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## Advantages of mixed-age free play in elementary school: perceptions of students, teachers, and parents

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### ABSTRACT

Mixed-age groups have been shown to be effective in classroom settings, but only a handful of studies have explored mixed-age grouping in play. This research is a case study of one New York public elementary school that places great value on recess and mixed-age groupings. The school has implemented *Let Grow Play Club* before school one day per week for students in kindergarten through fifth grade. We use child interviews, teacher interviews, and parent surveys to examine the perceptions of mixed-age, outdoor play provided in Play Club and the school more generally. Across the different types of data, stakeholders expressed their support for cross-age interactions in mixed-age groupings. This play was perceived as valuable for helping build friendships and developing social skills, as older children become role models to younger ones. As suggested by Vygotsky's (1978) theories, children are learning from one another and enhancing their development through unstructured play.

### KEYWORDS

Play; mixed-age; school; recess; Vygotsky; *Let Grow Play Club*

## Introduction

Most of us, and even most of our parents and grandparents, grew up in an age-segregated school system, which makes contemporary school systems seem natural and universal. Children are organized by ages into grades and proceed through a school system of sequential grade levels and curricula. According to Stone and Burriss (2019), age-segregation schooling is founded on a factory model and is a product of the Industrial Revolution that has permeated the world for 200 years. Learning is seen as a sequence of discrete skills that became more complex from year to year, and children of the same age are assumed to be the same in terms of development and needs. Children, at least children in US public schools, typically go outside for recess breaks to play with same-age peers in the same class and often do not have opportunities at school to play with children from other grades.

Children need to cultivate a diverse set of skills and, as pointed out by Robinson (2015), increased standardization runs counter to the way children learn – through play. An estimated 65 percent of children entering grade school will end up working in jobs that do not exist yet and they will need crucial critical thinking skills to be better prepared for the future job market (Krueger, 2017). Critical thinking is one of

the 6 C's – collaboration, communication, critical thinking, creativity, content knowledge, and confidence – that are increasingly seen as essential to children's future success (Trilling & Fadel, 2011). Many of these skills are not explicitly taught in the classroom, but can be learned as children engage in unstructured play (Hirsh-Pasek, Golinkoff, Berk, & Singer, 2009), especially with children of different ages. Vygotsky (1978) stressed the importance of the social environment and social interaction with others, particularly those who are more skilled, for children's cognitive development. To him, play is a critical learning experience that shapes the mental processes and lays the foundations for children's most successful functioning in years to come (Bodrova & Leong, 2007).

Mixed-age grouping, also known as multiage grouping, heterogeneous grouping, vertical grouping, family grouping, and ungraded classes, is the practice of placing children who are at least a year apart in age into the same group or class (Katz, Evangelou, & Hartman, 1990; Pool, Bijleveld, & Tavecchio, 2000). Unlike the factory model, such grouping assumes that children vary in development and needs in ways not fully predictable by age and that children can learn from those who are older and younger. Mixed-aged classrooms have been shown to be effective, as older children have opportunities to be leaders and teachers (Montessori, 1979), younger children can benefit from the modeling of older children (Kappler & Roellke, 2002), and teachers are able to provide differentiated, developmentally-appropriate curriculum to the range of students (Kappler & Roellke, 2002; Lloyd, 1999). Yet only a handful of studies (Gray, 2013, 2017; Stone, 2017; Stone & Burriss, 2019) have specifically explored the benefits of mixed-age grouping in play, largely because of the continued practice of age segregation in classrooms and on playgrounds (Gray, 2013). An even smaller number of studies have examined multiage outdoor play (Beresin, 2010; Brown & Taylor, 2008; Gray, 2013; Gray & Feldman, 2004; Holmes, 2012; Rouse, 2015), and this is the first study to specifically examine *Let Grow Play Club*.

This research is a single case study (Yin, 2018) of one U.S. public elementary school that places great value on recess and mixed-age groupings. A single case study inquiry relies on multiple sources of evidence to uncover phenomena in real-world situations. The district implemented *Let Grow Play Club* (<https://letgrow.org>) before school one day per week for students in kindergarten to grade 5. Let Grow Play Club is a non-profit organization co-founded by Lenore Skenazy (2010), author of *Free Range Kids: How to Raise Safe, Self-Reliant Children*, to help families and communities bring unstructured play back to schools and communities. Specifically, *Let Grow Play Club* is a before- or after-school program where students can engage in free play in mixed-age groups outdoors. Tools for play are available (jump ropes, balls, cardboard boxes) and adults are there to oversee activities, but the stress is on children developing games and negotiating peer interactions without adult interference.

The school district located in New York, U.S.A. followed New York State Department of Education (NYSED) frameworks for social emotional learning (SEL). NYSED's framework was established to maintain a safe and supportive school environment in order for students to develop social and emotional competencies. The superintendent also established standards for his school district that consisted of four components: Physical growth, Emotional growth, Academic growth, and Social Growth (PEAS). He believed

that each component was equally important as the others and included emphasis on play, including mixed-age play, for child development.

