



Presented at the 2026
IPA World Conference
in Christchurch,
New Zealand

The Child's Right to Play

IPA USA 2026 White Paper
Accessible Version: Part 7

USA



*American Association for
the Child's Right to Play*

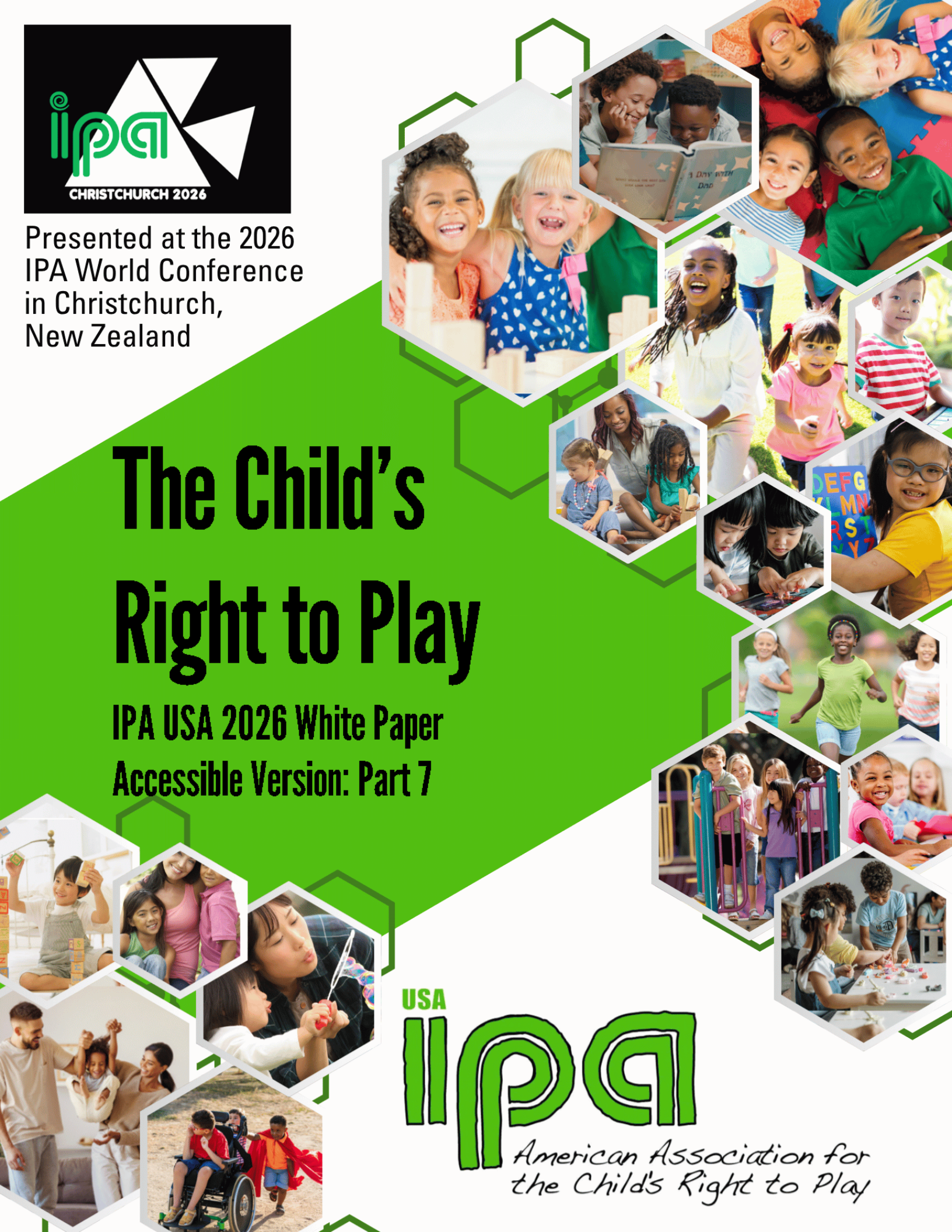


Table of Contents

Table of Contents.....	2
Executive Summaries	3
Play as a Biological Necessity	4
White Papers	20
Play as a Biological Necessity	21

Executive Summaries

Executive Summaries are organized by category, followed by author.



USA
iipa
*American Association for
the Child's Right to Play*

Play as a Biological Necessity

Play is not simply a leisure activity or a break from learning. It is a biological necessity that supports healthy development, well-being, and lifelong learning. Across species and cultures, play serves as a powerful mechanism through which young individuals develop the cognitive, physical, social, and emotional capacities needed to thrive. The articles in this category explore the growing body of research demonstrating the essential role of play in neurocognitive development, physical health, self-regulation, social competence, and school success. They also examine key questions about equity, access, and the quality of children's play experiences across diverse contexts. From laboratory research and public health perspectives to classroom practice and international examples, these authors provide evidence, insights, and practical recommendations that reinforce a simple but powerful message: when children are denied opportunities to play, healthy development is compromised. These articles offer readers the research and advocacy tools needed to support and defend play as a fundamental biological necessity for all children.

Authors

The Role of Purposeful Play in Promoting Neurocognitive Development

Stephanie Adams, DHSc, OTR/L, OTA

The Missing Link: How Physical Play Solves Today's Classroom Behavior Crisis and Prepares Children to Learn

Preston Blackburn, BA

Why Play Is a Public Health Necessity

Tony Christopher, MBA, National Institute for Play

Lessons from the Laboratory: Not All Rats Benefit from Play and Why That Matters for Children

Jackson R. Ham, PhD

Play in Kindergartens in Greece

Evanthia Synodi, PhD

Play Is for Everyone, or Is It?

Elaine Zweig, PhD, Educational Consulting &

Lin Moore, PhD, Texas Woman's University

The Role of Purposeful Play in Promoting Neurocognitive Development

Stephanie Adams, DHSc, OTR/L, OTA

Introduction

Play is widely recognized as a fundamental occupation of childhood and a critical context for learning, growth, and development. All children are born with an internal drive to play, which is imperative for all developmental milestones. Beyond enjoyment, play serves as a powerful mechanism through which children develop essential cognitive, social, emotional, and language skills (Bodrova & Leong, 2003).

In recent years, increasing attention has been placed on neurocognitive development-executive functions (EF). They are a set of higher-order cognitive processes necessary for goal-directed behavior, self-regulation, and adaptive responses (Berk & Meyers, 2013). Emerging evidence consistently demonstrates that play is not only supported with the use of executive functions, but also actively facilitates the development of EF within the prefrontal cortex of the brain (Hughes, 2011).

Conclusion/Recommendations

Play is not a luxury or a break from learning. It is a critical foundation for executive function development and overall child well-being. When children engage in meaningful play, they are actively building the cognitive, emotional, and social skills necessary for success in school, relationships, and daily life.

By reframing play as a powerful and purposeful developmental tool, professionals and caregivers can create environments that nurture executive functions naturally, laying the groundwork for resilient, capable, and engaged learners.

The Missing Link: How Physical Play Solves Today's Classroom Behavior Crisis and Prepares Children to Learn

Preston Blackburn, BA

Introduction

Young children crave physical play. How do we know? If you open a classroom door to the hall, the gate to the playground, or the door to the gym, what do they do? They take off running and screaming in delight. Their bodies were designed to move in big body physical play.

Today, however, children are more sedentary than ever, both in and out of school. Academic pressure has made preschool the new first grade, and elementary school has become more academically stressful as teachers fight to meet standardized testing benchmarks. This change has led to a sit-to-learn philosophy where children's bodies spend more time at desks, focused on worksheets and other academic pursuits, rather than running, climbing, playing tag, hopscotch, or jump rope. After school, the long hours in neighborhood play are gone, swapped for enrichments, extras, extended child care, and perhaps the biggest culprit: screens.

Conclusions/Recommendations

For now, the burden of filling the play gap falls on schools. Schools must alter schedules to accommodate increased playground time with materials that encourage creative, active play. They must incorporate more PE each week, while changing the traditional sports focus into one that is movement-focused. Possibly the most challenging aspect is that schools must support overburdened and overextended teachers so they can plan for more movement during class time. Administrators should look for ways to ease teachers' burdens in other areas to give them time to work on developing movement-based learning. School systems can also bring in training from play professionals to help teachers learn strategies and techniques for adding movement to the classroom.

Physical play is inexpensive, readily available, easy to implement, apolitical, and something children's bodies and brains crave. When we lean into their need to move, we

have the power to fill the gap between Maslow's and Bloom's in a way that supports ALL children in their development and ultimately on their learning journey.

Why Play Is a Public Health Necessity

Tony Christopher, MBA, National Institute for Play

Substack version – shorter and without references

Introduction

Watch a couple of young children playing. They chase each other, laugh, invent rules, argue about the rules, and start over. Most adults watching see fun — loud, messy, slightly chaotic fun. What they don't see is the learning that is happening.

Those children are reading faces, tones, and boundaries — figuring out when to push and when to ease off. They test cause and effect, handle excitement and frustration in the same five minutes, and learn to stay in the game without turning it into a fight. When one trips, loses, or gets left out, they practice something even more valuable: recovering and rejoining.

No one is teaching them any of this. There is no lesson plan. Yet they are building foundational skills they will use for the rest of their lives — and when adults play, they refresh and sharpen those same capacities.

That scene, in miniature, is the argument of this essay. Play is not a break from real life or a reward for finishing the important things. It is one of the main ways human beings develop and maintain the abilities that keep us mentally and socially healthy. And because those abilities are visibly weakening across our whole population — children and adults alike — play deserves a place beside sleep and nutrition as a genuine public health necessity.

If that sounds like a stretch, stay with me — starting with what "public health" actually means.

What Public Health Is

The American Public Health Association describes its mission as promoting and protecting the health of people and the communities where they live, learn, work, and play (American Public Health Association, n.d.). Notice that play is already in the

sentence. In plain terms, public health is the organized effort to prevent disease, prolong life, and promote health — not one patient at a time, but across entire populations.

Your doctor treats you; public health looks after all of us at once. Its experts include disease researchers, as well as restaurant inspectors, school nurses, and policymakers — anyone addressing health at the level of whole communities. That wide-angle view matters: patterns invisible in one exam room become obvious across millions of people.

Dr. Camara Jones, a former president of the American Public Health Association, captures the field with a simple picture (Jones, 2014). Imagine our communities built near the edge of a cliff. When someone falls off, an ambulance meets them at the bottom and rushes them to medical care — good, but people would rather not fall at all. So public health builds fences along the edge and nets partway down: prevention — clean water, vaccines, seatbelt laws, anti-smoking campaigns — everything that keeps people from needing the ambulance.

When public health decides something is essential, ordinary life changes. Two familiar examples show how.

How Sleep and Food Became "Health"

We sleep in order to be fully awake and alive. Cut sleep short, and we become irritable, slow to react, and easily triggered; over years, chronic shortfalls raise the risk of obesity, heart disease, depression, and accidents. That knowledge did not spread on its own. As the science piled up, public health translated it into guidance any family can follow: adults need 7 or more hours, and teenagers need 8 to 10 (Watson et al., 2015; Paruthi et al., 2016). The Centers for Disease Control and Prevention has even called insufficient sleep a public health problem (CDC, 2016).

Nutrition traveled the same road. When science showed that vitamin D deficiency causes rickets, which softens children's bones, public health had vitamin D added to milk in the 1930s — and rickets nearly vanished (Rajakumar, 2003). Iodized salt eliminated most cases of goiter; folic acid in flour sharply reduced devastating birth defects (CDC, 1999). Dietary guidelines, food labels, the food pyramid and MyPlate,

school-lunch standards — all one pipeline: science produces knowledge, public health turns it into simple guidance, and the guidance becomes the daily habits of millions.

That is why today's parents receive official guidance on vaccines, well-child checkups, car seats, screen time, tooth brushing, water safety, sleep, food, and sixty minutes of daily physical activity. The machinery exists, and it works.

Which raises a question: is anything essential missing from that list?

The Problem: A Population in Trouble

Here is why the question is urgent. By nearly every measure, the mental health of our population — beginning with our children — is a slow-moving public health disaster.

In 2019, before anyone had heard of COVID-19, the CDC surveyed a large, demographically representative sample of American high school students. According to their own reports, 36.7 percent had experienced persistent feelings of sadness or hopelessness in the past year. Nearly one in five — 18.8 percent — had seriously considered suicide. Another 15.7 percent had made a suicide plan; 8.9 percent had attempted suicide; and 2.5 percent had attempted suicide seriously enough to require medical treatment (CDC, 2022). The pandemic pushed those numbers higher still, and they have barely come back down.

Nor is it a recent blip. Researchers have compared teenagers' answers to identical questions on standard psychological assessments across the second half of the twentieth century, and the change is stark. In 1948, 16.2 percent of fourteen- to sixteen-year-olds agreed with the statement "I work under a great deal of tension." By 1989, 41.6 percent agreed. Agreement with "Life is a strain for me much of the time" rose from 9.5% to 35%. Agreement with "I am afraid of losing my mind" rose from 4.1 percent to 23.4 percent — more than a fivefold increase (Gray, 2011).

Adults are struggling too. More than one in five American adults now experiences a mental illness in a given year. In 2023, Gallup found that 29 percent of adults had been diagnosed with depression at some point in their lives — the highest figure it had ever recorded (Witters, 2023). Suicide took about 49,000 American lives in 2022, the most ever counted (CDC, 2023). In 2023, the U.S. Surgeon General declared an

epidemic of loneliness: roughly half of adults experience it, and weak social connection damages health on a scale comparable to smoking up to fifteen cigarettes a day (U.S. Surgeon General, 2023).

