

Parents' Perceptions of School Recess Policies and Practices

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Abstract

Background: Previous research has shown that school recess can provide children with physical, social and cognitive benefits; yet, recess opportunities and experiences may be different between children with and without disabilities. Parent perceptions of recess are important to consider as they serve as advocates for their children's access and opportunities at school.

Objective: To examine parent perceptions of recess by children's disability status, family household income, and race/ethnicity.

Method: Participants included 473 parents from the US stratified across six household income levels. Confirmatory factor analyses were run for all 3 scales assessing parents' perception of belonging and victimization at recess, recess policies, and recess procedures. Regression analyses were run to examine if parents' perception of recess were predicted by race, income, or child disability status.

Results: Results revealed that parents' perceptions of recess were predicted by child disability status but not income or race. Specifically, parents' perceptions were significantly predicted by child disability status regarding victimization ($b = .13$, $SE = .06$, $p = .05$), recess policies about withholding recess ($b = .171$, $SE = .07$, $p = .01$), and finally, student engagement at recess ($b = .165$, $SE = .07$, $p = .02$).

Conclusion: Results show that according to their parents, children with disabilities may have a different experience at recess than children without disabilities and that there are ways to improve the recess environment to better meet the needs of all children.

Introduction

Recess in elementary school provides children discretionary time during the day in which they can play, socialize with their peers, and be physically active. Researchers have studied the recess environment and found numerous benefits for children's physical, cognitive, social and emotional development [1, 2] making this an important context to support public health. The growing evidence of the benefits substantiates the importance of recess time during the school day, however there are disparities in who has access to recess across the globe, and particularly within the United States of America (USA) in who has access to recess [3, 4, 5].

Since 2000, nearly 40% of school districts in the USA have decreased, or eliminated, daily recess [6, 7]. In contrast, only five states have laws that require daily recess in elementary schools [8]. The ongoing reductions in recess across the USA, concurrent with the lack of policy guiding access to recess, have created an opportunity gap, which can be defined by three primary components: (1) whether children have access to daily recess; (2) whether recess is withheld for academic or behavioral reasons; and (3) if the school has taken steps to ensure that all children have access to a safe and inclusive environment for recess⁴. Researchers have further identified that children's access to daily recess and experiences at recess may differ based on several student characteristics and demographic factors. Children who are from lower income families or those that attend urban schools are less likely to have access to daily recess, as well as fewer minutes of recess when compared to more affluent peers and those that reside in suburban and rural environments [3, 4, 5]. Moreover, Black and Hispanic students are more likely to have no recess or minimal access to recess [3, 5, 6] and may be more likely to have recess withheld for academic or behavioral reasons [4].

Emerging research has also shown disparities at recess for children with disabilities. Children with disabilities are a highly heterogeneous group, as both diagnoses and severity may differ greatly across individuals. Three common categories of disabilities among children can be developmental (e.g., Autism Spectrum Disorder, Down Syndrome),

physical (e.g., muscular dystrophy, hearing impairment), and emotional (e.g., anxiety, depression). While children may have a primary disability within one category, it is important to keep in mind that children may have disabilities in more than one category, or that their disability may span two categories (e.g. cerebral palsy would be both a developmental and physical disability). In considering opportunities for children with disabilities, legislation mandates the same access to recess as children without disabilities (i.e., Sect. 504 of the Rehabilitation Act of 1973), yet many students with disabilities are still being served in restrictive, segregated learning environments [9].

Children with disabilities do not always encounter recess in the same way as their peers without disabilities. Children with disabilities often experience social exclusion and bullying during recess, which can be compounded when they do not have adequate peer or adult supports [10, 11]. Evidence exists that indicates children with disabilities experience higher rates of victimization and negative affect, and lower belongingness at recess [11, 12]. Researchers have also found evidence that children with developmental disabilities are less physically active at recess than children without disabilities [11, 13, 14]. Children with physical disabilities have been reported to socialize less than peers during free-play and may have difficulty navigating the built environment of the playground using wheeled mobility [15, 16].

