%	65%
Free/reduced-price lunch	100%	74%	78%	83%	61%	73%
Proficient Math	44%	50%	50%	50%	59%	54%
Proficient English Language Arts	35%	42%	42%	38%	48%	47%
Program improvement	No	No	Yes	Yes	No	No
School contextual factors						
Coach turnover	No	No	Yes	No	No	Yes
Timing of teacher training	Early	Early	Early	Late	None	Late
Teacher buy-in for program	Low	High	High	High	Medium	Low
Junior coaches allowed to work younger students' recess	Yes	Yes	Yes	Yes	No	Limited
Level of recess functioning at the end of the school year						
Level of recess functioning	Low	High	High	High	High	Low
Number of students	478	625	567	503	498	458

Proficiency in Math and English Language Arts as determined by the California Standards Test (CST) administered to second to fifth graders.
Sources: Student and school characteristics from California Department of Education Dataquest, http://www.cde.ca.gov/ds/. Recess function and contextual factors from primary data collections.

shared these characteristics: (1) appropriate games, space, and equipment were made available to students and (2) adults intentionally supported students' development of pro-social skills.

Developmentally appropriate organization to the playground is an important aspect of recess that promotes student engagement and enjoyment.[24] Coaches at all schools organized their playgrounds with designated spaces for each game and systems for making equipment available. They offered students a variety of activities and taught them rules to core games, which was viewed as critical to creating an organized recess. Teachers and principals stated that previously when students did not know or could not agree on game rules, conflicts arose. Overall, 89% of teachers surveyed agreed that there was improvement in recess organization. A teacher from one school commented: ''It's more of a structured, fun environment . . . you can see that they're playing soccer, whereas, before, you weren't sure what they were playing.''

In addition to improving recess organization, providing support for students' pro-social skill development was critical for establishing a high-functioning recess. Teachers at all schools described certain games that in past years had caused problems on the play yard because they were competitive and exclusive, causing conflicts that students were unable to resolve. These challenges left students frustrated and angry when recess concluded. We observed 3 components of pro-social skill development that were important for improving recess functioning: inclusion, positive language, and conflict resolution.

The coach promoted inclusion by establishing that everyone was invited to participate in any game regardless of sex, grade, or athletic ability. Inclusivity quickly became the norm, though in the more competitive games it was harder for students to maintain on their own.

Coaches emphasized positive language as a way of keeping students engaged. When a student lost a game or made a mistake, teachers reported that other students were accustomed to yelling ''you're out!'' or laughing at the student. Coaches promoted use of the phrase ''good job, nice try'' and giving high-fives to support students' efforts, successful or not. Coaches at all 6 schools modeled and encouraged positive language, though our observations suggested that students were slow to adopt it. Coaches concurred, noting that changing the established play yard vernacular was among the most challenging aspects of implementation.

Principals reportedly brought Playworks to their schools to address conflict during recess. Several issues caused conflict on the play yard, including who got to be on what team, which person or team got to go first, whether or not someone was ''out,'' equipment sharing, and rule following. Coaches approached conflict resolution with an easy-to-use tool—rock-paper-scissors (ro-sham-bo)—that could be used to resolve many of these issues. They emphasized the importance of resolving disagreements quickly so

students could get back to playing rather than waste recess time arguing.

According to respondents and our observations, all 6 study schools improved their recess functioning, but we identified 4 schools that were able to fully establish both components of a high-functioning recess. Two contextual factors mediated schools' success. The bottom panel of Table 1 illustrates the overlap between these factors and the level of recess functioning. First, the quality and consistency of the coach influenced the quality of recess. The skill, commitment, and ability of the coach to establish positive relationships with students were important contributors. At both schools that had lower-functioning recesses, the coaches fell short in some of these areas. Second, teacher buy-in for Playworks was essential for full adoption. As one coach at a school with high-functioning recess described: ''. . . the teachers [are] buying into it . . . supporting me . . . it trickles down, and the kids start to believe that it's a good program.'' Although nearly all teachers interviewed described a need for improvements in recess, not all were willing to embrace the program and its components. Training provided by Playworks for school personnel was correlated with teacher buy-in; those who were trained earlier in the year embraced the program more fully than those trained later, or not at all.

Recess Climate

A highly functioning recess leads to what we call a positive ''recess climate.'' This concept parallels overall school climate and borrows 3 of the school climate components: student engagement, physical and emotional safety, and positive relationships with adults.