We have responded just as the cliff picture predicts: more ambulances, more therapists, more medications, more crisis lines—all badly needed, all worth funding. Yet the stream of people going over the edge keeps growing. Public health asks a different question: where is the fence?

Conclusion

What This Would Mean

For parents, it means protecting genuinely free time, stepping back so children can work things out themselves, and treating play as preparation, not distraction. It also means weighing risk honestly: a scraped knee heals; a childhood without practice at handling life leaves a lasting mark. For schools, it means guarding recess and unstructured social time as fiercely as math class, because they build the self-regulation that makes math class work. For workplaces, it means proactively fostering a culture of playfulness—leaving room for informal connection and unscripted time, where adaptability actually grows. And for policymakers and health leaders, it means putting play into the pipeline that served sleep and nutrition so well — guidelines, well-child visits, school policy, public campaigns — and measuring it the way we measure diet and rest.

The Bottom Line

Watch those children again. They are not wasting time. They are building the equipment for a workable life — steadiness, flexibility, connection, and the quiet conviction that they can handle whatever comes next. At the National Institute for Play, we put it simply: play is productive; play is learning.

When opportunities for that learning shrink across a whole population, the effects show up everywhere — in classrooms, workplaces, emergency rooms, and loneliness statistics. Sleep restores us. Food fuels us. Play prepares us in youth and

restores us as adults. That is why play is not merely important, enriching, or a nice-to-have.

Play is a public health necessity.

Lessons from the Laboratory: Not All Rats Benefit from Play and Why That Matters for Children

Jackson R. Ham, PhD

Introduction

Play is widely recognized as essential for healthy child development, supporting emotional regulation, social skills, and executive function. As opportunities for free and risky play have declined over recent decades, educators and policymakers have increasingly promoted play-based approaches to support children's well-being. However, most discussions assume that play is universally beneficial—that simply providing opportunities to play will produce positive outcomes for all children.

Research from animal models challenges this assumption. Studies of juvenile rats show that while play typically supports healthy brain and social development, a substantial minority of individuals do not benefit in the expected way. In controlled laboratory settings, approximately 20% of rats exhibited poor social-emotional regulation and atypical brain development despite having normal access to play. These differences were not due to how much the animals played, but instead how they engaged socially during play and/or as the play opportunities were insufficient.

These findings have important implications for children. Observational research suggests that some children—particularly neurodivergent children—may struggle to engage in peer play even when opportunities are available. Simply placing children together does not guarantee meaningful or beneficial interaction. Evidence from structured interventions, such as integrated play groups, demonstrates that intentionally designed social environments can help children, who might otherwise withdraw from play, derive its developmental benefits.

This white paper argues that play should be understood not as a one-size-fits-all solution, but as a powerful developmental tool that must be thoughtfully supported. Policies and practices that focus solely on increasing access to play may leave some children behind. Instead, attention should be given to how play environments are

structured, how children are supported within them, and how individual differences shape developmental outcomes.

Conclusion/Recommendations

In rats, social play is involved in shaping social behavior and brain development, and the same seems to be true for humans. Research from both animal models and human studies demonstrates that play is a powerful driver of emotional regulation and executive function. However, evidence from rats also shows that play is not universally beneficial in its default form (Ham et al., 2026).

A significant minority of individuals—both rats and children—do not experience the typical benefits of play despite having access to it. These findings highlight the limitations of one-size-fits-all approaches. When play environments are intentionally structured and supported, children who might otherwise withdraw can engage more successfully and derive meaningful developmental benefits. Key recommendations include:

1. Policy frameworks should recognize that access to play alone is not sufficient.
2. Educational and recreational programs should incorporate flexible, inclusive play models that account for individual differences.
3. Structured and guided play interventions should be made available for children who struggle with peer interaction.
4. Training for educators and play facilitators should include strategies for supporting diverse play styles without suppressing autonomy.

Play in Kindergartens in Greece

Evanthia Synodi, PhD

Introduction

In many parts of the world, play, in terms of time, space, resources, and children's control over it, diminishes in the daily routines of children's lives, both in and out of school. Despite play traditionally being a basic feature of the education provided to young children in Western countries, in recent decades many factors have contributed to play being pushed aside and even undervalued in early years education (Brostrom, 2012; Sahlberg & Doyle, 2019). According to articles 12 and 31 of the Convention of the Rights of the Child (United Nations, 1989), children have the right to play in and out of school (article 31) and for their opinions to be seriously considered when decisions about their lives are made (article 12). Instead, official and centrally imposed early years policies tend to emphasise teachers' obligation to teach what out-of-school agents have decided, which at times devalues or ignores play, the individual interests of children and their pace of development (on top of devaluing the education of the professionals working with young children).

Kindergarten teachers in Greece are responsible for working with children ages 4 to 6. These kindergarten teachers are under pressure to teach specific information and cultivate specific skills in children. However, the official curriculum does not clearly link children's right to play and participation to the learning process.

Conclusion

Early years teachers need to help ensure play finds its appropriate place in young children's lives and education. Professional development for teachers, as well as courses on the latest knowledge about play in initial teacher education, are necessary. Campaigns to inform the public and parents are also required. Children's freedom to play needs to be understood more deeply, thus providing not only for article 31 of the Convention of the rights of the child (United Nations, 1989) but for articles 5 and 12 as well, that is, children's right to adults who help them learn their rights (including that of

play), form informed opinions and consult them and seriously take their views into account when decisions about things that affect children's lives are made.

Finally, I need to clarify that the above analysis is based on my disagreement with teachers who treat play merely as a delivery mechanism for teaching predefined adult learning outcomes or state standards and appropriating play; another term for this is colonizing play. Still, I agree with the idea of children becoming master players (Reynolds & Jones, 1997). I also agree with Sicart (2017), who discusses play as a way of being in the world, involving freedom and subversion, the moral development of human beings, and creativity and personal expression. Such a conceptualisation of play is way beyond what the official curricula demand of teachers, because it indicates the value of play to the human species and is based on a holistic view of children, their development and learning. Children's control over their play and the advantages of the play they engage in need to be reflected in the ways and content for adults to teach them, rather than the curriculum defining and directing almost everything adults do in kindergartens, which children have to follow.

Play Is for Everyone, or Is It?

Elaine Zweig, PhD, Educational Consulting &
Lin Moore, PhD, Texas Woman's University

Introduction

Play is far more than a leisure activity; it is a fundamental human right and the primary vehicle for early childhood development. For children aged three to eight, play is essential to healthy physical, social, emotional, cognitive, and moral growth (Else, 2014; Isenberg & Quisenberry, 2002). This necessity is universally recognized, with the United Nations Convention on the Rights of the Child (Article 31) declaring that every child has the right to rest, leisure, and recreation (United Nations Committee on the Rights of the Child, 1989). In Early Childhood Education (ECE), play is a dynamic process in which children discover, learn, and interact with the world around them.

However, the application of play is not a one-size-fits-all model. It exists on a spectrum, ranging from child-initiated, spontaneous, unstructured play to adult-facilitated, guided play focused on specific learning outcomes. For children with special needs, these experiences are transformative. Inclusion in Early Childhood Education (ECE) involves accepting, understanding, and attending to individual differences across physical, cognitive, and social domains (Division for Early Childhood & National Association for the Education of Young Children, 2009). When play is purposefully planned and scaffolded, it allows children with disabilities to function as equals alongside their typically developing peers, preparing them for lifelong inclusion in a diverse society (Moore & Zweig, 2021).

Recommendations

1. **Professional Development:** Pre-service and in-service training must move beyond basic development to focus on integrating play and physical activity specifically for children with disabilities.
2. **Health and Wellness Policies:** School districts and childcare facilities should mandate regularly scheduled outdoor play and active indoor breaks to mitigate obesity and improve mental health.

3. **Priority Funding:** Allocate financial resources to ensure all public and school playgrounds meet ADA accessibility standards, with an emphasis on natural elements and multisensory components.
4. **Advocacy:** Educators and families should join national and international organizations, such as the International Play Association, to protect play as a social justice issue and a fundamental right.
5. **Strengthened Research:** Future studies should focus on observational data of peer interactions in inclusive settings and incorporate the "voices" of children themselves to determine their play preferences.

Conclusion and Call to Action

Successful inclusive education is fundamentally achieved by accepting, understanding, and attending to the diverse needs and differences of all children within the learning community. By fluidly interchanging the professional roles of stage manager, mediator, co-player, scribe, observer, and planner, educators can effectively facilitate both unstructured and guided play-based learning that reaches across the developmental spectrum. These intentional strategies and environmental arrangements ensure that children with special needs are not merely present, but are fully engaged in activities that support physical health, social competence, cognitive function, and creative problem-solving.

Because all children are naturally born to be "discoverers, thinkers, and problem solvers," childhood must be protected as a treasured time to experience the joy of shared adventure and mutual endeavors, no matter their abilities. Educators, families, and policymakers must therefore join together in a **call to action** to appreciate, advocate for, and preserve every child's **fundamental right to play**. Only through this commitment to inclusive, play-based practices can we prepare every child for lifelong participation in a diverse and equitable society.

White Papers



USA
iipa
*American Association for
the Child's Right to Play*

Play as a Biological Necessity

[The Role of Purposeful Play in Promoting Neurocognitive Development](#)

[The Missing Link: How Physical Play Solves Today's Classroom Behavior Crisis and Prepares Children to Learn](#)

[Why Play Is a Public Health Necessity](#)

[Lessons from the Laboratory: Not All Rats Benefit from Play and Why That Matters for Children](#)

[Play in Kindergartens in Greece](#)

[Play Is for Everyone, or Is It?](#)



USA
ipa
*American Association for
the Child's Right to Play*

The Role of Purposeful Play in Promoting Neurocognitive Development

Stephanie Adams, DHSc, OTR/L, OTA

Introduction

Play is a fundamental childhood occupation and a critical context for learning, growth, and development. All children are born with an internal drive to play, which is imperative for all developmental milestones. Beyond enjoyment, play serves as a powerful mechanism for children to develop essential cognitive, social, emotional, and language skills (Bodrova & Leong, 2003).

In recent years, attention has increased to neurocognitive development and executive functions (EF). They are a set of higher-order cognitive processes necessary for goal-directed behavior, self-regulation, and adaptive responses (Berk & Meyers, 2013). Emerging evidence consistently demonstrates that play not only supports the use of executive functions but also actively facilitates the development of EF in the prefrontal cortex (Hughes, 2011).

Problem Statement

Despite this growing body of research on the importance of developing EF through play experiences, play is often undervalued or underutilized in educational environments, particularly as academic pressures increase at younger ages.

Children today have fewer opportunities for meaningful, self-directed play at home, at school, and in the community. Several factors influence this shift, including increased academic demands, amplified screen use, structured schedules, and an emphasis on performance-based outcomes. As a result, children may have difficulty with executive function skills and challenges with social engagement and interaction with peers (Dawson & Guare, 2009).

Challenges associated with underdeveloped executive functions may present as:

- Difficulty following rules or routines.
- Poor emotional regulation and increased frustration.
- Limited problem-solving and planning skills.

- Reduced ability to engage in cooperative peer play.
- Academic struggles related to attention, organization, and task completion.

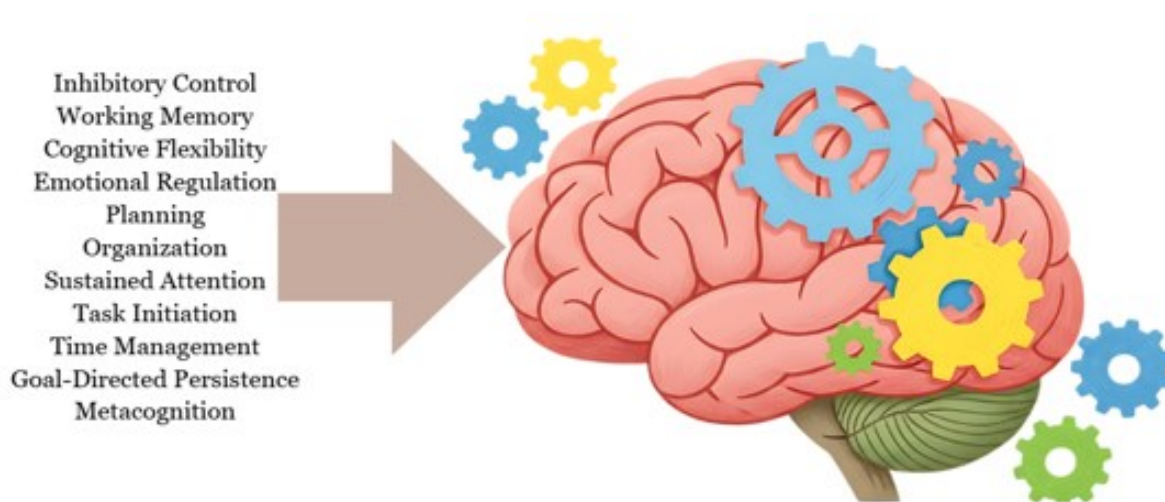
While executive function challenges are often addressed through direct instruction or behavioral interventions, these approaches may overlook the natural, developmentally appropriate role of play as a primary context for learning these skills. The lack of intentional integration of play-based strategies represents a missed opportunity to support children holistically and prevent long-term functional difficulties (Gibb et al., 2021).