Parents play a crucial role in the lives of their children. For all children, particularly those in traditionally marginalized groups, parents should not only be informed of their child's educational opportunities but [17] also may need to advocate for their child's needs to be met in the school environment. Limited evidence exists on parents' perceptions of recess in elementary school. Researchers have found that parents are supportive of recess and generally want more recess time available for their children [18]. Hilbert [19] found that parents reported inclusive classrooms as beneficial for children with disabilities because they can learn from their peers and develop skills for independence. However, 63% of parents of children with disabilities responded that they did not think teachers in inclusive classrooms were prepared to deal with the needs of their children [19]. While to our knowledge no data exists on parents' perceptions of the recess environment, it is plausible that similar trends might be observed.

Parents of children with disabilities viewed physical activity participation as a positive experience with physical, social and cognitive benefits, but also underscored many perceived barriers to participation in physical activity [20, 21, 22]. This is especially important considering, aside from physical education (PE), children experience the majority of their physical activity during the school day at recess [23], which is one of the many reasons why recess is so important. Some evidence suggests that parents should be involved in the planning of physical activity opportunities for their children to ensure barriers to participation and their child's needs are addressed [22, 24]. Additionally, parents' perceptions about their child's school experiences are important to consider as parents can be policy levers for change and can often serve as their child's best advocate. Therefore, the purpose of the current study was to examine parent perceptions of recess by children's disability status, family household income, and race/ethnicity to not only gain a better understanding of children's experiences at recess but also to understand parents' views on this critical part of the school day. Specifically, the present study addresses one main research question: does child disability status, family household income, and/or race/ethnicity predict parents' perceptions of recess?

Method

All methods and procedures were carried out in accordance with relevant guidelines and regulations governing human subjects research.

Participants

Participants in the current study included 473 parents (43% mothers; 33% fathers) from the USA. Participants were stratified across six household income levels which included annual incomes of <\$20,000 ($n = 36$), \$20,000-\$44,999

($n = 72$), \$45,000-\$69,999 ($n = 96$), \$70,000-\$94,999 ($n = 99$), \$95,000-\$119,999 ($n = 74$), and >\$120,000 ($n = 96$). On average, participants reported having 1.5 children ($SD = .77$), with an average age of 10 years ($SD = 6.1$). Forty-two parents reported having a child with a developmental disability, 16 parents reported having a child with a physical disability, and 96 parents reported having a child with social, emotional, or behavioral challenges (e.g., ADHD, depression, anxiety). Finally, 44 parents reported having more than one child with a disability. Table 1 provides an overview of sample demographics.

Table 1

Sample Descriptive Statistics.

Descriptive Variable	n (%)
Relation to child	
Mother	218 (45.61)
Father	166 (34.73)
Stepmother	2 (0.42)
Stepfather	2 (0.42)
Grandparent	2 (0.42)
Gender not specified or missing	88 (18.41)
Race/ethnicity	
White	380 (79.66)
African American	24 (5.03)
Asian	34 (7.13)
Hispanic/Latino	28 (5.87)
Hawaiian/Pacific Islander	1 (0.21)
Native American	2 (0.42)
Biracial/multiracial	6 (1.26)
Other	2 (0.42)
Income	
< \$20,000	37 (7.76)
\$20,000-\$44,999	73 (15.30)
\$45,000-\$69,999	97 (20.34)
\$70,000-\$94,999	99 (20.75)
\$95,000-\$119,999	75 (15.72)
>\$120,000	96 (20.13)
Disability Status	
Developmental Disability	42 (8.81)
Physical Disability	16 (3.35)
Emotional/Behavioral Disability	96 (20.09)
More than 1 child with disability	44 (9.22)

Measures

Demographic data as well as parents' perceptions of three areas of recess were assessed: belonging and victimization, recess policies, and recess procedures. These measures are explained in further detail below.

Demographics. Demographic information was collected for all participants, including their relation to their children, race/ethnicity, annual household income, and the age and disability status of their children. For child disability status, parents had the option to indicate that the child had more than one disability. All demographic variables were coded as categorical variables and are presented in Table 1.