The establishment of high-functioning recess through playground organization and support for pro-social skill development reportedly led to an increase in student engagement at recess at all schools. Most principals and teachers reported that students played few organized games at recess in prior years, but this changed quickly. ''From the very first week [the coach] was here . . . out of 120 kids or so, there was maybe a group of 10 kids that weren't actually engaged in a game, which was the opposite of what we've been seeing the last few years,'' commented one teacher. Another teacher mentioned that students in past years had asked to stay inside during recess because they did not know what to do on the playground, but that this no longer occurred. A third reported: ''I can see the difference . . . more children are involved in playing . . . they're not sitting around, they're not chasing . . . they're just really involved in constructive play.'' Students focused on having more games available to play at recess. ''[Before] Playworks . . . everything was kind of boring. . . . Now that [Coach] is here, we have more games, we have more fun,'' commented one junior coach.

Teachers believed that the emphasis on pro-social skill development fostered an increased sense of emotional and physical safety on the playground. ''Students feel more welcome to play with other kids,'' shared one teacher. Another said that students felt ''comfortable enough just to come and ask what team they're put on.'' Both students and teachers noted that students who would not have played together in the past had begun to interact on the playground. Ninety-two percent of teachers surveyed in schools with higher-functioning recesses reported that Playworks increased students' sense of being included in group activities at recess, compared with 59% of teachers at schools with recesses that were lower-functioning (Table 2).

Several factors influenced students' increased feelings of safety. Fostering positive language, although challenging, was seen as key. About half of teachers (49%) reported in the spring that students frequently encouraged each other with positive language (Table 2). One teacher stated: ''There's a lot more collegiality between the kids. They're using, 'Hey, good job, nice try,' instead of 'Ha ha, you're out.'''

Teachers reported reductions in conflict: 87% of teachers surveyed in schools with higher-functioning recesses said there was less or much less conflict at recess, compared with 56% of teachers at schools with lower-functioning recesses (Table 2). In interviews, staff at 5 schools credited this reduction in conflict in part to increased student engagement. According to one teacher: ''The kids are so busy now that there's not a lot of down time for them to get involved in little spats and arguments on the playground.''

Junior coaches from 4 schools also reported that there was less conflict and better behavior at recess. One student said: ''I've been here for 6 years and . . . there was a lot of arguing until Playworks came.'' However, junior coaches from the other 2 schools (one with higher-functioning recess) did not report a similar improvement, reporting that minor recess conflicts still occurred at about the same rate in the spring. What had changed, according to teachers and principals, was students' problem solving skills and their abilities to manage disagreements more quickly and without escalation.

Several principals reported that they had previously banned certain games because they led to conflict or aggressive behavior. As one student reported: ''. . . last year [we had] a severe problem with soccer . . . because people were acting very bad . . . they would call people bad words and tackle people and hit them.'' With a common set of rules, a contained space, and conflict resolution tools, soccer was allowed to continue and remained a popular recess game.

Table 2. **Teachers' Perceptions of Recess Functioning and Recess Climate**

Percent of Teachers Who Reported	Schools With Higher-Functioning Recess	Schools With Lower-Functioning Recess
Improvement or substantial improvement in recess organization*	93.6%	77.8%
Students initiate games at recess on their own often or very often**	83.0%	33.3%
Improvement or substantial improvement in students starting and sustaining recess games**	88.7%	51.8%
Improvement or substantial improvement in students feeling included at recess**	91.9%	59.2%
Improvement or substantial improvement in girls' engagement at recess**	85.5%	55.5%
Students encourage each other with positive language at recess often or very often	53.2%	35.0%
Improvement or substantial improvement in amount of conflict at recess**	87.1%	55.5%
Less or much less bullying among students	55.2%	33.4%
Agreement or strong agreement that students feel connected to the coach**	93.5%	72.4%
Coach played alongside students often or very often**	97.8%	52.3%
Number of teachers	62	29

Asterisks denote statistically significant differences between schools with higher-functioning and lower-functioning recesses. ** $p < .01$, * $p < .05$.
Source: Authors' tabulations from the spring teacher survey.