Background

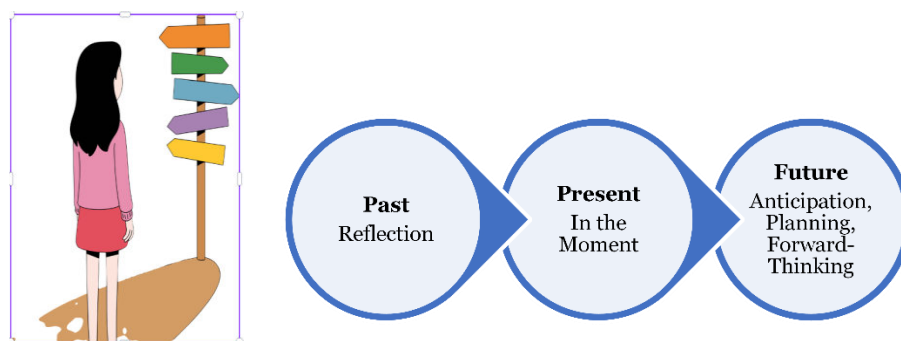
Executive Functions are a cluster of cognitive processes in the prefrontal cortex. Figure 1 shows the characteristics of EF in the brain.

Figure 1

Characteristics of Executive Function



These skills develop gradually over time through brain maturation and repeated experiences that challenge children to think, adapt, and self-regulate. Executive Functions allow you to connect past, present, and future experiences. Figure 2 shows how EF helps people connect to their experiences through time.

Figure 2*Connection to Experiences Through Time*

Child-centered play helps the brain to develop executive function skills. Developmental theorists such as Lev Vygotsky emphasized that higher-order cognitive abilities emerge through social interaction and imaginative play (Diamond et al., 2007).

During play, children naturally practice:

- Following and creating rules
- Negotiating roles and goals
- Managing emotions and impulses
- Remembering sequences and adapting strategies
- Reflecting on outcomes and adjusting behavior

Different stages of play—from solitary and parallel play to cooperative peer play—support increasingly complex executive function demands. Games, pretend play, and hands-on exploratory activities are particularly effective in promoting EF because they can be intrinsically motivating, socially meaningful, and cognitively challenging (Yogman et al., 2018).

From an occupational therapy perspective, play is the primary occupation of childhood and a critical contributor to participation, well-being, and lifelong competence (AOTA, 2020). When play opportunities are intentionally designed and supported, they become powerful tools for strengthening EF in authentic and flexible ways. Both structured and free play opportunities are necessary for children to develop EF skills for future academic success.

Table 1 provides examples of how play, through games, helps children develop EF skills. You may also think of many other examples! (Toglia & Katz, 2018).

Table 1

Play and the Development of EF Skills

Development of EF Skills through Play using Games as a Therapeutic Tool	
1.	Games provide natural experiences of winning and losing, which build sportsmanship and support cognitive flexibility while inhibiting control.
2.	Games help students learn to shift between tasks, make appropriate choices, and solve problems.
3.	Games provide opportunities to develop patience and continue an activity even when they are not winning, building emotional control.
4.	Games help develop working memory by requiring players to remember steps during an activity and recall details for future play.
5.	Games support planning, thinking ahead, and anticipating others' actions, which are strategies needed before taking the next step in a turn-taking game.
6.	Games provide a hands-on way to develop organizational skills to follow the appropriate sequence of steps for an activity.
7.	Games build sustained attention, while a turn may be missed or waiting for a turn may be required when engaging in a small group.
8.	Games support task initiation, such as starting or continuing an activity, especially when motivation or interest is low.
9.	Games help you understand the "big picture" of time management during an activity with a start and finish.
10.	Games support the development of goal-directed persistence when motivation or competition drives a desire to win.
11.	Games support self-understanding, relate to behaviors during social interactions, and encourage reflection on how the activity went overall. This is the highest form of EF-metacognition.

Appropriate Approaches/Strategies

To support executive function development through play, embed intentional, purposeful strategies across environments.

The following approaches are recommended:

1. Use games as an Executive Function tool: Board games, card games, and movement-based games naturally support EF development. Choosing games with rules, turn-taking, and problem-solving components lets children practice EF skills in a low-risk, engaging way.

2. Integrate play-based experiences across settings: Children benefit from both guided and free play opportunities. Adults can scaffold play experiences by modeling, asking reflective questions, and gradually increasing complexity while preserving a child's choice and autonomy.
3. Design play-enriched learning environments; if appropriate, provide loose parts to support imagination and creativity. Flexible spaces help children to plan, organize, adapt, and develop sustained attention-all EF skills.
4. Promote reflection and metacognition: Metacognition is the highest EF skill; allowing for reflection before, during, and after play experiences helps a child to build this awareness. To develop future-oriented thinking, ask questions such as "How did that activity go?" "What was your plan?" "What would you do differently next time?"
5. Align play with developmental stages: Understanding the developmental stages of play helps adults match play opportunities with expectations. Scaffolding can be accomplished with games to support children at their individual ability levels.

Conclusion/Recommendations

Play is not a luxury or a break from learning. It is a critical foundation for executive function development and overall child well-being. When children engage in meaningful play, they are actively building the cognitive, emotional, and social skills necessary for success in school, relationships, and daily life.

To address current challenges and support optimal development, the following recommendations are proposed in Figure 3.

Figure 3

Recommendations to Support Development

	Recognize play as an essential component of executive function development. Brain illustration by holdendrills on Pixabay
	Embed intentional child-led strategies into educational programming. Connector toy by TheGreatKai on Pixabay
	Provide training and resources to support adults in facilitating child-led play. Books by cinderella518 on Pixabay
	Advocate for policies that protect and promote play across the lifespan. Girl playing with abacus by Yan Krukau on Pexels

By reframing play as a powerful and purposeful developmental tool, professionals and caregivers can create environments that naturally nurture executive functions, laying the groundwork for resilient, capable, and engaged learners.

References

- American Occupational Therapy Association. (2020). Occupational therapy practice framework: Domain and process (4th ed.). *American Journal of Occupational Therapy*, 74 (Suppl.2).
- Bodrova, E., & Leong, D. (2003). The importance of being playful. *The First Years of School*, 60(7), 50-54.
- Berk, L., & Meyers, A. (2013). The role of make-believe play in the development of executive function: Status of research and future directions. *American Journal of Play*, 6(1), 98-110.
- Dawson, P., & Guare, R. (2009). *Smart but scattered*. Guilford Press.
- Diamond, A., Barnett, W., Thomas, J., & Munro, S. (2007). Preschool program improves cognitive control. *Science*, 318(30), 1387-1388.

- Gibb, R., Coelho, L., Rootselaar, A. V., Halliwell, C., MacKinnon, M., Plomp, I., & Gonzalez, C. L., R. (2021). Promoting executive function skills in preschoolers using a play-based program—*frontiers in Psychology*, 12, 720225.
- Hughes, C. (2011). Changes and challenges in 20 years of research into the development of executive functions. *Infant and Child Development*, 20, 251-271.
- Toglia, J., & Katz, N. (2018). A metacognitive model for children with neurodevelopmental disabilities. In N. Katz & J. Toglia (Eds.), *Cognition, occupation, and participation across the lifespan: Neuroscience, neurorehabilitation, and models of intervention in occupational therapy* (4th ed., pp.129–140). AOTA Press.
- Yogman, M., Garner, A., Hutchinson, J., Hirsh-Pasek, K., & Golinkoff, R. M. (2018). The power of play: A pediatric role in enhancing development in young children. *American Academy of Pediatrics*, 42 (3).

The Missing Link: How Physical Play Solves Today's Classroom Behavior Crisis and Prepares Children to Learn

Preston Blackburn, BA

Introduction

Young children crave physical play. How do we know? If you open a classroom door to the hall, the gate to the playground, or the door to the gym, what do they do? They take off running and screaming in delight. Their bodies were designed to move in big-body physical play.

Today, however, children are more sedentary than ever, both in and out of school. Academic pressure has made preschool the new first grade, and elementary school has become more academically stressful as teachers fight to meet standardized testing benchmarks. This shift has led to a sit-to-learn philosophy in which children spend more time at desks, focused on worksheets and other academic pursuits, rather than running, climbing, playing tag, hopscotch, or jump rope. After school, long hours of neighborhood play are gone, replaced by enrichments, extras, extended child care, and perhaps the biggest culprit: screens.

Problem Statement

Students need self-regulation skills in order to learn effectively. However, from preschool to elementary school, teachers are seeing a marked rise in behavior challenges among their students. (Gonser, 2023; Langreo, 2025). Poor self-regulation requires more redirection from teachers, wasting precious instructional time and leading to chaotic, unhappy classrooms. Students struggle to learn, leaving teachers frustrated and driving many to leave the profession (Williams, 2018).

However, there is hope. A strong connection exists between the decline in physical activity in young children and the increase in dysregulation. So, a key part of improving the learning environment for students and teachers is increasing physical activity from the earliest years of school. Repeatedly, schools that incorporate more movement and physical play into the school day have seen marked improvements in both behavior and learning.

Background

An Australian study in 2013 found that cardiovascular endurance in children is declining by 5% per decade (Tomkinson et al., 2019). As a result, in 2013, it took children 90 seconds longer to run a mile than same-age children of the 1980s. Since that study was released, we have had another decade and a pandemic. The trend has likely worsened.

Another UK study from 2014 shows a similar decline in children's core strength (Sandercock, 2019). This study found that between 1998 and 2008, core strength fell 2.6% per year. The decline accelerated in the following years. Between 2008 and 2014, it fell 3.9% per year. As with the cardiovascular endurance study, there is no reason to believe core strength has improved over the last decade.

What do these studies tell us? Children's bodies are weaker than they were in prior generations, largely due to a lack of physical play. While physical weakness is detrimental to children, it is only part of the problem. The lack of movement that leads to poor cardiovascular health and weak cores also adversely affects the development of the brain.

Ninety percent of brain growth happens in the first five years of life. At birth, the only connections in the brain are those needed to sustain life. Further neural wiring needed to function in the world comes from new experiences, each one growing and changing the brain. These new experiences happen through movement, whether it is waving tiny fists as an infant, rolling down a hill as a preschooler, or learning to ride a bike in elementary school. Movement provides input to the brain, helping it make sense of the world and the body's place in it, while teaching the body and brain to work together effectively. The brain needs movement to grow, and play provides that movement. Simply put, if children aren't moving, their brains aren't growing.

Movement also builds the physical strength children need to sit upright in a chair, hold a pencil with an appropriate grip, and control their bodies as they walk down the hallway. Without the needed strength, school tasks are harder than they need to be, distracting the student from the academic tasks at hand. It is far more difficult to attend

to a math worksheet if you cannot hold your body comfortably in a chair or you can't grip a pencil.

Here are some specific examples of how movement prepares children for school success.

To read:

- Eyes need a focal point and need to be able to move left to right across the page.
- The core needs to be strong enough to hold the head steady and erect.
- Arms and hands need to be strong enough to hold a book.

To write:

- Hands and arms need to be strong enough to grip, move, and control a pencil.
- The body must understand how much force to apply to the pencil.
- The brain must have directional and spatial understanding to estimate how much room a letter or word takes up on the page and which direction to write.

To solve a math equation:

- The brain must recognize patterns.
- The brain must also understand and repeat a sequence of steps.
- The brain must understand a series and the order in which to execute it to be successful.

These skills, essential to building an academic foundation, develop through physical movement. What looks like “just play” is actually bodies and brains developing key skills needed for school success. Table 1 offers some examples.

Table 1*Examples of How Play Helps Develop Academic Skills*

Play Activity	Classroom Skills Developed
Throwing, catching, and kicking a ball	Tracking an object with the eyes to follow letters across a page
Spinning, swinging, sliding, logrolling, and hanging upside down	A strong focal point for focusing on letters and numbers
Climbing, pushing, and pulling	Strong upper body, hands, and core, key for sitting upright and using school materials
Digging, hanging, and crawling	Understanding the appropriate amount of force needed for a task, from opening a heavy door to writing with a pencil
Playing hide-and-seek, moving through play tunnels, or playing in large boxes	Learning the body's position in space to effectively move through a classroom or hallway. Also, understanding and estimating relative space for writing.
Jumping, skipping, and pumping legs in a swing	Practicing sequencing and patterning, essential for reading and math
Riding a bike, swimming, and climbing	Coordinating both sides of the body and the brain, needed for complex thinking and problem-solving

Children crave physical activity that feeds their brains. How do we know?

- Leave a ball on the ground, and what do they do? They pick it up and throw it or kick it to a friend.
- Put them near a large rock, a curb, or a knee wall, and they climb up and balance on it. Then they jump off.
- Take them to a playground, and they climb, hang from the monkey bars, slide down the slide, swing, and dig in the sand.

So, to feed their brains and build their bodies, adults must provide ample time and space for the play children need.

When adults crowd out physical play with sedentary activities like seat work or screen time, children will seek the movement they need, often at inappropriate times and in inappropriate ways. For example, they will:

- Ping-pong down the halls in transitions, smashing into the walls and into their classmates

- Donkey kick and push against their friends at circle time
- Wiggle and slump at their desks
- Use too much force to tag a friend on the playground

These actions look like bad behavior, an inability to self-regulate, or poor self-control. More likely, however, it is simply the brain seeking information from the body on where it is, what it is doing, and how much force it takes to move and control it.

When we limit play and view it as frivolous, we treat children's bodies and brains as if they are separate, as if the body's only job is to carry around the brain so it can think big thoughts. Instead, we are ignoring the fact that the brain needs the body to perform at its highest and most effective level. Further, failing to give children ample time to move is like giving them half of what they need to learn – half of a book, half of a pencil, half of a desk, half of an equation – and still expecting them to be successful. It is an impossible task, and it leads to frustration for children and for educators.