This study is part of a collaboration between a northeastern private university and a public elementary school to investigate the perceived advantages of mixed-age play from the perspective of key stakeholders, specifically teachers, parents, and students. Using both qualitative and quantitative data, we investigate the following research question: What are the perceptions of children, teachers, and parents experiencing a mixed-age before school Play Club?

### **Theoretical perspective on mixed-age play: Vygotsky**

Vygotsky's (1978) theories offer an optimal platform to examine multiage groupings during unstructured play and the naturally occurring interactions between children of different ages. He discusses the zone of proximal development (ZPD), defined as 'the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers' (p. 86). According to Vygotsky's theory, the more competent person ('expert') provides the less competent person ('novice') with support and guidance to achieve a task the novice would not be able to achieve without help. The older child in a mixed-age grouping during recess can support a younger child in climbing the monkey bars, playing a game of soccer, or shooting a basketball. Bodrova and Leong (2017) contend that ZPD concept needs to be expanded beyond the adult or experienced peer to include interactions in various social contexts. They note: 'While multi-age groups with older children functioning as play mentors used to be a common feature of the culture of childhood in many Western countries, today these kind of interactions are less and less common' (p. 66). Play is co-constructed by a child in interactions with other people and in mixed-age groups older children can serve as natural play mentors to younger ones.

Vygotsky (1978) based his theory on the ideas that children learn from one another who differ in age, ability, gender, and special needs. The Vygotskian view of play through a cultural-historical lens means that play typically emerges through social interactions with peers. In mixed-age unstructured play groupings older children often operate within the younger child's zone of proximal development (ZPD). Scaffolding occurs in mixed-age play as a way of supporting younger children to a level that makes games enjoyable and older children often do not provide more help than the younger children wants or needs (Gray, 2013). Play can lead to developmental accomplishments of younger and older children as they interact with one another in the social environment of play.

### **Mixed-age groupings in classrooms**

Mixed-age grouping can influence young children's social development and prosocial behaviors (Gray, 2011, 2013; Murphy, Doherty, & Kerr, 2016; Stone & Burriss, 2019). Older children in mixed-age classroom settings learn patience and tolerance, while being role models to younger children. The younger children played in more complex ways and behaved more maturely (Goldman, 1981; Howes & Farver, 1987; Logue,

2006). By watching older children, the younger children also develop skills around conflict resolution and important life skills, such as courtesy and manners (Katz et al., 1990).

Murphy et al. (2016) describes two settings in Northern Irish primary schools for children 3-to-6-years that implemented Golden Key principles. Golden Key principles include mixed age play, family involvement, meaningful lessons or events, differentiated lessons for younger and older children, and pairing two teachers to ask children questions. Integration of Vygotskian principles and the Golden Key principles of mixed-age play and enhanced home-school links resulted in improvements in children's learning and social interactions. Teachers reported improved social interactions of children 'that implied trust, care, and respect' (p.142). Mixed age play in a home-school family pedagogy resulted in older children looking after younger children and children's feelings of being cousins in their school family play-groups.

Howes and Farver (1987) observed two-year-olds and five-year-olds playing in pairs, both age-mixed and age-segregated. They found that two-year-olds in mixed-aged pairs engage in more complex play. Findings demonstrated that five-year-olds played at the same advanced level when paired with two-year-olds, drawing the toddlers into their play by providing them with appropriate props and telling them how to use the props. These younger children engaged in cooperative, social, and pretend play with five-year-olds, beyond their capabilities with their own peers. Goldman (1981) found that both 3-and-4-year-olds in mixed-age preschools engaged in less parallel play as compared to associative or cooperative forms of play, relative to those children in same age classrooms. Logue (2006) reported a teacher research project on the interaction between toddlers and preschoolers in a small childcare center. The observations revealed aggressive behaviors, such as hitting, kicking, spitting, taking objects, and demanding objects, were reduced in multiage groups compared to behaviors in same-age groups. Children shared more objects and imitated language at higher rates in multiage groups compared to same age groups.

Positive social interactions are found in preschool classes, as well as in mixed-age groups with a wider age range. Gray and Feldman (2004) describe play and mix-age grouping in a school of children ages four to nineteen in Sudbury Valley School. They found older students served as role models and showed responsibility for their behaviors as role models. Further, 'the interactions with older adolescents in the school often led children to act within their zone of proximal development' (p. 139). According to Gray (2011) mixed-age groupings allow older children the occasion to practice nurturing and leading. Older children can be the mature ones in the interactions and therefore benefit by practicing their nurturance and leadership, demonstrating more kindness and compassion toward children who are at least three years younger than themselves.