Belonging and victimization. Survey items related to belonging and victimization were based on previous surveys developed and validated by McNamara [12] and colleagues, in which they modified belonging and victimization items from existing scales to be adapted to the recess environment. In the current study, belonging and victimization items were slightly adapted to reflect parents' perceptions, rather than students (e.g., "I get along well with others during recess" was modified to "my child gets along well with others during recess"). All 12 items were measured on a 5-point Likert scale (strongly disagree to strongly agree). Results of a confirmatory factor analysis (CFA) revealed the model fit the data in the current study ($\chi^2 = 234.52, p < .001$; CFI = .968; TLI = .959; RMSEA = .098; SRMR = .042). Reliability was calculated with standardized estimates using McDonald's [25,26] omega coefficient ($\omega = (\sum \lambda_i)^2 / ((\sum \lambda_i)^2 + \sum \delta_{ii})$), where λ_i are the factor loadings and δ_{ii} the error variances. Internal reliability for the belonging scale, as measured by ω was .78. Internal reliability for the victimization scale, as measured by ω was .85. Individual items and factor loadings for the belonging and victimization scale can be found in Table 2.

Table 2

Factor Loadings for Belonging and Victimization Scale.

Item	Loadings
There are lots of different games my child can play during recess	0.823
My child is threatened at recess by other children	0.873
My child has access to a variety of things to play with at recess	0.811
My child is threatened at recess by adults	0.912
My child has friends they can play with during recess	0.812
My child is not allowed to play with certain groups of children at recess	0.724
My child has been hit, kicked, or scratched at recess	0.715
My child is supported by adults during recess	0.684
My child gets along well with others during recess	0.684
My child has been in a physical fight at recess	0.738
My child is comfortable talking to teachers and staff about problems that happen at recess	0.822
My child has been teased during recess	0.699

Recess policies. Items used to assess parent perceptions of recess policies were adapted from the School Physical Activity Policy Assessment (S-PAPA [27]). This assessment examines policy related to physical activity and recess opportunities at elementary schools and includes three modules: (a) Physical Education; (b) Recess, and (c) Other Before, During, and After School Programs. In the current study, only the Recess module items were used and they were adapted to parent's report of their beliefs about recess policies as it related to subscales of the importance of recess (e.g., "recess is an important part of the school day"); the unimportance of recess (e.g., "schools should not spend money on recess); and recess withholding (e.g., schools should not be allowed to take away recess for not

completing academic work”). All 12 items were measured on a 5-point Likert scale (strongly disagree to strongly agree). Results of a confirmatory factor analysis (CFA) revealed the model fit the data in the current study ($\chi^2 = 156.40$, $p < .001$; CFI = .986; TLI = .981; RMSEA = .067; SRMR = .031). Internal reliability, as measured by ω , was .89 for recess importance, .84 for recess unimportance, and .74 for recess withholding. Individual items and factor loadings for the parents’ perceptions of recess policies scale can be found in Table 3.

Table 3

Factor Loadings for Parents’ Perceptions of Recess Policies.

Individual Items	Loadings
Recess is an important part of the school day IMPORT1	0.874
Schools should not be allowed to take away recess for behavior problems in the classroom WITHHOLD1	0.612
Schools should not spend money on recess	0.742
Recess is just as important as any other subject at school	0.799
Children learn important social skills during recess	0.866
Recess is good for children’s health	0.877
Physical activity is not important during the school day	0.787
Schools should be focused on academic achievement, not being physically active	0.801
Play has no place in the school day	0.919
I do not care what happens during recess at my child’s school	0.634
Schools have more important issues to focus on other than recess	0.715
Schools should not be allowed to take away recess for not completing academic work	0.996

Recess procedures. Items used to assess parent perceptions of recess procedures were adapted from the Great Recess Framework – Observational Tool (GRF-OT [28]). The GRF-OT contains 17 items that describe critical aspects of a live recess environment. Previous research has established adequate validity and reliability for this measure. In the current study, 10 items from the GRF-OT were modified to assess parent reported perceptions of student and staff engagement practices (e.g., “Teachers and staff should encourage a positive culture at recess”) and the physical environment (e.g., “The recess environment should be free of hazards”). All 10 items (three pertaining to safety and structure, three pertaining to student engagement, four pertaining to teacher engagement) were measured on a 5-point Likert scale (strongly disagree to strongly agree). Results of a confirmatory factor analysis (CFA) revealed the model fit the data in the current study ($\chi^2 = 147.89$, $p < .001$; CFI = .977; TLI = .969; RMSEA = .085; SRMR = .036). Internal reliability, as measured by ω , was .81 for the physical environment, and .71 for student and staff engagement. Individual items and factor loadings for the parents’ perceptions of recess procedures scale can be found in Table 4.