If we want children to be successful in their learning journey, we have to help them build a foundation on which they can learn. Both physical skills and academic skills start with something basic and move to something more complex. If we want to run, we have to walk first. If we want to skip, we have to gallop first. If we want to read Chaucer, we have to be able to read Dick and Jane first. If we want to learn algebra, we have to understand how to add, subtract, and multiply first.

Often, these processes are shown as a pyramid. For example, two common pyramids used in education are Maslow's Hierarchy of Needs and Bloom's Taxonomy. Maslow's pyramid shows that food and shelter form the foundation for safety, followed by love and belonging (Maslow, 1943). Bloom's pyramid shows that the foundation for learning is the ability to recall basic facts, and on that foundation, learners can build towards more creative, innovative work (Bloom, 1956). These pyramids show that each layer must be stable and secure for the layers above to be strong. Any weak layer weakens the layers above.

When we consider these two pyramids together, we know that children must have strong, secure layers of Maslow's Hierarchy of Needs to start at the bottom of Bloom's.

We cannot expect a hungry child to recall facts, let alone understand them. Most school districts provide lunch and breakfast programs to serve this unmet need, strengthening these weak pyramid layers and filling the gap between Maslow's and Bloom's.

Just as adequate food and safe shelter are foundational, movement is also foundational to building bodies and brains ready to learn. A lack of physical movement further widens the gap between Maslow and Bloom and affects almost every child in this nation, contributing to most of the behaviors educators see in the classroom. Students are in constant motion in class and require continuous redirection. They push, slam, and tackle in and out of the classroom because their brains don't understand force. They move and wiggle incessantly because their eyes haven't developed a focal point, so reading, writing, and math are harder than they should be. When children don't get enough time to move during and after school, this sedentary lifestyle has far-reaching effects. However, when we give them ample time to move the way their bodies and brains are designed, they are more prepared to recall basic facts, understand them, and apply them. In other words, they can more successfully start the learning process at the bottom of Bloom's Taxonomy when we fill the gap between Maslow's and Bloom's with big body physical play.

Appropriate Approaches/Strategies

More physical play during the school day has been shown repeatedly to build strong bodies with well-developed body-brain connections and strong neural wiring, resulting in less chaotic and more productive classrooms. Schools that have incorporated more physical play have reported reduced behavior challenges (Ratey, 2012) and referrals (Toporek, 2011), less tattling, more eye contact (Pawlowski, 2016), and greatly improved academics (Freishtat, 2012). Investing in more time for this kind of play, movement, and exercise might seem like it takes time away from learning. But in fact, children learn more in less time when they are allowed to move their bodies.

Closing the gap between Maslow's and Bloom's and giving our children the tools they need to succeed in school starts with adding more physical play throughout the school day. For example:

- More recess time for unstructured, self-directed play will fill the after-school play void. Add heavy loose parts (planks, logs, large buckets, sand, water, large cooking pots) to the play space to make play more physical.
- More PE programming will teach children what their bodies can do and how to use them. Focus on non-competitive, high-energy games to keep children engaged and moving, rather than traditional sports that might discourage some children from participating.
- More physical play and movement in the classroom routine is needed. Incorporate physicality into lessons, transitions, waiting, circle time, table time, or desk time. Have children carry their chairs between learning centers. Do wall push-ups while waiting in the hall. Add movement to rhymes, math, language arts, and stories.

Expanding movement time will make learning more effective and enjoyable for everyone.

Conclusions/Recommendations

For now, schools bear the burden of filling the play gap. Schools must adjust schedules to accommodate more playground time and provide materials that encourage creative, active play. They must incorporate more PE each week and shift the traditional sports focus to a movement-focused one. Possibly the most challenging aspect is supporting overburdened, overextended teachers so they can plan for more movement during class time. Administrators should look for ways to ease teachers' burdens in other areas to give them time to develop movement-based learning. School systems can also bring in training from play professionals to help teachers learn strategies and techniques for adding movement to the classroom.

Physical play is inexpensive, readily available, easy to implement, apolitical, and something children's bodies and brains crave. When we lean into their need to move, we have the power to fill the gap between Maslow's and Bloom's in a way that supports ALL children in their development and ultimately on their learning journey.

References

- Bloom, B. S. (1956). *Taxonomy of educational objectives: Handbook I, cognitive domain*. David McKay.
- Freishtat, A. (2012, August 9). *One small change turned these 19,000 students into the fittest and smartest in the US*. Orthodox Union.
<https://www.ou.org/life/health/one-small-change-turned-these-19000-students-into-fittest-smartest-us-alan-freishtat/>
- Gonser, S. (2023, August 25). *What to do about increasing dysregulation in the early grades*. Edutopia. <https://www.edutopia.org/article/tackling-misbehavior-in-the-early-grades/>
- Langreo, L. (2025, January 13). *Elementary students can't manage their emotions: What schools can do to help*. Education Week.
<https://www.edweek.org/leadership/elementary-students-cant-manage-their-emotions-what-schools-can-do-to-help/2025/01>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396. <https://doi.org/10.1037/h0054346>
- Pawlowski, A. (2016, February 17). *Want kids to listen more, fidget less? Try more recess. This school did*. TODAY. <https://www.today.com/parents/want-kids-listen-more-fidget-less-try-more-recess-school-t65536>
- Ratey, J. J. (2012, November). *Run, jump, learn! How exercise can transform our schools* [Video]. TED Conferences.
<https://www.youtube.com/watch?v=hBSVZdTQmDs>
- Sandercock, G. R. H., & Cohen, D. D. (2019). Temporal trends in muscular fitness of English 10-year-olds 1998-2014: An allometric approach. *Journal of Science and Medicine in Sport*, 22(2), 201-205. <https://doi.org/10.1016/j.jsams.2018.07.020>
- Tomkinson, G. R., Lang, J. J., & Tremblay, M. S. (2019). Temporal trends in the cardiorespiratory fitness of children and adolescents representing 19 high-income and upper middle-income countries between 1981 and 2014. *British*

Journal of Sports Medicine, 53(8), 478-486. <https://doi.org/10.1136/bjsports-2017-097982>

Toporek, B. (2011, June 15). *School's running club leads to academic and behavioral gains*. *Education Week*. <https://www.edweek.org/leadership/schools-running-club-leads-to-academic-behavioral-gains/2011/06>

Williams, J. (2018, December 18). *Poor student behaviour is forcing teachers out of the profession*. *Teachwire*. <https://www.teachwire.net/news/poor-student-behaviour-is-forcing-teachers-out-of-the-profession/>

Why Play Is a Public Health Necessity

Tony Christopher, MBA, National Institute for Play

[Substack version](#) – shorter and without references

Introduction

Watch a couple of young children playing. They chase each other, laugh, invent rules, argue about the rules, and start over. Most adults watching see fun — loud, messy, slightly chaotic fun. What they don't see is the learning that is happening.

Those children are reading faces, tones, and boundaries — figuring out when to push and when to ease off. They test cause and effect, handle excitement and frustration in the same five minutes, and learn to stay in the game without turning it into a fight. When one trips, loses, or gets left out, they practice something even more valuable: recovering and rejoining.

No one is teaching them any of this. There is no lesson plan. Yet they are building foundational skills they will use for the rest of their lives — and when adults play, they refresh and sharpen those same capacities.

That scene, in miniature, is the argument of this essay. Play is not a break from real life or a reward for finishing the important things. It is one of the main ways human beings develop and maintain the abilities that keep us mentally and socially healthy. And because those abilities are visibly weakening across our whole population — children and adults alike — play deserves a place beside sleep and nutrition as a genuine public health necessity.

If that sounds like a stretch, stay with me — starting with what "public health" actually means.

What Public Health Is

The American Public Health Association describes its mission as promoting and protecting the health of people and the communities where they live, learn, work, and play (American Public Health Association, n.d.). Notice that play is already in the

sentence. In plain terms, public health is the organized effort to prevent disease, prolong life, and promote health — not one patient at a time, but across entire populations.

Your doctor treats you; public health looks after all of us at once. Its experts include disease researchers, as well as restaurant inspectors, school nurses, and policymakers — anyone addressing health at the level of whole communities. That wide-angle view matters: patterns invisible in one exam room become obvious across millions of people.

Dr. Camara Jones, a former president of the American Public Health Association, captures the field with a simple picture (Jones, 2014). Imagine our communities built near the edge of a cliff. When someone falls off, an ambulance meets them at the bottom and rushes them to medical care — good, but people would rather not fall at all. So public health builds fences along the edge and nets partway down: prevention — clean water, vaccines, seatbelt laws, anti-smoking campaigns — everything that keeps people from needing the ambulance.

When public health decides something is essential, ordinary life changes. Two familiar examples show how.

How Sleep and Food Became "Health"

We sleep in order to be fully awake and alive. Cut sleep short, and we become irritable, slow to react, and easily triggered; over years, chronic shortfalls raise the risk of obesity, heart disease, depression, and accidents. That knowledge did not spread on its own. As the science piled up, public health translated it into guidance any family can follow: adults need 7 or more hours, and teenagers need 8 to 10 (Watson et al., 2015; Paruthi et al., 2016). The Centers for Disease Control and Prevention has even called insufficient sleep a public health problem (CDC, 2016).

Nutrition traveled the same road. When science showed that vitamin D deficiency causes rickets, which softens children's bones, public health had vitamin D added to milk in the 1930s — and rickets nearly vanished (Rajakumar, 2003). Iodized salt eliminated most cases of goiter; folic acid in flour sharply reduced devastating birth defects (CDC, 1999). Dietary guidelines, food labels, the food pyramid and MyPlate,

school-lunch standards — all one pipeline: science produces knowledge, public health turns it into simple guidance, and the guidance becomes the daily habits of millions.

That is why today's parents receive official guidance on vaccines, well-child checkups, car seats, screen time, tooth brushing, water safety, sleep, food, and sixty minutes of daily physical activity. The machinery exists, and it works.

Which raises a question: is anything essential missing from that list?

The Problem: A Population in Trouble

Here is why the question is urgent. By nearly every measure, the mental health of our population — beginning with our children — is a slow-moving public health disaster.

In 2019, before anyone had heard of COVID-19, the CDC surveyed a large, demographically representative sample of American high school students. According to their own reports, 36.7 percent had experienced persistent feelings of sadness or hopelessness in the past year. Nearly one in five — 18.8 percent — had seriously considered suicide. Another 15.7 percent had made a suicide plan; 8.9 percent had attempted suicide; and 2.5 percent had attempted suicide seriously enough to require medical treatment (CDC, 2022). The pandemic pushed those numbers higher still, and they have barely come back down.

Nor is it a recent blip. Researchers have compared teenagers' answers to identical questions on standard psychological assessments across the second half of the twentieth century, and the change is stark. In 1948, 16.2 percent of fourteen- to sixteen-year-olds agreed with the statement "I work under a great deal of tension." By 1989, 41.6 percent agreed. Agreement with "Life is a strain for me much of the time" rose from 9.5% to 35%. Agreement with "I am afraid of losing my mind" rose from 4.1 percent to 23.4 percent — more than a fivefold increase (Gray, 2011).

Adults are struggling too. More than one in five American adults now experiences a mental illness in a given year. In 2023, Gallup found that 29 percent of adults had been diagnosed with depression at some point in their lives — the highest figure it had ever recorded (Witters, 2023). Suicide took about 49,000 American lives in 2022, the most ever counted (CDC, 2023). In 2023, the U.S. Surgeon General declared an

epidemic of loneliness: roughly half of adults experience it, and weak social connection damages health on a scale comparable to smoking up to fifteen cigarettes a day (U.S. Surgeon General, 2023).

We have responded just as the cliff picture predicts: more ambulances, more therapists, more medications, more crisis lines—all badly needed, all worth funding. Yet the stream of people going over the edge keeps growing. Public health asks a different question: where is the fence?

Background

What Changed

To find it, compare two childhoods. A child growing up between the 1950s and the 1970s had hours of unscheduled time — roaming the neighborhood, organizing games, picking teams, settling arguments, taking small risks, mostly out of adult sight. Today, a child moves between supervised settings on an adult-managed schedule: school, organized activities, homework, screens.

Psychologist Peter Gray and other researchers have documented this transformation (Gray, 2011). Since about the 1980s, children have experienced steadily more adult direction and oversight, more pressure to achieve grades and performance milestones, less self-directed free play, and fewer opportunities to do anything independently. Over the same decades, anxiety, depression, loneliness, and difficulty coping with ordinary stress have kept climbing.

Every one of those changes was well-intentioned. More achievement feels like success. More supervision feels like care. More structure feels like help. But added together, they quietly removed one of the main ways young humans learn to handle life.

One honest caution: correlation is not proof, and other forces — smartphones and social media, academic pressure, economic insecurity — surely contribute. Careful researchers call the loss of free play a major contributing factor, not the sole cause. But public health has never waited for perfect certainty. It acts on large, well-documented, plausible, and changeable risk factors. The decline of play is all four.

Strategies

What Play Actually Builds

Why would losing play damage mental health? Because play is how nature teaches us.

Watch a baby in her first year: she plays with her hands until she can grasp a toy, rocks side to side until she can roll over, drives herself to crawl, stand, and walk, and babbles her way into speech. No instructor assigns any of this; an inner drive supplies the motivation, and the practice looks exactly like delight. At the beginning of life, play and learning are one and the same.