There are also documented academic benefits to mixed-age groupings in elementary school classrooms (Christie & Stone, 1999; Cronin, 2019; Roopnarine & Johnson, 1983), young children benefit when they mix with older children who can read, write, use numbers and incorporate these skills in their social play. With older children being more literate and numerate, they tend to scaffold their younger peers in acquiring skills in reading, math, and writing during play scenarios. Christie and Stone (1999) found that in a mixed-age group of kindergarten, first, and second grade, kindergarten children engaged in twice as many literacy activities while playing in the sociodramatic

play than kindergarten children grouped with children of the same age. The mixed-age group (K-2) engaged in a larger amount of collaborative literacy than the same-age group of kindergarten children. The combination of literacy experts with literacy novices increased the literacy experiences in the sociodramatic play center.

While many studies have found benefits for all children, some longitudinal studies (Bailey, Burchinal, & McWilliams, 1993; Moller, Forbes-Jones, & Hightower, 2008; Winsler et al., 2002) have found that younger children may benefit more from a mixed-age classroom environment than older children. Bailey et al. (1993) discovered that children in the mixed-age classes scored higher than children in the same age classes between 2-and-4 years of age, but the trend reversed for the oldest children. Winsler et al.'s (2002) studied sustained attention, social affiliation, and affect expression with 3-and-4-year-olds. Findings suggest that 3-year-olds did better in mixed-age classrooms but over time, 4-year-olds were less focused and task oriented. Children of both ages demonstrated significantly more positive effects such as laughter and smiles in mixed-age classrooms. Moller et al.'s (2008) longitudinal study investigated preschool age composition with 806 preschool children in 70 classrooms for age-specific benefits relevant to younger children in mixed-aged classes. Although the authors used two valid and reliable early childhood assessments (i.e. Child Observation Record, COR and Early Childhood Environment Rating Scale – Revised) at two time points approximately 6 months apart, findings contradicted advocates of mixed-age research (Katz et al., 1990; Stone, 2010; Stone & Burriss, 2019). A wide range in children's age within classrooms were negatively related to development and greater variance in classroom developmental age composition were stronger for children older in developmental age. From a theoretical Vygotskian perspective, the authors' data support the interpretation of the Vygotskian model that claim that variation in age and ability could be less beneficial to older children (Moller et al., 2008).

According to Vygotsky (1978), development occurs most rapidly when children collaborate with other children. There appear to be benefits to mixed-age grouping in play contexts, as well as in classrooms with toddlers, preschool, and school-age children. The empirical studies suggest possible costs for older children in classrooms, but Gray's (2013) extensive qualitative data on interactions between adolescents (ages 12–19) and children (ages 4–11) seem to demonstrate that the 'advantages of age mixing go in both directions' (p. 197).

### Mixed-age play outdoors

Several researchers have examined mixed-age outdoor play in a private school (Gray, 2013), elementary school playground (Beresin, 2010), and adventure playgrounds and Playwork (Brown & Taylor, 2008) and found social-emotional benefits to mixed-age play. Gray and Feldman (2004) coded 196 vignettes of mixed-age play interactions observing adolescents (age 12 and older) and young children (under age 12) at Sudbury Valley School. Of the 196 vignettes, Gray and Feldman (2004) analyzed 24 vignettes of the domain, formal physical games. The authors noted that adolescents and children often interacted because they 'shared enjoyment of vigorous physical play.' 'The adolescents scaffolded and interacted with the younger children to help them exercise physical skills that they would not have been able to exercise alone or with age-mates'

(Gray & Feldman, 2004, p. 129). The adolescents challenged but did not overwhelm younger children, and the children modified the rules and game goals to make the games challenging and fun for themselves.

Beresin's (2010) longitudinal ethnographic study documents recess and the culture of mixed-age play in a working class, multiracial, public elementary school in Philadelphia between 1991 and 2004. Recess followed lunch, which had three grades together. Beresin (2010) focused on lunch/recess of grades 3-to-6 (personal email communication, Beresin, 25 August 2019). Beresin (2010) describes how mixed-age children, beyond the surveillance of adults, create stories, rhymes, songs, and games such as hop-scotch, wrestling, and basketball. Audio and video-taped student interviews and commentaries of social interactions document the ways children negotiated such things as taking turns, using space, and making friends. Mixed-age recess for ethnically diverse elementary school children provided a powerful space for learning how to form friendships and social networks.

Outside of a school setting, multiage outdoor settings also take place on adventure playgrounds and neighborhoods. Adventure playgrounds have roots in the principles of Playwork in the United Kingdom (Brown & Taylor, 2008; Wilson, 2010). Playwork is a child-centered approach to outdoor play with mixed-age groupings. It is a professional, nondirective, and reflective approach supported by playworkers in schools, parks and a range of other settings (Brown, 2009). Adventure playgrounds provide free multi-age play spaces to help children develop creativity and confidence. There is minimal adult supervision, and a wide range of culturally diverse, mixed-aged children playing together. The playworker understands that children's play must be unadulterated by their agenda. According to Wilson (2010), 'Playworkers leave the children free to play for themselves but intervene in carefully measured ways to support the play process' (p. 9). Both older and younger children benefit from play on adventure playgrounds. Older children take on the role of tutor, nurturer, and mediator of conflicts while playing, while younger children learn new skills and develop positive self-esteem. Both older and younger children are challenged and learn to take risks as they socially interact with recycled materials, often called loose parts.