Table 4

Factor Loadings for Parents’ Perceptions of Recess Procedures.

Individual Items	Loadings
Schools should have dedicated outdoor space to recess	0.834
Schools should have grass and natural areas for children to play in during recess	0.889
The recess environment should be free of hazards	0.744
Children should be able to do what they want at recess	
Recess should include a variety of activities for children to play	0.846
Children should be physically active during recess	0.699
Teachers and school staff should encourage a positive culture at recess	0.868
Teachers and school staff should supervise recess	0.752
Teachers and school staff should play alongside children at recess	0.216
Schools should teach children conflict resolution skills during recess	0.546

Procedures

All study procedures were approved by the Institutional Review Board at the first author's institution. Before any data were collected, informed consent was provided by all participants. Data were collected through Prolific [29] (www.prolific.co), an online platform designed for researchers to recruit potential study participants. The Prolific platform explicitly informs registered users that data collected will be used in research, has clear guidelines as to what is and is not allowable (e.g., direct identifiers are not allowed within data collection), and requires a minimum payment for participants at a rate of \$6.50 USD per hour. Prolific also allows researchers to recruit participants from pre-screened, unique niche populations. For the current study, only parents were included in the recruitment process. Previous research has suggested that Prolific produces high quality data that is comparable to, or of a higher standard as compared to other online recruitment methods [30]. This may be due to Prolific's implementation of quality checks limiting random responses and bot accounts, such as verifying phone numbers, limiting number of accounts using the same internet protocol (IP) address or internet service provider (ISP), restricting new accounts based on IP and ISP, and investigating suspicious accounts reported by researchers [31].

Data Analysis

Prior to data analysis, all data were screened for patterns of missingness. Data were also screened for careless responses, with no issues flagged. Specifically, data were checked to ensure that all participants responded uniquely to an open-ended question, no participant response time was below two-seconds per item, and no participant response time was below 2 SDs of the mean [32]. To account for missing data present at the item level, models were estimated using the full available information, based on algorithms implemented in *Mplus*. Data were then analyzed using latent variable modeling in *Mplus* v8.4 with the weighted least square mean and variance adjusted estimator. As a first step, we used CFA to test the fit of the measurement model of each assessment (as described under each measure above). Next, we created a household disability index (HDI) to account for how many disabilities each parent reported across all children living in the home. For example, if a participant listed Child 1 with a physical disability and developmental disability, and Child 2 with a physical disability, the corresponding HDI would be a score of "3" for that participant. HDI was then used as a predictor of parent perceptions of recess using a latent variable model framework along with household income and race/ethnicity. Model 1 examined the relationship between HDI and parent perceptions of belonging and victimization at recess. Model 2 examined the relationship between HDI, income, race/ethnicity and

parent perceptions of importance of recess, un-importance of recess, and recess withholding. Finally, Model 3 examined the relationship between HDI, income, race/ethnicity, and parent perceptions of the physical environment and staff and student engagement at recess.

Decisions about model fit were made using the Chi Square (χ^2) statistic, the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), the Tucker Lewis Index (TLI), and the Standard Root Mean Square Residual (SRMR). While the χ^2 statistic is the most commonly reported measure used in establishing model fit [33], this value is sensitive to sample size, and a non-significant χ^2 value is often difficult to obtain even when the model is a good fit using other criteria or assessment [34]. As such, it is typical to use model fit indices that are less dependent on variations in sample size such as the RMSEA, CFI, TLI, and SMRM (Marsh et al., 2004). Cut-off values $> .90$ for the CFI and TLI have been considered indicative of adequate model fit, while values $\geq .95$ are preferred for an acceptable model fit, and cut-off values $< .08$ have been considered indicative of adequate model fit for the SRMR and RMSEA, while values of $\leq .06$ for the RMSEA are preferred for an acceptable model fit [34,35].