They never fully separate. Free play — self-chosen, self-directed activity done for its own sake, which sets it apart from adult-run sports and lessons — is a complete training program hiding in plain sight. Cognitively, players solve problems, invent scenarios, and hold their own attention. Socially, they read people, negotiate rules and fairness, and repair conflicts so the game can go on. Emotionally, they handle excitement, frustration, and disappointment, and take on uncertainty and mild fear in doses they choose. Physically, they build strength, coordination, and endurance while burning off stress.

Those self-chosen doses of risk deserve special attention. Climbing a little too high or wrestling a friend is safe practice at feeling afraid and staying in control anyway — and researchers who study such "risky play" find that it appears to protect children against anxiety, not create it (Sandseter & Kennair, 2011). Animal research points in the same direction: juvenile rats deprived of play grow into adults who overreact to stress and misread social signals (Pellis & Pellis, 2007). And when Dr. Stuart Brown, founder of the National Institute for Play, studied incarcerated young murderers in Texas, one common thread stood out in their histories: severe childhood play deprivation (Brown, 2009).

Above all, play installs an inner voice that no lecture can: "I can handle this. I can try again. I can figure it out." Sleep and nutrition let us survive; these capacities let us thrive. Consider what a hard moment demands of a teenager or an adult — a harsh boss,

an unfair call, a plan collapsing in real time. Getting through it means staying calm enough to think, reading the situation accurately, adjusting on the fly, and recovering when something comes out wrong. Someone who never gets the practice meets each moment badly, grows more anxious, avoids the next one, and gets even less practice. That downward spiral, multiplied by millions, is what the statistics are showing us.

And this is not only about children. Adults who keep playing—a hobby pursued for its own sake, unscripted time with friends, low-stakes experimenting—maintain the same equipment. Adults who stop find that work turns rigid, relationships narrow, and stress accumulates with nowhere to go.

From Private Struggle to Public Priority

Individual gaps scale up. When millions of people miss this practice, whole communities show higher baseline anxiety, more brittle interactions, less trust and cooperation, and less creativity and adaptability. Play is not just personal; it is part of our social infrastructure.

Pediatricians have started to say so. The American Academy of Pediatrics now urges doctors to write "prescriptions for play" at checkups (Yogman et al., 2018) and has repeatedly defended recess as essential, not optional (Murray & Ramstetter, 2013). What is still missing is the full public health treatment — the "eight hours of sleep" of play, what we might call Play Hygiene: simple guidance, repeated everywhere, treating daily free play as a basic requirement of a healthy life. The question shifts from "How do we fit play in?" to the one public health always asks: "What happens to a population that doesn't play?"

Conclusion

What This Would Mean

For parents, it means protecting genuinely free time, stepping back so children can work things out themselves, and treating play as preparation, not distraction. It also means weighing risk honestly: a scraped knee heals; a childhood without practice at handling life leaves a lasting mark. For schools, it means guarding recess and unstructured social time as fiercely as math class, because they build the self-regulation

that makes math class work. For workplaces, it means proactively fostering a culture of playfulness—leaving room for informal connection and unscripted time, where adaptability actually grows. And for policymakers and health leaders, it means putting play into the pipeline that served sleep and nutrition so well — guidelines, well-child visits, school policy, public campaigns — and measuring it the way we measure diet and rest.

The Bottom Line

Watch those children again. They are not wasting time. They are building the equipment for a workable life — steadiness, flexibility, connection, and the quiet conviction that they can handle whatever comes next. At the National Institute for Play, we put it simply: play is productive; play is learning.

When opportunities for that learning shrink across a whole population, the effects show up everywhere — in classrooms, workplaces, emergency rooms, and loneliness statistics. Sleep restores us. Food fuels us. Play prepares us in youth and restores us as adults. That is why play is not merely important, enriching, or a nice-to-have.

Play is a public health necessity.

References

American Public Health Association. (n.d.). What is public health? Retrieved from <https://www.apha.org/what-is-public-health>

Brown, S., with Vaughan, C. (2009). Play: How it shapes the brain, opens the imagination, and invigorates the soul. New York: Avery/Penguin.

Centers for Disease Control and Prevention. (1999). Achievements in public health, 1900–1999: Safer and healthier foods. Morbidity and Mortality Weekly Report, 48(40), 905–913.

Centers for Disease Control and Prevention. (2016). 1 in 3 adults don't get enough sleep. CDC Newsroom. Retrieved from

<https://archive.cdc.gov/#/details?url=https://www.cdc.gov/media/releases/2016/p0215-enough-sleep.html>

Centers for Disease Control and Prevention. (2022). Youth Risk Behavior Survey data summary & trends report: 2009–2019. Atlanta, GA: U.S. Department of Health and Human Services.

Centers for Disease Control and Prevention, National Center for Health Statistics. (2023). Provisional suicide deaths in the United States, 2022. CDC Newsroom. Retrieved from <https://www.cdc.gov/media/releases/2023/s0810-US-Suicide-Deaths-2022.html>

Gray, P. (2011). The decline of play and the rise of psychopathology in children and adolescents. *American Journal of Play*, 3(4), 443–463.

Jones, C. P. (2014). Systems of power, axes of inequity: Parallels, intersections, braiding the strands. *Medical Care*, 52(10 Suppl 3), S71–S75. (Cliff analogy as presented in Jones’s public health talks and writing.)

Murray, R., & Ramstetter, C.; Council on School Health, American Academy of Pediatrics. (2013). The crucial role of recess in school. *Pediatrics*, 131(1), 183–188.

Paruthi, S., Brooks, L. J., D’Ambrosio, C., et al. (2016). Recommended amount of sleep for pediatric populations: A consensus statement of the American Academy of Sleep Medicine. *Journal of Clinical Sleep Medicine*, 12(6), 785–786.

Pellis, S. M., & Pellis, V. C. (2007). Rough-and-tumble play and the development of the social brain. *Current Directions in Psychological Science*, 16(2), 95–98.

Rajakumar, K. (2003). Vitamin D, cod-liver oil, sunlight, and rickets: A historical perspective. *Pediatrics*, 112(2), e132–e135.

Sandseter, E. B. H., & Kennair, L. E. O. (2011). Children’s risky play from an evolutionary perspective: The anti-phobic effects of thrilling experiences. *Evolutionary Psychology*, 9(2), 257–284.

- U.S. Surgeon General. (2023). Our epidemic of loneliness and isolation: The U.S. Surgeon General's advisory on the healing effects of social connection and community. Washington, DC: U.S. Department of Health and Human Services.
- Watson, N. F., Badr, M. S., Belenky, G., et al. (2015). Recommended amount of sleep for a healthy adult: A joint consensus statement of the American Academy of Sleep Medicine and Sleep Research Society. *Sleep*, 38(6), 843–844.
- Witters, D. (2023, May 17). U.S. depression rates reach new highs. Gallup. Retrieved from <https://news.gallup.com/poll/505745/depression-rates-reach-new-highs.aspx>
- Yogman, M., Garner, A., Hutchinson, J., Hirsh-Pasek, K., & Golinkoff, R. M.; American Academy of Pediatrics. (2018). The power of play: A pediatric role in enhancing development in young children. *Pediatrics*, 142(3), e20182058.

Lessons from the Laboratory: Not All Rats Benefit from Play and Why That Matters for Children

Jackson R. Ham, PhD

Introduction

Play is widely recognized as essential for healthy child development, supporting emotional regulation, social skills, and executive function. As opportunities for free and risky play have declined over recent decades, educators and policymakers have increasingly promoted play-based approaches to support children's well-being. However, most discussions assume that play is universally beneficial—that simply providing opportunities to play will produce positive outcomes for all children.

Research from animal models challenges this assumption. Studies of juvenile rats show that while play typically supports healthy brain and social development, a substantial minority of individuals do not benefit in the expected way. In controlled laboratory settings, about 20% of rats showed poor social-emotional regulation and atypical brain development despite normal access to play. These differences were not due to how much the animals played, but to how they engaged socially during play and/or to insufficient play opportunities.

These findings have important implications for children. Observational research suggests that some children—particularly neurodivergent children—may struggle to engage in peer play even when opportunities are available. Simply placing children together does not guarantee meaningful or beneficial interaction. Evidence from structured interventions, such as integrated play groups, shows that intentionally designed social environments can help children who might otherwise withdraw from play gain its developmental benefits.

This white paper argues that play should be understood not as a one-size-fits-all solution, but as a powerful developmental tool that requires thoughtful support. Policies and practices that focus solely on increasing access to play may leave some children behind. Instead, attention should focus on how play environments are structured, how

children are supported within them, and how individual differences shape developmental outcomes.

Problem Statement

The question for this problem is: Do all individuals benefit equally from play? Play is often promoted as a universal solution for supporting children’s social, emotional, and cognitive development. As a result, many educational and recreational policies focus on increasing opportunities for free or risky play, assuming that access alone is sufficient.

Emerging evidence suggests that this assumption may be incomplete. Research using animal models indicates that while most individuals benefit from play, a significant minority do not show the expected improvements in social behavior or brain development—even when given ample opportunities to play. These individuals often engage in play differently, withdrawing from intense social interactions or struggling to regulate emotional responses.

Comparable patterns are observed in children. Some children, particularly those who are neurodivergent, may be motivated to play with peers but struggle to do so successfully. Without guidance or support, these children may disengage from play and miss out on its potential developmental benefits. Simply providing opportunities for play does not guarantee positive outcomes for all children.

This white paper addresses whether current play-based policies adequately account for individual differences. If not all children benefit equally from unstructured play, how can social environments be designed to ensure play supports healthy development for everyone?

Background

Records of human children engaging in play date back to the second millennium BCE (Artemidorus, 1975; Catalano, 2021; Dolansky, 2017), and evidence suggests that non-human animals have engaged in play behavior since the Permian period, long before dinosaurs roamed the Earth (Bolton et al., 2025). It is, therefore, highly likely that prehistoric humans also engaged in play. Proposed functions of play range from

training for the unexpected to practicing social and motor skills (Špinka et al., 2001), to the possibility that play has no single function at all (Lewis, 2023; Pellis & Pellis, 2021).

Since the middle of the last century, opportunities for children to engage in free play—defined as play with little to no adult supervision—have declined significantly (Gray, 2011; Gray et al., 2023; Singer et al., 2009). This decline has been attributed to multiple factors, including increased participation in structured activities (e.g., music lessons, organized sports), reduced time for free play during recess, diminished trust in public spaces, heightened parental safety concerns, and a broader societal intolerance of play that may be perceived as aggressive or risky, even when the risk is minor (Baines & Blatchford, 2011; Pellis et al., 2025). Despite these restrictions, when children are asked what kinds of play they would like to engage in, they often report wanting more unrestricted play (Skenazy et al., 2025).

In recent years, there has been a growing emphasis on encouraging “risky play” (Brussoni et al., 2012), and for good reason. Play that includes physical, social, and cognitive challenges has been shown to support executive function development. Children who participate in programs designed to enhance executive function through play perform better on related cognitive tasks (Diamond et al., 2007; Gibb et al., 2021). Notably, free play—and especially risky free play such as rough-and-tumble interactions—has been suggested to be a particularly potent driver of executive function development (Pellegrini, 1988). While research in humans is still emerging, studies using animal models have provided some of the clearest evidence of the neurobiological changes associated with play.

Many rodent species engage in play (Pellis & Iwaniuk, 1999), but the laboratory rat has been studied most intensively (Pellis et al., 2023). Once weaned, juvenile rats spend approximately an hour per day engaging in rough-and-tumble play, which involves attacks and defensive maneuvers directed toward the nape of the neck and often results in energetic bouts of wrestling (Pellis et al., 2022). Rats deprived of play during the juvenile period show poorer social skills, impaired executive function, and atypical brain anatomy, as Pellis et al. (2023) reviewed.

However, in our experiments, we observed substantial individual variation in these outcomes (Ham et al., 2024; Stark et al., 2021, 2023; Stark & Pellis, 2020). Some rats deprived of play were less affected than expected, while some control rats—those with typical play experiences—exhibited unexpectedly poor outcomes. In other words, not all rats appeared to benefit equally from play. This observation raises an important question.

Appropriate Approaches/Strategies

To investigate this issue, I reared male rats in large social groups to maximize play opportunities and later assessed their social competence and medial prefrontal cortex (mPFC) development. Despite having equal access to play, 11 of 54 rats (approximately 20%) exhibited poor social-emotional regulation in adulthood, escalating to overt aggression in situations where typical rats would engage in play (Ham et al., 2026).

Examination of pyramidal neurons in the mPFC—a brain region involved in executive function and emotional regulation—revealed atypically large neurons in these rats. Behaviorally and neurologically, these animals resembled rats deprived of play during the juvenile period. This finding raised a critical question: What were these rats like during development?

Surprisingly, these 20% of rats engaged in just as much play as their typically developing peers. The difference was not in the quantity of play, but in its quality. These rats were more likely to withdraw or hide when play became highly energetic, preferring smaller or more controlled interactions.

These findings suggest two possibilities. First, it may be that not all individuals benefit from play, even when they actively engage in it. Alternatively, some individuals may require specific social conditions or group compositions (Ham et al., 2025; Ham & Pellis, 2023, 2024, 2025) in order to benefit fully from play.

If the latter explanation is correct, then social environments could be optimized to improve developmental outcomes. If the former is true, and some individuals do not benefit regardless of social structure, then earlier or more targeted developmental

interventions may be necessary. These possibilities have important implications for children, particularly neurodivergent children. Although inclusive education policies promote integration with neurotypical peers, it remains unclear whether all neurodivergent children benefit equally from such approaches (Cologon, 2022).