## Perceptions of mixed-age play

Adults sometimes feel anxious about children's safety in mixed-age play environments (Play Safety Forum, 2017; Skenazy, 2010). This can also be true of teachers that work in mixed-aged classes (Button & Wilde, 2019; Rouse, 2015). For example, Rouse (2015) found that staff at an Australian daycare center reported positive social learning outcomes of mixing ages such as empathy, caring, risk taking, and resilience, but preferred segregating children under 2 years of age from preschool children for safety precautions. Button and Wilde (2019) found similar concerns in their study of Forest School practitioners and their attitudes toward the risk of delivering mixed-age outdoor play sessions. Forest Schools are 'child centered, adult-facilitated, and play-based with access to woodland' (Button & Wilde, 2019, p. 26). Staff were initially concerned about risky play in the woodlands before delivering sessions to multiage children; however, they were able to justify the developmental and emotional benefits of children working and learning outdoors in mixed-age groupings.



Several studies (Byrnes, Shuster, & Jones, 1994; Edwards, Blaise, & Hammer, 2009; McClellan & Kinsey, 1999) have examined parents' as well as teachers' and children's perceptions of social behaviors in mixed-aged classrooms. Byrnes et al. (1994) surveyed the attitudes of children and parents in a multiage primary level (ages 6-8) program. The parents felt positively about the multiage structure as well as the social and academic progress their children made. Parents did have concerns that older and/or gifted children were not adequately challenged. The students had similar views. Some children preferred graded classrooms and expressed concerns about 'helping younger children too much' (Byrnes et al., 1994, p. 20). Teachers' perceptions of preschool mixed-aged groupings from a post-developmental framework was explored to investigate complexities and issues associated with multiage grouping (Edwards et al., 2009). The teachers understood 'multiage grouping as supporting children's learning, assisting children in the management of positive peer group relations, and reducing the stress of working in chronologically-based groupings' (p.6). McClellan and Kinsey (1999) used a teacher rating scale to examine children's social behaviors in 29 multiage classrooms in first-to-fifth-grades. Sixty-five percent were from middle-income families, and thirty-five percent were from low-income homes. The results suggested a significant positive effect on prosocial behaviors specifically aggressive prosocial friendship behaviors. Teachers noted fewer children experienced social isolation, and aggressive behaviors were significantly less in mixed-aged classroom.

In sum, according to Vygotsky (1978), development occurs most rapidly when children collaborate with other children. There appear to be benefits to mixed-age grouping in play contexts, as well as in classrooms with toddlers, preschool and school-age children. The empirical studies suggest possible costs for older children in classrooms, but Gray's (2013) extensive qualitative data on interactions between adolescents (ages 12–19) and children (ages 4–11) seem to demonstrate that the 'advantages of age mixing go in both directions' (p. 197). Parents often have concerns about the safety of their children in mixed-age play (Gray, 2011; Skenazy, 2010). While teachers see the benefits of risky play in mixed-aged outdoor play (Button & Wilde, 2019), there is a paucity of research related to mixed-age play outdoors during recess, and during *Let Grow Play Club*. A handful of researchers (Byrnes et al., 1994; Edwards et al., 2009; McClellan & Kinsey, 1999) have assessed parent, teacher, and children's perceptions of mixed-age play in the context of classrooms, not outdoor play.

## Method

Qualitative and quantitative data were collected that draw upon child interviews, teacher interviews, and parent surveys to examine perceptions of multiage play during a session of *Let Grow Play Club* at a Long Island, New York elementary school. The Long Island school in this study implemented *Let Grow Play Club* for one hour before school every Friday, each session of play club was for 10 weeks, took place outside whenever weather permitted, and contained child participants in grades kindergarten to fifth grade. There were a variety of materials available for kids to play with during Play Club that were not typically available during regular recess periods, including bouncy balls, jump ropes, hula hoops, Nerf balls, and wands with streamers. Playground equipment was available for children to play on during both recess and Play Club.



## Participants

The elementary school contains approximately 460 children between kindergarten and fifth grade. According to 2017 National Center for Education Statistics (NCES) data, 36.5% of students at the school come from low-income backgrounds, as measured by the percentage who receive free or reduced lunch. The student body is predominantly white – 62.4% of students are white, 29.5% Hispanic, 2.2% Black, 2.6% Asian, and 3.3% two or more races.

The school has 40-minute, mixed-age recess every day, and a number of different play environments (i.e. discovery center, small gym, large gym, outdoors). Thus, *Let Grow Play Club* was more an extension of existing school and district philosophy than a deviation from it.