Results

Victimization and Belonging

The model consisted of income, race and HDI and parents' perception of belonging and victimization revealed good model fit $\chi^2 (70) = 437.63, p < .001, RMSEA = .00, CFI = .95, TLI = .94, SRMR = .049$. Regression analyses revealed that parents' perceptions of their child's *belonging* at recess did not differ based on income, race, or HDI. Parents' perception of their child's *victimization* at recess was not predicted by income or race but was significantly predicted by HDI ($b = .13, SE = .06, p = .05$). Parents who reported a higher HDI were more likely to indicate that their child experienced victimization at recess as compared to parents who had a HDI of 0.

S-PAPA and Recess Policies

The model consisted of income, race, HDI and parents' perception of recess policy revealed good model fit, $\chi^2 (87) = 246.07, p < .001, RMSEA = .01, CFI = .98, TLI = .97, SMRM = .037$. Regression analyses revealed that income and race were not predictive of parents' beliefs about the importance of recess, unimportance of recess, or recess withholding policies. Similarly, HDI was not significantly predictive of parents' perceptions of recess importance or unimportance; it was however significantly predictive of parents' beliefs about withholding recess. Parents with a higher HDI were significantly more likely to believe that recess should not be withheld from students for behavioral or academic reasons ($b = .171, SE = .07, p = .01$).

GRF and Recess Procedures

Finally, the model that included income, race, HDI and parents' perception of recess procedures also demonstrated good model fit, $\chi^2 (47) = 103.97, p < .001, RMSEA = .043, CFI = .99, TLI = .98, SRMR = .035$. Results of the regression analyses revealed that of the demographic variables of focus, only having a higher HDI was predictive of parents' beliefs about student and staff engagement ($b = .165, SE = .07, p = .02$). Parents who indicated that they had one or more children with a disability were more likely to agree that recess should be comprised of a variety of activities including physical activity, that teachers should encourage a positive culture at recess while supervising and playing alongside children, and that conflict resolution skills should be taught to children. Interestingly, HDI was not predictive of parents' beliefs about safety and structure at recess, nor was income or race.

Discussion

The purpose of the current study was to gain a better understanding of parents' views on recess policies and procedures, as well as examine if parents' perceptions were predicted by three specific factors: child disability status, household income, and/or race/ethnicity. Results revealed that parents' perceptions of recess were predicted by a HDI (household disability index - number of disabilities in the household), but not income or race/ethnicity. Previous research has documented recess disparities based on race/ethnicity, social-economic status, and disability status [3,4,5,6]. Yet, for children with disabilities, data in the current study indicate that concerns of victimization on the playground, as well as reduced access to recess via recess withholding, are issues parents are attuned to. Limitations to the data in the current study preclude determining if victimization at recess and recess withholding happen more for children with disabilities, and thus are more discussed at home; or if parents are more sensitive to these issues due to exclusion in other parts of the school day [8]. Despite this, these data provide insight to important issues affecting children with disabilities during recess, as well as policy preferences within the schools of parents of marginalized children.

The current findings indicate that parents report more recess experiences of victimization for children with disabilities compared to children without disabilities. This is similar to past research that revealed children with disabilities are at a greater risk of experiencing bullying and victimization during school and at recess [11,12]. Unsurprisingly, the current findings also indicated that out of all recess procedures, including those regarding physical safety at recess, parents of children with a disability were most concerned about the social environment. Parents of children with a disability expressed a desire for a recess environment that includes multiple activities, is supervised by adults who also play alongside children, and is a space where conflict resolution occurs. While these conditions were described as important to parents of children with disabilities, previous research also supports that these conditions are related to the social and emotional development of children of all abilities [36]. While previous research has focused on the beneficial effect of recess on the physical health of children with disabilities, [13,20], data in the current study suggest a need to better understand how to support the social and emotional health of children with disabilities during recess.