Observational studies indicate that some children fail to engage in peer play during recess (Blurton Jones, 1976), a pattern analogous to the socially withdrawn rats described above. These findings suggest that merely providing opportunities for social interaction does not guarantee beneficial developmental outcomes. Instead, social groups may need to be intentionally structured to promote positive interactions. One example of this approach is the use of integrated play groups for children on the autism spectrum (Wolfberg et al., 2012).

Children with autism are often motivated to play but may engage in social interactions in atypical ways, using overtures that are not readily recognized by peers (Jordan, 2003; Wolfberg et al., 2012). Without support, these children may withdraw from social play, and their attempts to initiate interaction may be ambiguous, making sustained peer play difficult (Schuler, 2003; Sigman & Ruskin, 1999). With guidance, however, children can learn social cues and strategies that allow them to participate more successfully.

Integrated play groups provide structured opportunities for mutually engaging play experiences. In these settings, trained adult facilitators pair children with developmental delays with more socially competent peers (Wolfberg et al., 2012). These interventions have been shown to improve the quality of social interactions and help children develop social skills that peers understand (Wolfberg & Schuler, 2006). These findings suggest that intentionally structured social environments can help children, including those with developmental delays, derive meaningful benefits from play. The following are suggested strategies.

1. **Recognize Individual Differences in Play**

Policies should acknowledge that children vary in how they engage with peers during play. Some children thrive in highly physical, unpredictable play

environments, while others may find such contexts overwhelming. Recognizing these differences is a critical step toward inclusive play practices.

2. Move Beyond Access-Only Models

Increasing access to play spaces matters but is not enough. Play environments should be designed with attention to group composition, adult support, and opportunities for gradual engagement. Simply placing children together does not ensure meaningful interaction.

3. Support Structured and Guided Play When Needed

Evidence from integrated play group models demonstrates that structured, supported play can help children—particularly those with developmental delays—learn social cues, regulate emotions, and sustain peer interactions. Trained adults can scaffold play without undermining children’s autonomy.

4. Use Peers as Partners, Not Just Participants

Pairing children who struggle socially with more socially competent peers can promote positive interactions when done thoughtfully. Peer-mediated approaches allow children to learn social strategies in naturalistic and supportive contexts.

Conclusion/Recommendations

In rats, social play shapes social behavior and brain development, and the same seems to be true for humans. Research from both animal models and human studies shows that play strongly drives emotional regulation and executive function. However, evidence from rats also shows that play is not universally beneficial in its default form (Ham et al., 2026).

A significant minority of individuals—both rats and children—do not experience the typical benefits of play, even when they have access to it. These findings highlight the limitations of one-size-fits-all approaches. When play environments are intentionally structured and supported, children who might otherwise withdraw can engage more successfully and derive meaningful developmental benefits. Key recommendations include:

1. Policy frameworks should recognize that access to play alone is not sufficient.
2. Educational and recreational programs should incorporate flexible, inclusive play models that account for individual differences.
3. Provide structured, guided play interventions for children who struggle with peer interaction.
4. Educator and play facilitator training should include strategies to support diverse play styles without suppressing autonomy.

References

- Artemidorus. (1975). *The interpretation of dreams: The oneirocritica of Artemidorus* (R. J. White, Trans.). Noyes Classical Studies.
- Baines, E., & Blatchford, P. (2011). Children's games and playground activities in school and their role in development. In A. D. Pellegrini (Ed.), *The Oxford Handbook of the Development of Play* (pp. 260–283). Oxford University Press.
- Blurton Jones, N. (1976). Rough-and-tumble play among nursery school children. In J. S. Bruner, A. Jolly, & K. Sylva (Eds.), *Play: It's role in development and evolution* (pp. 352–363). Penguin Books.
- Bolton, A. D., Mangera, T., & Benoit, J. (2025). 150 years of synapsid paleoneurology: The origins of the mammalian brain, behavior, sense organs and physiology. *Journal of Paleontology*, 1–29. <https://doi.org/10.1017/jpa.2025.10121>
- Brussoni, M., Olsen, L. L., Pike, I., & Sleet, D. A. (2012). Risky Play and Children's Safety: Balancing priorities for optimal child development. *International Journal of Environmental Research and Public Health*, 9(9), 3134–3148. <https://doi.org/10.3390/ijerph9093134>
- Catalano, H. (2021). A history of children's play from the earliest days of humanity to nowadays: Historical and conceptual review. *Astra Salvensis-Revista de Istorie Si Cultură*, 9(17), 219–238.

- Cologon, K. (2022). Is inclusive education really for everyone? Family stories of children and young people labelled with ‘severe and multiple’ or ‘profound’ ‘disabilities.’ *Research Papers in Education*, 37(3), 395–417.
<https://doi.org/10.1080/02671522.2020.1849372>
- Diamond, A., Barnett, W. S., Thomas, J., & Munro, S. (2007). Preschool program improves cognitive control. *Science*, 318(5855), 1387–1388.
<https://doi.org/10.1126/science.1151148>
- Dolansky, F. (2017). Roman girls and boys at play: Realities and representations. In C. Laes & V. Vuolanto (Eds.), *Children and everyday life in the Roman and late antique world* (pp. 116–136). Routledge.
- Gibb, R., Coelho, L., Van Rootselaar, N. A., Halliwell, C., MacKinnon, M., Plomp, I., & Gonzalez, C. L. R. (2021). Promoting executive function skills in preschoolers using a play-based program. *Frontiers in Psychology*, 12, 720225.
<https://doi.org/10.3389/fpsyg.2021.720225>
- Gray, P. (2011). The decline of play and the rise of psychopathology in children and adolescents. *American Journal of Play*, 3(4), 443–463.
- Gray, P., Lancy, D. F., & Bjorklund, D. F. (2023). Decline in independent activity as a cause of decline in children’s mental well-being: Summary of the evidence. *The Journal of Pediatrics*, 260, 113352. <https://doi.org/10.1016/j.jpeds.2023.02.004>
- Ham, J. R., Iwaniuk, A. N., & Pellis, S. M. (2026). Juvenile social play and the development of socio-cognitive skills in male rats: Does everyone benefit? *Behavioural Brain Research*, 508, 116198.
<https://doi.org/10.1016/j.bbr.2026.116198>
- Ham, J. R., Jaiswal, D., Waner-Mariquito, R., Pellis, S. M., & Achterberg, E. J. M. (2025). Juvenile male rats form preferences based on strain when playing in groups but not in pairs. *Frontiers in Behavioral Neuroscience*, 19.
<https://doi.org/10.3389/fnbeh.2025.1617178>

- Ham, J. R., & Pellis, S. (2023). The Goldilocks principle: Balancing familiarity and novelty in the selection of play partners in groups of juvenile male rats. *Animal Behavior and Cognition*, 10(4), 304–328.
<https://doi.org/10.26451/abc.10.04.02.2023>
- Ham, J. R., & Pellis, S. M. (2024). Play partner preferences among groups of unfamiliar juvenile male rats. *Scientific Reports*, 14, 16056.
<https://doi.org/10.1038/s41598-024-66988-w>
- Ham, J. R., & Pellis, S. M. (2025). Groups of familiar male rats form unstable partner preferences when play fighting during the juvenile period. *iScience*, 28(6), 112562. <https://doi.org/10.1016/j.isci.2025.112562>
- Ham, J. R., Szabo, M., Annor-Bediako, J., Stark, R. A., Iwaniuk, A. N., & Pellis, S. M. (2024). Quality not quantity: Deficient juvenile play experiences lead to altered medial prefrontal cortex neurons and sociocognitive skill deficits. *Developmental Psychobiology*, 66, e22456. <https://doi.org/10.1002/dev.22456>
- Jordan, R. (2003). Social play and autistic spectrum disorders: A perspective on theory, implications and educational approaches. *Autism*, 7(4), 347–360.
<https://doi.org/10.1177/1362361303007004002>
- Lewis, A. (2023). A non-adaptationist hypothesis of play behaviour. *The Journal of Physiology*, JP284413. <https://doi.org/10.1113/JP284413>
- Pellegrini, A. D. (1988). Elementary-school children's rough-and-tumble play and social competence. *Developmental Psychology*, 24(6), 802–806.
<https://doi.org/10.1037/0012-1649.24.6.802>
- Pellis, S. M., & Iwaniuk, A. N. (1999). The roles of phylogeny and sociality in the evolution of social play in muroid rodents. *Animal Behaviour*, 58(2), 361–373.
<https://doi.org/10.1006/anbe.1999.1141>
- Pellis, S. M., & Pellis, V. C. (2021). Play. In *Oxford Research Encyclopedia of Psychology* (Issue February, pp. 1–24). Oxford University Press.
<https://doi.org/10.1093/acrefore/9780190236557.013.791>

- Pellis, S. M., Pellis, V. C., Burke, C. J., Stark, R. A., Ham, J. R., Euston, D. R., & Achterberg, E. J. M. (2022). Measuring play fighting in rats: A multilayered approach. *Current Protocols*, 2(1). <https://doi.org/10.1002/cpz1.337>
- Pellis, S. M., Pellis, V. C., & Ham, J. R. (2025). Play-fighting during early childhood and its Role in preventing later chronic aggression. In R. E. Tremblay, M. Boivin, & R. D. Peters (Eds.), *Encyclopedia on Early Childhood Development* (pp. 1–5). Centre of Excellence for Early Childhood Development and Strategic Knowledge Cluster on Early Child Development. <https://www.child-encyclopedia.com/aggression/according-experts/play-fighting-during-early-childhood-and-its-role-preventing-later>
- Pellis, S. M., Pellis, V. C., Ham, J. R., & Stark, R. A. (2023). Play fighting and the development of the social brain: The rat’s tale. *Neuroscience and Biobehavioral Reviews*, 145. <https://doi.org/10.1016/j.neubiorev.2023.105037>
- Schuler, A. L. (2003). Beyond echoplaylia: Promoting language in children with autism. *Autism*, 7(4), 455–469. <https://doi.org/10.1177/1362361303007004010>
- Sigman, M., & Ruskin, E. (1999). Continuity and change in the social competence of children with autism, down syndrome, and developmental delays. *Monographs of the Society for Research in Child Development*, 64, 1–114.
- Singer, D. G., Singer, J. L., D’Agostino, H., & DeLong, R. (2009). Children’s pastimes and play in sixteen nations. *American Journal of Play*, 1(3), 283–312.
- Skenazy, L., Rausch, Z., & Haidt, J. (2025, August 4). What kids told us about how to get them off their phones. *The Atlantic*. <https://www.theatlantic.com/ideas/archive/2025/08/kids-smartphones-play-freedom/683742/>
- Špinka, M., Newberry, R. C., & Bekoff, M. (2001). Mammalian play: Training for the unexpected. *The Quarterly Review of Biology*, 76(2), 141–168. <https://doi.org/10.1086/393866>

- Stark, R. A., Brinkman, B., Gibb, R. L., Iwaniuk, A. N., & Pellis, S. M. (2023). Atypical play experiences in the juvenile period has an impact on the development of the medial prefrontal cortex in both male and female rats. *Behavioural Brain Research*, 439, 114222. <https://doi.org/10.1016/j.bbr.2022.114222>
- Stark, R. A., & Pellis, S. M. (2020). Male Long Evans rats reared with a Fischer-344 peer during the juvenile period show deficits in social competency: A role for play. *International Journal of Play*, 9(1), 76–91. <https://doi.org/10.1080/21594937.2020.1720142>
- Stark, R. A., Ramkumar, R., & Pellis, S. M. (2021). Deficient play-derived experiences in juvenile Long Evans rats reared with a Fischer 344 partner: A deficiency shared by both sexes. *International Journal of Comparative Psychology*, 34, 1–19.
- Wolfberg, P., Bottema-Beutel, K., & DeWitt, M. (2012). Including children with autism in social and imaginary play with typical peers. *American Journal of Play*, 5(1), 55–80.
- Wolfberg, P., & Schuler, A. L. (2006). Promoting social reciprocity and symbolic representation in children with autism spectrum disorders: Designing quality peer play interventions. In T. Charman & W. Stone (Eds.), *Social & communication development in autism spectrum disorders: Early identification, diagnosis, & intervention* (pp. 180–218). The Guilford Press.

Play in Kindergartens in Greece

Evanthia Synodi, PhD

Introduction

In many parts of the world, play, in terms of time, space, resources, and children's control over it, diminishes in the daily routines of children's lives, both in and out of school. Although play has traditionally been a basic feature of education for young children in Western countries, many factors in recent decades have pushed it aside and even undervalued it in early years education (Brostrom, 2012; Sahlberg & Doyle, 2019). Articles 12 and 31 of the Convention on the Rights of the Child (United Nations, 1989) state that children have the right to play in and out of school (article 31) and to have their opinions seriously considered when decisions about their lives are made (article 12). Instead, official and centrally imposed early years policies tend to emphasise teachers' obligation to teach what out-of-school agents have decided, which at times devalues or ignores play, the individual interests of children, and their pace of development (on top of devaluing the education of the professionals working with young children).

Kindergarten teachers in Greece are responsible for working with children ages 4 to 6. These kindergarten teachers are under pressure to teach specific information and cultivate specific skills in children. However, the official curriculum does not clearly link children's right to play and participation to the learning process.