Play Club children came to school at 8 am on Friday. The school day does not begin until 9:05 am, so Play Club participants did not miss any of the regular school day. Parents were responsible for transportation; many families car-pooled, some parents had assistance from relatives, and some children were enrolled in a before-care program. Children were chosen for Play Club based on a lottery system. A letter from the principal was sent home describing Play Club (see Appendix A). Parents signed consent forms and 100 children from graded K – 5 (approximately 16 per grade) were chosen to participate in a 10-week session in the fall and again in a 10-week session in the spring session. Children who participated in the fall were excluded from the lottery in the spring. We conducted our interviews and surveys throughout the fall session. Of the 100 students involved in Play Club, we sent letters and consent forms home to parents asking permission to interview their children about Play Club. We only interviewed children who returned their parent permission forms – 47 children total.

In addition to children, six classroom teachers participated in the study and responded to interview questions about play, recess, and mixed-aged groupings. The principal sent an email to all teachers asking if anyone would be willing to do a brief interview about recess and Play Club. A total of six expressed an interest to be interviewed and we interviewed them the following day. Two of these teachers had been involved in monitoring Play Club, and all had students who participated in Play Club.

Parents were surveyed at the end of the ten-week *Let Grow Play Club* to determine their views on their children's overall experiences in the program. These surveys were sent home to all parents whose children attended Play Club and were returned by 55 families.

## Data collection

We received approval study from our university's Institutional Review Board, the district's superintendent, and the school principal. Teachers signed inform consent forms before being interviewed, anonymous parent surveys had informed consent cover pages, and we received signed parental permission before all child interviews. For the sake of confidentiality, we do not include the names of the school, district, teachers, or children involved in this study.

We conducted interviews with both children and teachers based on the ethical standards outlined by the Society for Research in Child Development (SRCD) (2007). The

children were familiar with the researchers that conducted the interviews. One researcher was a former teacher in the district. The other researcher spent several days prior to the study watching children in classrooms and during recess. We interviewed children attending *Let Grow Play Club* immediately following Play Club outside of each child's classroom. Classroom teachers set up two chairs facing one another in the hallway for individual interviews. The researchers treated children as social agents and always asked them if they were comfortable being tape-recorded (Woodhead & Faulkner, 2008).

The sample was comprised of a total of 47 children: six kindergarten students, six first grade students, six second grade students, six third grade students, twelve fourth grade students, and eleven fifth grade students. Children were interviewed immediately after play club. We asked questions and collected data related to their experiences during *Let Grow Play Club*. For purposes of this paper we have analyzed the questions specifically related to mixed-age play: Did you play with any children older than you? How did it make you feel when a bigger child played with you? Did you play with any children younger than you? Tell me about the time you helped a child who looked sad or left out during Play Club?

We additionally conducted interviews with six teachers within the school, two kindergarten teachers, three first grade teachers, and one fifth grade teacher. The teachers had taught in the school between 1 and 20 years, with an average of 12.67 years. These interviews lasted between 8 and 19 minutes. We decided to interview teachers after we had started our analysis of the child interviews in hopes of getting the teachers' perspectives on a few main themes. We chose to do focused interviews related to changes in recess, the various play environments in the school, the perceived benefits of unstructured play, and the perceptions of mixed-age play. The emphasis in this paper is obviously on mixed-age play, and thus our analyses center on teachers' answers to the following questions: Do you see any benefits to mixed-age play in Play Club and recess? If so, what? Can you give me an example?

Finally, a total of 55 parents were anonymously surveyed just after their child(ren) completed Play Club in the fall. The surveys contained a series of Likert scale questions assessing the importance of different components of play. There is little to no quantitative data examining mixed-age play, so our use of this quantitative data is a significant addition to this body of literature.

### **Data analysis**

Quantitative data from parent surveys were all analyzed using SPSS. All variables in our observation data are dummy coded, with 1 indicating the presence of the behavior. Likert scale variables from the parent surveys are all 5-point scales where 4 indicates strong agreement. We used a grounded theory approach (Strauss & Corbin, 1998) to analyze our qualitative data, seeing which themes emerged from our transcribed child and teacher interviews. We went through all of the transcripts using open and then focused coding.

### **Findings**

The goal of our study was to examine the perceptions of children, teachers, and parents experiencing outdoor play with mixed ages before school. Students, teachers, and parents

in this study all expressed enthusiasm about mixed-age play. Children relayed enthusiasm about building friendships with children of all ages, parents expressed interest in their children playing with both older and younger children, and teachers elaborated on the social benefits of such play (building friendships, confidence, and opportunities to be a role model).

### *Children's perceptions of mixed-age play*

As seen in Table 1, the majority of children interviewed reported playing with children in different grades than them. Of kindergarten to fourth graders, 66.7% reported playing with children who were older than them; while 78.05% of first to fifth graders reported playing with children who were younger than them. Children in kindergarten and 1st grade were less likely than older children to report playing with children in different grade levels.