Overall, teachers reported less bullying at their schools since Playworks was implemented (Table 2), although there were no significant differences between schools with higher-functioning and lower-functioning recesses. According to one teacher: ''Bullying has virtually been eliminated by having . . . constructive activities at recess.'' Another said, ''I had kids that [used to] ask to stay inside with me . . . because they didn't feel safe at recess time. But this year . . . the number of kids who are actually doing something physical, organized, and not being mean to each other has significantly increased.''

Every principal interviewed in the spring reported that there was substantially less physical conflict at recess since Playworks arrived. Teachers interviewed from 5 of 6 schools agreed. As one teacher described it: ''Last year, we were putting out fires for 20 minutes if we had yard duty.'' One principal explained: ''The kids are just happier at recess and lunch . . . they feel safer . . . they feel that they have something to look forward to.''

Finally, positive relationships played a role in improving recess climate. In the spring, students in nearly all junior coach focus groups agreed that they liked and had a positive relationship with their coach. The majority of teachers surveyed in the spring believed that students in their schools felt connected to their coach, although the percentage who agreed was larger in schools with higher-functioning recesses (94%) compared with those with lower-functioning recesses (72%) (Table 2). In interviews, school staff credited this to the coach playing alongside students.

Recess and School Climate

Teachers and principals commented that establishing a positive recess climate had a transformative effect on the entire school climate. According to one principal: ''Teaching leadership, responsibility, respect . . . has really transformed our school . . . in ways that I was not expecting.'' The change in school climate was closely linked to students' happiness and sense of safety. In schools with higher-functioning recesses, 86% of teachers surveyed believed that students felt more or much more physically safe during the school day (beyond recess) after Playworks was implemented and 90% said that students were more or much more likely to feel emotionally safe at school (Table 3). This is a significantly larger proportion of teachers as compared with schools with lower-functioning recess (50% each). As one teacher explained: ''We've just seen a really big change in the overall climate. The kids are . . . doing things together, and they're doing things that are organized. Resolving conflicts makes everyone just happier and happier to come to school.''

The improved school climate was accompanied by some indicators that students felt more connected to their schools. Among teachers surveyed in schools with higher-functioning recesses, 88% reported an increase in students' sense of belonging at school compared with 46% among teachers at the other 2 schools (Table 3). Similarly, 84% of teachers at schools with higher-functioning recesses said that students felt more connected to school compared with 50% among teachers in the other 2 schools.

The coach played a big role in this change in connectedness. At recess and throughout the school day, students of all ages sought out the coach, who was often referred to as having ''rock star'' status. One principal told us that students talked to the coach about personal matters they would not discuss with other adults. We observed that the best coaches knew and used the names for every child and played with them individually and in groups. At all schools, coaches were one of few adults to interact with every child every day.

Providing students with a high-functioning recess and improved recess climate was also associated with several changes in the classroom. Teachers

Table 3. **Teachers' Perceptions of Overall School Climate**

Percent of Teachers Who Reported	Schools With Higher-Functioning Recess	Schools With Lower-Functioning Recess
Students were more or much more likely to feel physically safe at school since Playworks**	86.2%	50.0%
Students were more or much more likely to feel emotionally safe at school since Playworks**	89.6%	50.0%
Students were more or much more likely to feel a sense of belonging at school since Playworks**	87.8%	45.4%
Students were more or much more likely to feel a sense of connectedness at school since Playworks**	84.3%	50.0%
Number of teachers	62	29

Asterisks denote statistically significant differences between schools with higher-functioning and lower-functioning recesses. $^{**}p < .01$, $^{*}p < .05$.
Source: Authors' tabulations from the spring teacher survey.

from the 4 schools with higher-functioning recesses felt that changes on the playground had resulted in less conflict returning to the classroom following recess. One teacher explained the difference: ''It's the littler stuff that we don't see any more—the bickering and some of the teasing . . . the stuff that used to go into the classroom that we're not seeing as much.'' Another said: ''I simply don't have the level of disruption after recess that I did last year.'' Both teachers and principals agreed that the transition from recess back to the classroom was easier, with less emotional energy spent on resolving playground drama compared with previous years. One teacher attributed this to students' enjoyment of recess, explaining: ''They're satisfied when they come back from recess because they have experienced a positive recess. . . . I find they're ready to work.''

Students also began to use Playworks techniques during instructional time. For example, 70% of teachers noted an increase in student use of ro-sham-bo in the classroom. Teachers reported that students used this strategy spontaneously and effectively to solve minor conflicts and make quick decisions in the classroom without adult intervention. ''All the kids know [how to do ro-sham-bo] and in my class when I say, 'Okay, it's up to you how you're going to [decide] who goes first,' . . . they do paper, scissors, rock,'' explained one teacher.