Problem Statement

In many kindergartens, play and teaching are disconnected for various reasons (e.g., a lack of understanding, diverse perspectives on childhood and early childhood education, and excessive demands on teachers). However, this harms children's learning and development, as play is how humans are meant to learn, bond, and thrive (e.g., Brown with Vaughan, 2010; Gray, 2013). Research shows that young children distinguish between their self-initiated activities, which they call play, and teacher-initiated activities, which they call work (e.g., Howard, 2010). This separation between play and instruction is problematic. The problem is exacerbated by reduced time for

play in kindergartens' daily routines. This limits the scope and contexts in which children naturally learn, bond with others, and feel competent (Ryan & Deci, 2018), with implications for all aspects of their development and learning.

Traditionally, the assessment of children's progress has been based on observations of children's free play, and these observations are then linked to adults' planning and organising activities for young children (Sylva, Roy, & Painter, 1980; Wood, 2009). Unfortunately, how this is supposed to be achieved has lacked clarification or has been misunderstood and misused, as noted by critiques of what is termed play-based pedagogy (Brooker, 2010; Pramling et al., 2019; Wood, 2010, 2013). This approach uses play to meet the requirements of official curricula, rather than allowing children's play to lead their learning with the help and knowledge of caring adults. It removed the importance of observing and analysing play in defining teacher-led activities in favor of an instrumental use of play (Murphy, 2016; Rogers, 2011; Smith, 2010). For example, when Jones and Reynolds (2011) describe teachers' roles in relation to children's play, particularly the teacher's role as a planner, they call for an emergent curriculum. However, what is expected of teachers is planning towards 'agreed upon goals that are aligned with state child outcome standards' (NAEYC, 2009 in Jones & Reynolds, 2011, p. 95).

Adults' intrusion into children's play to control it has negated the value of free play for children's development. There is already (before increased state prescription and after it) excessive control and influence of adults, and not only of their teachers, on the life of children in a kindergarten. The values based on which children are expected to behave and resolve disagreements, the materials/resources offered to them, or not, due to scarcity or risk avoidance, the space offered, the daily routine, the number of children and adults in every setting, the restrictions on or obstacles to children's contact with nature or visits to places they find interesting, events in the lives of all in the community (e.g. celebrations, anniversaries, different cultures in school and society) have become inescapable influences of adults on children and their play. This is understandable to a degree (Quennerstedt & Quennerstedt, 2014) because education is supposed to initiate children into the knowledge reserve of the society in which they are raised. However, how this initiation is achieved at kindergarten must also contribute to children's optimal

development and be attuned to such individual development for every child, especially since children are right holders and beings as well as becoming.

Background

Greek kindergartens have some peculiarities compared with what we usually read about pre-primary education in the Western world. Attendance at kindergartens for children aged 4-6 is compulsory, and kindergarten is the first step on the education ladder. However, until 2017, kindergartens were small schools with one or two classes. Nowadays, kindergartens can have more classes because of the large number of children in certain areas. Small schools with up to three classes in Greece, again by law (Law 4589, 2019), are not to have principals/headteachers but directors. One member of the teaching staff, usually the one with more years of teaching experience, is assigned as the kindergarten director and is responsible for the school budget, the coordination of school life, and compliance with legislation, without any leadership or teacher appraisal jurisdiction, in accordance with the existing tight, centrally controlled legislation. This means that a shared play vision among all teaching staff can only be created and followed if all teachers, as colleagues, agree to it. This entails the potential for different levels of access to play for the children, even within the same kindergarten. On the one hand, this supports teachers' autonomy and acknowledges their professionalism; on the other, it does not necessarily foster collegiality or ensure that all children can access the advantages of play.

The newly introduced curriculum (Ministerial Decision 13646 / Δ1, 2023, p. 6422) refers to a *Teaching (pedagogical) framework - Planning of Learning*, part of which is what it names *learning processes* in kindergarten and *learning frameworks*.

According to the document, learning processes include:

- exploratory learning
- playful learning
- cooperative learning
- learning for all children.

Learning frameworks include:

- free and organised by the teacher play
- explorations to solve problems, to teach, and for children to learn about a theme decided either by the teacher or the children or mutually by both parties
- projects
- everyday or randomly occurring situations
- activities to support individual children and activities for all of them to assist with issues requiring prevention or interventions,
- the daily routines,
- the breaks/recess and transitions from one activity to another.

All of these are individually described in the document, but only minimally linked, so that all aspects of pedagogy and the organisation of learning are unified. There is no clear, specified starting point for the organisation of pedagogy.

This means that children's interests as expressed in free play do not *necessarily* become the content of education and the basis of teachers' work especially as play is described most times as a means for teachers to teach the content and skills described in the curricular document (Ministerial Decision 13646 / Δ1, 2023, p. 6423; for similar situation in other countries see Laas, 2018; Wood, 2013). It alludes to play-based or playfully based teaching. Therefore, children's free play is used to teach the official curriculum through play/games, or other playful activities, but this is not only the case in Greece. However, a play-responsive pedagogy (Pramling et al., 2019) offers an alternative way to link free play to pedagogy and learning.

Appropriate Strategies

Pramling et al (2019) discuss the play-responsive approach to early childhood education rather than the recent versions of play-based pedagogy. This approach is based on 'listening to the children's perspective and allowing them to influence their daily life' (Brostrom, 2012, in Pramling et al, 2019, p. 4). According to them, teachers' observations of children's free play and teachers' participation in it are integral parts of life in kindergartens and their pedagogy. So far, this sounds like play-based pedagogy.

However, teachers' observations of the information and skills that would enable children to further develop their play should serve as the compass for teacher-organised activities. A play-responsive pedagogy respects children's participation in what takes place in school and acknowledges:

- the difference between matter to be taught and the meaning people, children or adults, make of this matter, which varies, and
- the gap between teaching something and learning it (Hopmann, 2007); that is, you cannot make someone learn if they do not want to learn what you teach them.

This approach links to the central role of *communication* in education as a 'collaborative sense-making activity' (Pramling et al., 2019, p. 10). It is advocated that the goals, aims, or learning outcomes of any kindergarten curriculum or program be seen as goals to strive for rather than as goals for children to achieve. A play-responsive pedagogy aims to broaden children's cultural experience by helping them access cultural tools to facilitate their agency. This is achieved by attending to the *as-if* aspect of play (play based on children's imagination) and the *as-is* aspect of play (play based on the reality of children's experience), and to children's movement from one aspect to the other when they play.

When paying attention to this shift from the *as-if* to *as-is* aspect of the play activity, teachers must observe and understand that:

- players' intersubjectivity, that is, players having sufficient, even if it is partial or temporary, co-ordination to participate in a joint activity, such as play, and
- players' alterity, the different perspectives and understandings of the players, which lead to play not just being repeated but enriched and developed.

Observing these shifts in the *as-if* and *as-is* modes of play, in intersubjectivity and alterity, shows what children need to keep playing and thus learning. These observations and understandings lead to successful ways to implement a play-responsive pedagogy. They have to do with teachers' (a) entering children's play, (b) establishing narrative

frames, and (c) introducing learning content into play. Teachers can enter children's play by:

- asking permission from the children to play with them,
- asking questions about their play,
- taking up a role in the play without asking children, or
- accepting the children's invitation to join their play.

Establishing narrative frames for children's play is based on the concept of *playworlds* (Lindqvist, 1995, in Nilsson, 2010), in which teachers and children role-play fictional stories that address problems to be solved. Ways of establishing narrative frames for children's play include teachers:

- engaging children in a playful dialogue to clarify the plot of the play and introduce new props, so that children give new direction to their play (co-creation of play),
- acting as directors or narrators,
- acting as actors who allow greater agency to the children and
- assuming the role of guiding participants or coordinators of children's roles, thus allowing children to see new directions for their play to choose from.

Finally, teachers introduce content (information or skills of any nature) into play either while play is taking place or when they organise other activities to help children learn new information or practise skills to become better players (see also Cutter-Mackenzie et al., 2014). A useful skill that teachers with a play-responsive approach to pedagogy can introduce is *what-if thinking*. This means that during play, teachers can help children think about and realise that when something changes, there are consequences, and, to some extent, by using what-if thinking, these consequences can be imagined as the play is being negotiated.

Conclusion

Early years teachers need to help ensure play finds its appropriate place in young children's lives and education. Professional development for teachers, as well as courses on the latest knowledge about play in initial teacher education, are necessary.

Campaigns to inform the public and parents are also required. Children's freedom to play needs to be understood more deeply, thus providing not only for article 31 of the Convention of the rights of the child (United Nations, 1989) but for articles 5 and 12 as well, that is, children's right to adults who help them learn their rights (including that of play), form informed opinions and consult them and seriously take their views into account when decisions about things that affect children's lives are made.

Finally, I need to clarify that the above analysis is based on my disagreement with teachers who treat play merely as a delivery mechanism for teaching predefined adult learning outcomes or state standards and appropriating play; another term for this is colonizing play. Still, I agree with the idea of children becoming master players (Reynolds & Jones, 1997). I also agree with Sicart (2017), who describes play as a way of being in the world, involving freedom and subversion, moral development, and creativity and personal expression. Such a conceptualisation of play is way beyond what the official curricula demand of teachers, because it indicates the value of play to the human species and is based on a holistic view of children, their development and learning. Children's control over their play and the advantages of the play they engage in need to be reflected in how adults teach them and what they teach, rather than in a curriculum that defines and directs almost everything adults do in kindergartens, which children have to follow.

References

- Brooker, L. (2010). Learning to play or playing to learn? Children's participation in the cultures of homes and settings. In L. Brooker & S. Edwards (Eds.), *Engaging play* (pp. 39–53). McGraw-Hill.
- Brostrom, S. (2012). Curriculum in preschool: Adjustment or a possible liberation? *Nordic Early Childhood Education research*, 5(11), 1–14.
- Brown, S., with Vaughan, C. (2010). *Play: How it shapes the brain, opens the imagination and invigorates the soul*. Penguin.
- Christie, J. F., & Wardle, F. (1992). How much time is needed for play? *Young Children*, 47(3), 28–33.

- Cutter-Mackenzie, A., Edwards, S., Moore, D., & Boyd, W. (2014). *Young children's play and environmental education in early childhood education*. Springer.
- Gray, P. (2013). *Free to learn: Why unleashing the instinct to play will make our children happier, more self-reliant and better students for life*. Basic Books.
- Hopmann, S. (2007). Restrained teaching: The common core of Didaktik. *European Educational Research Journal*, 6(2), 109–124.
- Howard, J. (2010). Making the most of play in the early years: The importance of children's perceptions. In P. Broadhead, J. Howard & E. Wood (Eds.), *Play and learning in the early years* (pp. 145–160). Sage.
- Jones, E., & Reynolds, G. (2011). *The play's the thing: Teachers roles in children's play* (2nd ed.). Teachers College Press.
- Laas, O. (2018). Instrumental play. In A. Friedrich et al. (Eds.), *Jahrbuch Technikphilosophie: Arbeit und Spiel* (pp. 33–50). Available in English from https://www.academia.edu/34821396/Instrumental_Play
- Law 4589. (2019). Synergies of the National Kapodistrian University of Athens, of the Agricultural University of Athens, of the University of Thessaly with the Institutes of Technological Education of Thessaly and Central Greece, Pallimniac Treasury and other sections. *Gazette of the Government of the Hellenic Republic*, 13(A), 145-200.
- Ministerial Decision 13646 / Δ1. (2023). Curriculum for preschool education. *Gazette of the government of the Hellenic Republic*, 687(B), 6415-6478.
- Murphy, L. (2016). *Play: The foundation of children's learning*. Redleaf Press.
- Nilsson, M.E. (2010). Creative pedagogy of play - The work of Gunilla Lindqvist. *Mind, Culture, and Activity*, 17(1), 14–22.
- Piaget, J. (1959). *The language and thought of the child* (3rd ed.). Routledge & Kegan Paul.

- Pramling, N., Wallerstedt, C., Lagerlof, P., Bjorklud, C., Kultti, A., Palmer, H., Magnusson, M., Thulin, S., Jonsson, A., & Pramling Sameulsson, I. (2019). *Play-responsive teaching in early childhood education*. Springer.
- Quennerstedt, A., & Quennerstedt, M. (2014). Researching children's rights in education: Sociology of childhood encountering educational theory. *British Journal of Sociology of Education*, 35(1), 115–132.
- Reynolds, G., & Jones, E. (1997). *Master players: Learning from children at play*. Teachers College Press.
- Rogers, S. (2011). Play and pedagogy: A conflict of interests? In S. Rogers (Ed.), *Rethinking play and pedagogy in early childhood education: Concepts, contexts and cultures* (pp. 5–18). Routledge.
- Ryan, R.M., & Deci, E.L. (2018). *Self-determination theory: Basic psychological needs in motivation, development and wellness*. Guilford.
- Sahlberg, P., & Doyle, W. (2019). *Let the children play: How more play will save our schools and help children thrive*. Oxford University Press.
- Sicart, M. (2017). *Play matters*. MIT Press.
- Smith, P.K. (2010). *Children and Play*. Wiley-Blackwell.
- Sylva, K., Roy, C., & Painter, M. (1980). *Child Watching at Playgroup and Nursery School: Oxford Pre-School Research Project*. Grant McIntyre.
- Wood, E. (2009). Developing a pedagogy of play. In A. Anning, J. Cullen & M. Flear (Eds.), *Early Childhood Education: Society & Culture* (2nd ed., pp. 27-38). Sage.
- Wood, E. (2010). Developing integrated pedagogical approaches to play and learning. In P. Broadhead, J. Howard & E. Wood (Eds.), *Play and learning in the early years* (pp. 9-26). Sage.
- Wood, E. (2013). *Play, learning and the early childhood curriculum* (3rd ed.). Sage.