The children consistently discussed playing with kids from other grades as something that was unique, fun, or new about Play Club. This came up even outside of questions that were explicitly about playing with kids of different ages. In answering the questions about what made Play Club fun and different, 20 children positively discussed playing with kids who were older or younger than them. For example:

One of the older kids played with me. Even one of the older kids. She's in second grade. She's seven. (Kindergartener)

Sometimes I go and play with the little kids and I like playing with them because they're my friends and they're really nice to me. (Fifth Grader)

I felt lonely, but it was okay because I actually had little kids to play with. (Fifth Grader)

Children enjoyed the opportunities to establish new friendships, friendships that would not likely be established within an age-segregated model.

When children were asked how they felt when a bigger child played with them, many seemed to find the question difficult to answer. Of the 20 students who did answer this question, the most common response was a brief 'good' (8 students or 40%). Interestingly, four students (20%) talked about liking the challenge of playing with older children. For example, one fourth grader stated that 'it feels like I'm more grown up and I

**Table 1.** Reports from child interviews about whether child has played with older and younger kids.

Grade	Played with older kids	Played with younger kids	<i>N</i>
K	3 (50.0%)	–	6
1	3 (50.0%)	2 (33.3%)	6
2	4 (66.7%)	3 (50.0%)	6
3	6 (100%)	6 (100%)	6
4	8 (66.7%)	11 (91.7%)	12
5	–	10 (90.9%)	11
Total	24 (66.7% of 36 K-4th graders)	32 (78.05% of 41 1st–5th graders)	47

feel like it's more of a challenge for me when I'm playing a game.' Similarly, a second-grader noted that she liked playing with older children 'cause it's more challengy.' These children are pushing themselves socially and developmentally, scaffolding their learning as they play with the older children, and the older children are sometimes purposefully helping with this scaffolding. Four older children in the study reported teaching younger children games, as one fifth grader relayed 'I'll help them keep score and I'll teach them how to play.'

Older children in the study took on greater leadership roles when playing with younger children. Not only did they teach children games, as discussed above, but a few also reported encouraging kids in their play. For example, one fourth grader discussed playing a game with a younger boy: 'We let him take a free shot. He's a little kindergartener and he scored. We let him score. We all jumped on him and like 'Yay!' It made him happy.' A total of five children explicitly discussed playing with younger kids making them happy. One fifth grader noted: 'It made me happy that they're happy that they're playing with older kids.' With mixed-age play, older children are given the opportunity to be role models. They were kind to younger children and the children looked up to them. This also came up in their answers to the question 'Tell me a time that you helped a child that looked sad or left out during Play Club.' The majority of children either did not respond to this question or said that they had never seen someone left out (9 children of 28 asked). Of the 10 people who answered this question with an example, five relayed times that they had helped someone younger than them. One fifth grader stated:

Once there was a like, a like a second grader, I don't know what grade he was, and uh my friends were saying ... we should just not play with him because he's little. And I said we should just play and we got a different ball and played somewhere else ... I played with the little kid then all my friends joined us.

Overall, children reported playing with kids in different grades during Play Club. These interactions gave them opportunities to build friendships, learn new skills, and be role models.

### *Teachers' perceptions of mixed age play*

When asked about the benefits of mixed-age play for students, each of the six teachers interviewed discussed multiple benefits for both older and younger children. Each teacher talked about older children establishing themselves as role models to younger children:

I used to teach fifth grade, I had never seen fifth graders behave as nicely as when they're the buddies to the kindergartners. They take on a whole new level of maturity. When they're with their peers, I feel like they sometimes can be catty and bring each other down a little bit. When they're the role models, they rise to the occasion. (Kindergarten teacher)

The teachers interviewed discussed Play Club, in addition to other avenues for mixed-age interactions between kids:

I see them during book buddies in my classroom, during mixed play clubs, during any time that even the third grade and kindergartners in the cafeteria, a third grader will come over and help them open their juice boxes. They really respond to the opportunity to be the big kid and mature. (Kindergarten teacher)

On Global Play Day, we went and we partnered up with kindergarten. That blew my mind ... We encouraged them to go and play with a kindergarten-er. These boys who are all about baseball, and football, they were sitting at a tiny little chair with a kindergarten-er, playing with Play-Doh. Something they probably haven't played with in a couple years. I thought that was pretty amazing, just seeing their interactions with each other. I think it makes them sensitive, and more empathetic towards the younger children ... All the teachers were so amazed at how well they were playing together. They were so ... turn taking was happening. They were so happy. I can't describe it any other way. They were just happy. (Fifth Grade Teacher)

These examples illustrate the social benefits of mixed-age play for older children. In the teachers' words, these children are displaying 'maturity,' helping, being 'sensitive,' 'more empathetic' and 'just happy' as the result of their interactions with younger children.