By the end of the school year 71% of teachers surveyed reported that students used more positive language in the classroom, and 73% reported that students acted more inclusively in the classroom. Teachers expressed their beliefs that the focus on promoting positive language and inclusive behavior on the playground helped to create a supportive atmosphere throughout the school day. ''Playworks made a great contribution to the kids and how they treat each other. The students know how to . . . work with each other and cooperate,'' reported one teacher.

To a lesser extent, Playworks' presence in the schools affected teachers' practices. Many teachers reported already using strategies similar to those promoted by the coach for teaching pro-social skills, and noted that their use of these strategies was more effective since recess had improved. One teacher told us that Playworks takes ''things that we already do in the classroom, in terms of reinforcing respect and cooperation and communication with each other, and gives us yet another context to use that in.''

As a result of the changes brought to the playground, teachers reported placing a greater value on play at the end of the year than they had at the beginning. At schools with higher-functioning recess, 85% of teachers surveyed reported that their staff valued play more at the end of the year, compared with 54% of teachers at schools with lower-functioning recess, a statistically significant difference. One teacher reported: ''I hadn't thought about [the value of play] before . . . but now . . . I think it's really important. I think that they learn a lot about the world and how to interact with other people through play in ways that we don't get in the classroom.''

School administrators also agreed that a high-functioning recess influenced or supported the value they placed on play. A principal thought that children ''interacting with different kids from different classrooms, from different ages, out on the playground is . . . [a skill] they're going to need in life . . . you learn how to talk politely . . . how to solve issues, problems, with your words . . . how to be a bigger person sometimes.''

DISCUSSION

Limitations

This is a qualitative study on a nonrandom and small sample of schools in one geographic area. The study cannot, and was not intended to, establish program impacts.

Conclusions

In this article we argue that a high-functioning recess is a key contributor to school climate. Schools that provided appropriately organized recesses with adult support for pro-social behavior reportedly saw a positive shift in the recess climate—in terms of adult

and student relationships, physical and emotional safety, and student connectedness and engagement —which in turn was associated with improvements in overall school climate. This analysis points to a new framing for how a high-quality recess can positively contribute to a school's climate.

It is notable that these fundamental shifts took place in the short time frame of 1 school year. School cultures are well known as resistant to change,[31,32] and the student attitudes and behaviors Playworks addresses—inclusiveness, constructive responses to peers, and self-regulation—are often at odds with well-established norms of behavior on the playground. Many teachers' attitudes about play also changed over the course of the year. Instead of seeing recess or play as ''nice but not necessary,'' many came to see constructive play and organized recess time as supporting rather than competing with their classroom achievement goals, even in the high-stakes accountability context of testing and No Child Left Behind legislation.

In short, schools' experiences implementing Playworks reinforced the importance of recess as the ''fourth R,'' and the contribution of organized, well-supported play as an important ingredient to shifting overall school climate. The experiences of the 6 participating schools underscore the notion that recess provides fertile ground for promoting improved climate and should not be left out of the equation.

IMPLICATIONS FOR SCHOOL HEALTH

A healthy school climate is a key component in fostering students' academic success and recess has an important role to play. Yet, the quality of recess is in question. The American Academy of Pediatrics has outlined a set of guidelines intended to help schools develop positive recess functioning and climate[27]—guidelines necessary because recess today does not always meet these standards. Our research further demonstrates that although recess is not typically considered as part of overall school climate, recess climate was identified as a key factor by study respondents. As such, educational leaders should focus on student recess experiences as part of any plan to improve school climate. Many states have school climate initiatives in place to help combat bullying and to improve educational outcomes at lower-performing schools. For example, California now includes school climate as 1 of its 8 priority areas for local education agencies.[33] To support the inclusion of recess climate as a component of overall school climate, state and local educational leaders should ensure that elementary students have access to daily recess, make the appropriate changes to recess so that it provides a healthy and safe environment in line with the American Academy of Pediatrics guidelines, and test their progress by incorporating information about students' recess experiences on school climate surveys and assessments.

Human Subjects Approval Statement

All research activities were approved by the Stanford University Institutional Review Board. Adult and parental consents as well as student assents were obtained from respondents.

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