United Nations. (1989). *Convention on the Rights of the Child*.

<https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-child>

Play Is for Everyone, or Is It?

Elaine Zweig, PhD, Educational Consulting &
Lin Moore, PhD, Texas Woman's University

Introduction

Play is far more than a leisure activity; it is a fundamental human right and the primary vehicle for early childhood development. For children aged three to eight, play is essential to healthy physical, social, emotional, cognitive, and moral growth (Else, 2014; Isenberg & Quisenberry, 2002). This necessity is universally recognized, with the United Nations Convention on the Rights of the Child (Article 31) declaring that every child has the right to rest, leisure, and recreation (United Nations Committee on the Rights of the Child, 1989). In Early Childhood Education (ECE), play is a dynamic process in which children discover, learn, and interact with the world around them.

However, play is not a one-size-fits-all model. It exists on a spectrum, ranging from child-initiated, spontaneous, unstructured play to adult-facilitated guided play focused on specific learning outcomes. For children with special needs, these experiences are transformative. Inclusion in Early Childhood Education (ECE) involves accepting, understanding, and attending to individual differences across physical, cognitive, and social domains (Division for Early Childhood & National Association for the Education of Young Children, 2009). When play is purposefully planned and scaffolded, it allows children with disabilities to function as equals alongside their typically developing peers, preparing them for lifelong inclusion in a diverse society (Moore & Zweig, 2021).

Problem Statement

Despite the overwhelming evidence supporting play, several critical issues hinder the successful implementation of inclusive play-based learning in modern classrooms:

- **Academic Pressure and the Neglect of Play:** A growing trend prioritizes rigorous academic standards and rote memorization over developmentally appropriate practices (Allee-Herndon et al., 2019; Copple & Bredekamp, 2009; National Association for the Education of Young Children, 2019; Weisberg et al.,

2016). Educators often view play as irrelevant to "real" learning, leading to its neglect in Individualized Education Plans (IEPs).

- **Social Neglect and Isolation:** Children with special needs are frequently placed in situations that make them appear passive or less curious, leading to social neglect. Without intervention, these children may be ignored, teased, or bullied, which can prevent them from developing essential prosocial behaviors.
- **The Inactivity Crisis:** Daily schedules often require children to remain sedentary for long periods, which is particularly detrimental for children with special needs, who may become fidgety and disengaged. This inactivity contributes to rising rates of childhood obesity, with current data showing that nearly 14% of children aged 2-5 are considered obese.
- **Accessibility Barriers:** Many outdoor play environments are not compliant with ADA Accessibility Guidelines. A lack of funding for modified equipment and accessible routes prevents children with mobility or visual impairments from participating in vigorous physical play.
- **Deficit-Based Perspectives:** Educators often focus on what a child with special needs cannot do rather than utilizing a strengths-based approach that identifies their interests and preferences.

Background

Inclusive play is grounded in legal mandates and developmental theories that emphasize the adult's role in scaffolding the child's experience.

Legal Mandates

The Individuals with Disabilities Education Act (IDEA, 2020) requires that children with disabilities receive a free appropriate public education in the least restrictive environment. Furthermore, joint position statements from organizations such as the National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood Education (DEC, 2009) urge educators to move away from isolating children with disabilities and instead focus on access, participation, and social justice.

Theories of Play

Theories provide a lens for interpreting play behaviors and planning interventions (Frost et al., 2012). Some of the major contributing theorists include:

- **Jean Piaget (1976):** Identified cognitive stages of play, from functional play (repetition) to symbolic pretend play and eventually games with rules, which build a foundation for moral development.
- **Lev Vygotsky (1976):** Viewed play as a means to fulfill desires through imaginary situations, where interactions develop language and reasoning. He emphasized that adults must scaffold learning by providing organized environments and guidance.
- **Mildred Parten (1932):** Described six levels of social participation—uninvolved, onlooker, solitary, parallel, associative, and cooperative play—which involve group decisions and common goals.

Developmental Benefits

Play offers holistic benefits across four primary domains:

1. **Physical:** Mastering fine and gross motor skills, improving balance, and building bone health.
2. **Social-Emotional:** Developing empathy, practicing turn-taking, and building a sense of community belonging.
3. **Cognitive:** Enhancing executive function, including working memory, self-regulation, and planning.
4. **Language:** Providing a "language-rich" environment where children practice vocabulary and express choices in words.

Appropriate Approaches/Strategies

To address the challenges of inclusion, educators who understand and support play must assume diverse roles and implement specific environmental and instructional strategies to facilitate children's play activities (Ashiabi, 2007; Jones & Reynolds, 2011).

The Six Roles of the Educator

Educators must fluidly interchange these roles to support play successfully (Bodrova & Leong, 2007), including:

- **Stage Manager:** The educator intentionally arranges the environment into learning centers (e.g., art, blocks, science) and provides age-appropriate, multi-sensory materials. They schedule adequate time for play and set the ground rules for the "play frame."
- **Mediator:** The primary focus is maintaining physical and emotional safety. The Mediator helps children enter play groups, suggests alternatives to extend play, and helps interpret peers' intentions or words.
- **Co-player:** The educator joins the play without taking it over. By following the child's lead, they model prosocial behaviors and offer ideas to enhance the complexity of the play.
- **Scribe or Recorder:** This role involves documenting play through words, pictures, checklists, and anecdotal records. This documentation is essential for formative evaluation and tracking progress.
- **Observer and Assessor:** The educator monitors children to identify their strengths and interests and sets individualized goals based on these observations.
- **Planner:** Using gathered information, the planner develops an emergent curriculum, introduces new props, or organizes field trips to deepen the children's inquiry (Jones & Reynolds, 2011).

Inclusive Indoor Environments

Classrooms should be organized into clearly defined learning centers with accessible, culturally responsive materials. For children with sensory impairments, materials must have multi-sensory appeal, such as varied textures for those with visual impairments. Educators use a "system of least prompts" to teach play skills, starting with the minimum help needed to encourage independent problem-solving. This approach is particularly effective for young children with disabilities, as systematic instruction can increase object play skills and engagement with peers (Barton et al., 2020). To combat sedentary behavior, educators should integrate "Brain Breaks" (2-5

minute vigorous exercises) and music-based transitions, such as five-minute dance parties, which energize the classroom and improve academic focus (Action for Healthy Kids, 2019; Centers for Disease Control and Prevention, 2018; Frost et al., 2012).

Outdoor Environments: Nature and Accessibility

Outdoor space design is critical for children with special needs, as they are often more engaged outdoors than indoors.

Accessibility and Safety: In accordance with ADA guidelines, playgrounds must provide accessible routes for wheelchair users and inclusive equipment, such as nest swings or swings with harnesses (United States Access Board, 2007). Active supervision is required to prevent accidents and ensure all children are included in social interactions.

- **The Therapeutic Power of Nature:** Children's interactions with the natural world can be supported when outdoor spaces offer a variety of learning experiences (Herrington & Brussoni, 2015). Access to green spaces and engagement with nature support every domain of children's development (Keeler, 2008; Keeler, 2020). Exposure to natural settings significantly reduces symptoms of Attention Deficit Disorder (ADD) by helping children focus and inhibit impulses. Natural Outdoor Classrooms (Dennis et al., 2019) foster resilience and calm, providing a peaceful environment that limits distractibility.
- **Scientific Inquiry:** Educators should provide tools like magnifying glasses, binoculars, and rain gauges to encourage investigation. Natural "loose parts" (sticks, pine cones, stones) stimulate exploration and symbolic play far more effectively than fixed plastic structures.

Recommendations

1. **Professional Development:** Pre-service and in-service training must move beyond basic development to focus on integrating play and physical activity specifically for children with disabilities.

2. **Health and Wellness Policies:** School districts and childcare facilities should mandate regularly scheduled outdoor play and active indoor breaks to mitigate obesity and improve mental health.
3. **Priority Funding:** Allocate financial resources to ensure all public and school playgrounds meet ADA accessibility standards, with an emphasis on natural elements and multisensory components.
4. **Advocacy:** Educators and families should join national and international organizations, such as the International Play Association, to protect play as a social justice issue and a fundamental right.
5. **Strengthened Research:** Future studies should focus on observational data of peer interactions in inclusive settings and incorporate the "voices" of children themselves to determine their play preferences.

Conclusion and Call to Action

Successful inclusive education is fundamentally achieved by accepting, understanding, and attending to the diverse needs and differences of all children within the learning community. By fluidly interchanging the professional roles of stage manager, mediator, co-player, scribe, observer, and planner, educators can effectively facilitate both unstructured and guided play-based learning that reaches across the developmental spectrum. These intentional strategies and environmental arrangements ensure that children with special needs are not merely present, but are fully engaged in activities that support physical health, social competence, cognitive function, and creative problem-solving.

Because all children are naturally born to be "discoverers, thinkers, and problem solvers," childhood must be protected as a treasured time to experience the joy of shared adventure and mutual endeavors, regardless of ability. Educators, families, and policymakers must therefore join together in a **call to action** to appreciate, advocate for, and preserve every child's **fundamental right to play**. Only through this commitment to inclusive, play-based practices can we prepare every child for lifelong participation in a diverse and equitable society.

References

- Action for Healthy Kids. (2019). *Brain breaks, instant recess, and energizers*.
<https://www.actionforhealthykids.org/classroom-energizers-brain-breaks/>
- Allee-Herndon, K. A., Taylor, D. D., & Roberts, S. K. (2019). Putting play in its place: Presenting a continuum to decrease mental health referrals and increase purposeful play in classrooms. *International Journal of Play*, 8(2), 186–203.
<https://doi.org/10.1080/21594937.2019.1643993>
- Ashiabi, G. S. (2007). Play in the preschool classroom: Its socioemotional significance and the teacher's role in play. *Early Childhood Education Journal*, 35(2), 199–207. Doi:10.1007/10643-007-0165-8
- Barton, E. E., Murray, R., O'Flaherty, C., Sweeney, E. M., & Gossett, S. (2020). Teaching object play to young children with disabilities: A systematic review of methods and rigor. *American Journal on Intellectual and Developmental Disabilities*, 125(1), 14-36. <https://doi.org/10.1352/1944-7558-125.1.14>
- Bodrova, E., & Leong, D. J. (2007). *Tools of the mind: The Vygotskian approach to early childhood education* (2nd ed.). Pearson.
- Centers for Disease Control and Prevention. (2018). *Strategies for classroom physical activity in schools*. U.S. Department of Health and Human Services.
https://archive.cdc.gov/#/results?q=https://www.cdc.gov/healthyschools/physicalactivity/pdf/2019_04_25_Strategies-for-CPA_508tagged.pdf&start=0&rows=10
- Copple, C., & Bredekamp, S. (Eds.). (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3rd ed.). NAEYC.
- Dennis, S., Kiewra, C., & Wells, A. (2019). *Natural outdoor classrooms: A national survey, final report*. Dimensions Educational Research Foundation.
- Division for Early Childhood & National Association for the Education of Young Children. (2009). *Early childhood inclusion: A joint position statement*.

- Else, P. (2014). *Declaration on the importance of play*. International Play Association.
<http://www.ipaworld.org>
- Frost, J. L., Wortham, S. C., & Reifel, S. (2012). *Play and child development* (4th ed.). Pearson.
- Individuals with Disabilities Education Act. (2020). *About IDEA*. United States Department of Education. <https://sites.ed.gov/idea/about-idea/>
- Isenberg, J. P., & Quisenberry, N. (2002). Play: Essential for all children, a position paper of the Association for Childhood Education International. *Childhood Education*, 79(1), 33–39.
- Jones, E., & Reynolds, G. (2011). *The play's the thing: Teachers' roles in children's play* (2nd ed.). Teachers College Press.
- Keeler, R. (2008). *Natural playscapes: Creating outdoor play environments for the soul*. Exchange Press.
- Keeler, R. (2020). *Adventures in risky play: What is your yes?* Exchange Press.
- Moore, L., & Zweig, E. (2021). Play experiences in early childhood education: Inclusion of children with special needs. In *Handbook of Research on Innovative Approaches to Early Childhood Development and School Readiness*. IGI Global.
<https://doi.org/10.4018/978-1-7998-7630-4.ch001>
- National Association for the Education of Young Children. (2019). *Advancing equity in early childhood education: A position statement*.
<https://www.naeyc.org/resources/position-statements/equity>
- Parten, M. (1932). Social participation among preschool children. *Journal of Abnormal and Social Psychology*, 27(3), 243–269.
- Piaget, J. (1976). Mastery play. In J. S. Bruner, A. Jolly, & K. Sylva (Eds.), *Play—its role in development and evolution* (pp. 166-171). Basic Books.

- United Nations Committee on the Rights of the Child. (1989). *United Nations Convention on the Rights of the Child*. <https://www.unicef.org/child-rights-convention/convention-text#>
- United States Access Board. (2007). *Guide on play areas: A summary of accessibility guidelines for play areas*. <https://www.access-board.gov/guidelines-and-standards/recreation-facilities/guides/play-areas>
- Vygotsky, L. S. (1976). Play and its role in the mental development of the child. In J. S. Bruner et al. (Eds.), *Play: Its role in development and evolution* (pp. 537-554). Basic Books.
- Weisberg, Deena & Hirsh-Pasek, Kathy & Golinkoff, Roberta & Kittredge, Audrey & Klahr, David. (2016). Guided Play: Principles and Practices. *Current Directions in Psychological Science*. 25. 177-182. 10.1177/0963721416645512.