Playing with children across grade levels can also be beneficial for children who do not match the average social maturity of their grade level. For example, one first grade teacher noted:

You could see so many of the older ones, they're like the, not misfits but they're more immature, they don't have their ... I don't know, they're not as cool, so they feel so cool to hang with the young kids and play soccer. And the little kids think they're so cool that they're playing with them. (First Grade Teacher)

Such a situation can boost the confidence of the older child, establishing them as a welcome role model for younger children. This statement echoes an earlier quote from fifth grader who noted that she felt 'lonely' but 'actually had little kids to play with.' Similarly, socially mature younger children may gravitate toward older children, giving them opportunities to scaffold new social and developmental skills. As one aforementioned student notes, playing with older kids is more 'challengy.'

Teachers perceive a number of benefits of mixed-age play for younger children. As seen in the following examples, the comments often come back to the benefits of having a role model:

I think it gives [the younger children] something to aspire to. They get to have a little bit of a role model. Things like 'Oh, big kids aren't so scary.' Or, they are here to help. Then that they have a friend, and someone is going to be able to play with them. (Fifth Grade Teacher)

[Younger kids] like the older kids, they want to be like them. So, I don't know even know that they realize that there's that big of an age difference. You know what I mean? They think that they're their friends. They follow their role model, their example for sure. (Kindergarten teacher)

[The younger kids are] not afraid to approach them any longer, because they're around them in the playground. So, they know they're friendly to me, so they aren't as intimidated by the older kids because they are exposed to them more, I think. I think that definitely makes a difference. (First Grade Teacher)

Mixed-age play establishes a role model, relieves any intimidation of older kids, and develops a greater sense of support and belonging.

The ability to establish friendships across grades is perceived as beneficial, and even empowering, for children of all grades. As one fifth grade teacher described:

I think it's a positive experience for all the ages, to be honest ... I feel like it helps them adapt to things they can't control. This is one area, that they can control, and they can choose to

play with their friends, and not feel like ‘Oh, I have to play with only my class.’ Or, ‘I have to only play with these children.’

They can choose freely to go and explore other relationships, and friendships. (Fifth Grade Teacher)

Children were given the space, both literally and figuratively, to play and negotiate friendships across age groups, and all stakeholders reported social benefits to this period of unstructured, outdoor, mixed-age period of play.

### *Parents’ perceptions of mixed-age play*

According to the parent survey (see Table 2), parents overwhelmingly wanted their children to get along with kids older than them (mean = 3.56, 0–4 scale, 4 = strongly agree) and children younger than them (mean = 3.56). Parents also overwhelmingly agreed that their children learned valuable skills from playing with other children (mean = 3.73). Parental support for mixed-age play can certainly also be seen in how quickly parents signed their children up for Play Club. The principal reported receiving over 200 applications to participate in the first before-school session of play club but was only able to accept 100.

Of particular interest is the fourth finding on Table 2, parents overwhelmingly report that their children talk about making friends with children of different grades and ages as a result of Play Club. The majority of parents (42 or 76.4%) agreed or strongly agreed with this statement. Children were not just reporting their experiences to researchers, but were talking about their experiences with mixed-age play at home. The survey reveals that parents not only recognized the importance of these friendships, but recognized that Play Club had helped to establish such friendships.

Across the different types of data, stakeholders expressed their support for cross-age interactions in mixed-age groupings. This play was perceived as valuable for helping build friendships and developing social skills, as older children become role models and play mentors to younger children. Parent’s attitudes about Play Club are also evident in the overwhelming response to have their child participate. The principal had a lottery system and chose 100 participants in the fall and another 100 in the spring. According to Edwards et al. (2009), the intricacies of pedagogical practice can best be explored when research concentrates on how practice is experienced by key stakeholders. The key stakeholders – children, teachers, and parents – in one elementary school that promotes mixed-aged groupings in an outdoor play environment are overwhelmingly supportive of mixed-age groupings in play.

**Table 2.** Likert scales from parent surveys (0–4 scales, 4 = strongly agree).

Question	Mean (SD)
I want my child to get along with older children.	3.56 (0.60)
I want my child to get along with younger children.	3.56 (0.57)
My child learns valuable skills from playing with other children	3.73 (0.45)
As a result of Play Club, my child talks about making friends with children in different grades and different ages.	3.16 (0.83)

## Discussion

Children in this study report actively playing with both younger and older children during *Let Grow Play Club*. Teachers, who report mixed-age play in various school settings, including Play Club, support this finding. That children are capable of socially interacting is supported by Vygotsky's (1978) theories of the zone of proximal development, but according to Bodrova and Leong (2017) interactions between older and younger children are less common in elementary schools today. Gray (2013) suggests 'in mixed age play, where abilities differ considerably, scaffolding occurs continually and naturally, as a way of pulling the younger child up to the level that makes the game fun for all' (p. 186). In this research project findings suggest that younger children grow in confidence when supported with the help of an older child and that older children are actively helping younger children.