Based on parent reporting in the current study, recess withholding policies may also be experienced differently for children with a disability. Recess withholding occurs when children are denied access to recess, usually due to academic or behavioral reasons. The current study's findings that parents of children with a disability were more likely to report that recess should not be withheld may indicate that withholding recess is a problem more pertinent to children with disabilities. It may also indicate that parents of children with a disability are more aware and sensitive to children being excluded from parts of the school day, especially considering the supporting evidence that children with disabilities have less access to and are more likely to be isolated from these types of social environments [11]. Moreover, the beneficial effects of recess withholding lack evidence and are causing more harm, especially for children with severe behavioral disabilities who would likely benefit from physical activity at recess [4]. Addressing recess withholding policies may be beneficial for all children, especially as previous research has revealed strong district policies on prohibiting recess withholding were associated with schools having increased odds of not withholding recess from students [37].

The current study findings cumulatively highlight the importance of designing and evaluating recess with the needs of children with disabilities in mind. Parents in the present study revealed that this means actions to decrease instances of victimization experienced at recess, increased access to recess time, and creating a positive and enjoyable social environment for children with disabilities. It is of utmost importance for school recess to be a safe and stimulating environment for all children, but especially for children with disabilities. Exploration of parents' perceptions of their children's recess is an additional avenue to capture children's experiences at recess that they may not be sharing with teachers or may not be as easily observable on the playground. This is especially relevant since children with disabilities often turn to their parents for support when experiencing bullying [38]. Parents may be important conduits

for changing recess policy to better support children with disabilities as they have extensive knowledge in the unique needs of their children and may be situated in a place of leverage to affect necessary change at the school level. Many parents of children with disabilities are already advocating for increased physical activity intervention efforts for their children [13,20] therefore, gaining a better understanding of their perceptions of how recess can be used as a time for intervention will help researchers create successful evidence-based programs to improve the quality of recess opportunities for all children.

Limitations & Future Directions

One limitation of the present study is that children's disability status was combined into one variable instead of examined separately by specific type of disability, such as physical, intellectual, or emotional/behavioral. Future research should consider examination of differences in parents' perceptions of recess based on child disability type and not just status. In the present study, only child disability status, income, and race/ethnicity as predictors of parents' perceptions of recess were examined. In the future, researchers should consider investigation of other factors influencing parents' perceptions of recess such as geographic school location (urban vs. rural [4]). Lastly, while data from parents about their children's experiences at recess provided relevant insights, particularly at a time in which children and teachers were not accessible due to the ongoing COVID-19 pandemic and related school closures, future research that gathers data directly from children, as well as teachers and other school staff who actually engage at recess may provide a more holistic picture of how recess is experienced differently for diverse children.

Conclusion

Results from this study show that according to their parents, children with disabilities may have a different, and often more negative, experience at recess than children without disabilities and that there are ways to improve the recess environment to better meet the needs of all children. Findings also provide the basis for suggestions that more beneficial recess procedures may be those that teach conflict resolution, provide a variety of engaging activities, and utilize teachers to create a positive environment. Schools should consider implementation of recess policies that encourage the use of these recess procedures, especially for children with disabilities.

Abbreviations

CFA - Confirmatory Factor Analysis

CFI – Comparative Fit Index

GRF-OT – The Great Recess Framework – Observational Tool

HDI – Household Disability Index

IP - Internet Protocol

ISP – Internet Service Provider

RMSEA – Root Mean Square Error of Approximation

SPAPA – School Physical Activity Policy Assessment

SRMR – Standard Root Mean Square Residual

TLI – Tucker Lewis Index

USA – United States of America

Declarations

Ethics approval and consent to participate

The present study was approved by the Institutional Review Board at Oregon State University (Study# 2019-0350). Informed consent was obtained from all participants.

Consent for publication

Not Applicable

Availability of data and materials

The dataset used and analyzed during the current study are available from the corresponding author on reasonable request.

Competing Interests

The authors declare they have no competing interests.

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Author's contributions

IO assisted with project conceptualization, analyzed and interpreted the data and was a major contributor in writing the manuscript.

JT assisted with project conceptualization was a major contributor in the writing manuscript.

SL substantively revised the manuscript and provided essential feedback.

MBS substantively revised the manuscript and provided essential feedback.

WVM assisted with project conceptualization, analyzed and interpreted the data and was a major contributor in writing and revising the manuscript.

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