Findings related to children's perceptions suggest that younger kindergarten and first grade children typically played with older children. Mixed-age groupings allowed younger children to interact with, observe, imitate, and engage with older more experienced children. They were welcome into the play of older children and established friendships. This study supports Beresin's (2010) findings that older and younger children played soccer games, football, and jumped rope games during outdoor recess periods and established friendships. The older children drew the younger children into their games and scaffolded their learning. The older children became role models, becoming leaders (Gray, 2011), practicing nurturing (Gray, 2011), and being 'play mentors' (Bodrova & Leong, 2007) for the younger children.

The data gathered in relation to teachers' attitudes suggest children are provided with more opportunities to connect in pro-social ways when mixing with children of varying ages. This finding is supported by previous research (Button & Wilde, 2019; Stone & Burriss, 2019; Wilson, 2010), teachers found children's mixed-age interactions empowering for both younger and older children. Teachers discussed the formation of friendships and children learned to see the perspectives of others. Overall, they reported the age differences fostered more caring, sharing, empathy, compassion, and cooperation.

Parental attitudes have a strong influence on children's activities and attitude development (Hutchinson & Baldwin, 2005) and can influence a school's decision to continue a mixed-age model (Stone & Burriss, 2019). Parents indicated that their child learned valuable skills from playing with other children. This is supported with the research of McFarland, Zajicek, and Waliczek (2014) who surveyed parental attitudes toward young children spending time outdoors. Contrary to Byrnes et al.'s (1994) research about older children not being challenged, parents in the present study indicated that they wanted their child to interact with children of different ages. The Play Club parents also reported that their children talked about making new friends and had more friends of varying ages.

## Limitations

This is a case study of one school that has a dedication to mixed-age, outdoor play for students. We believe that the views of stakeholders (especially students and parents, a large portion of whom were included in the study) are representative of the perspective



of mixed-age play within the school; however, it is unclear how generalizable these perspectives may be. For example, the implementation of Play Club or mixed-age recess in schools or districts that are less supportive of play may be met with more skepticism or opposition. Our results may have been skewed toward being more positive about play, since this play was a firm part of the school culture already. Further, we relied on volunteers for teacher interviews and ultimately only interviewed six teachers, teachers willing to spend their break discussing Play Club, recess, and mixed-age play. While we got excellent insight on how these teachers felt about mixed-age play, a larger or more random sample of teachers may give a more comprehensive sense of how all teachers in the school felt about such play. Future research can explore the implementation of Play Club or other mixed-age play opportunities across a diverse group of schools and can more comprehensively sample stakeholders within schools.

## Conclusion

While age segregated schooling has become the norm in modern society, a standardized approach to classrooms and play environments may cause children to miss opportunities to develop valuable social and developmental skills. Children, teachers, and parents in this case study see value in the mixed-age, outdoor play available at *Play Club* and at the school more generally. The children are learning through playing with children of different ages. Older children are learning to be role models and leaders, while practicing compassion, empathy, and cooperation. These older children are also helping younger children develop important social and play skills through scaffolding. Opportunities for mixed-age play should be more widely available for children, both within and beyond schools. This study has contributed to the literature on mixed-age play by discussing the perceptions of this play in a current U.S. public school environment, drawing on both qualitative and quantitative data, and examining a specific play program, *Let Grow Play Club*.

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## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## Appendix A. Letter to parents about Play Club

Dear Parents/Guardians:

Once again this year, the XXXXX District is fortunate to have the opportunity to continue with Play Clubs this Spring across all of our elementary schools. This club will be for K-5 students and will be held on Friday mornings from 8:15 to 9:15 am. The club is set to begin on Friday, March 2nd and continue until Friday, May 18th.

Students will be chosen through a lottery conducted by your child's principal, with an equal sampling of students on each grade level for equity within the program. Students participating in the Play Club will need to be transported to school by their parents in the morning. Students will be dropped off at the gym lobby of school and will be picked up by faculty members who will be leading the club. Each week, students will be playing in a select location; outside, in the gym, play rooms, and the like.

This club will offer our students added time for self-directed, unstructured play outside of the school day. It is the vision of our district to offer children an education which meets the physical, emotional, academic, and social areas of their lives. We are confident that our Play Club will be an additional opportunity to assist our students in each of these areas.

If your child is interested in participating in the club being held at XXXXX school, please fill out the portion below, and return to your child's teacher by Wednesday, February 7, 2018. Participants will be notified by Friday, February 9, 2018. If you **do not** receive a call by this date, your child will have an opportunity to participate in **future** Play Club opportunities. We realize that there may be high interest in these clubs, and are grateful for your understanding that there will need to be a cap on the number of students for this session.

We look forward to continuing to expand the experiences of our students, and to work with you as partners in education.

Sincerely,

XXXX

Principal

I give my child, \_\_\_\_\_, permission to participate in the **Spring Session of Play Club at XXXXX Elementary School.**

**Teacher:** \_\_\_\_\_ **Grade:** \_\_\_\_\_

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Parent Signature