Refreshing Recess: Annotated Bibliography

This document was created to serve as a resource to school personnel and families in order to learn about best practices recommended for creating positive recess experience for all students. The literature search included a range of publications including professional organization or national technical assistance center information sheets and monographs, descriptive articles and research studies.

For each publication, a summary of the contents and implications for practice is provided. Articles and research studies are organized within a multi-tiered framework – universal, whole school promotion and prevention approaches; targeted strategies for students at-risk of struggling in the cafeteria; and intensive, individualized strategies for students with disabilities and/or mental health challenges who might experience significant challenges in the cafeteria. Make sure to refer to the many useful resources and websites summarized on pp. 29-31.

Look for the star! These are placed next to some of the most useful resources.

Table of Contents

- Summary .................................................................................................................. p. 2-3

- Publications
  - Tier 1: Universal Strategies for Prevention and Promotion.............. pp. 3-19
  - Tier 2: Targeted Interventions for Children at Risk..................... pp. 19-23
  - Tier 3: Interventions for Children with Identified Disabilities........................................... pp. 24-28

- Useful Resources........................................................................................................... pp. 29-31

Developed for Every Moment Counts by: Shannon Kerns, OTR/L, Becca Winne, OTR/L & Susan Bazyk, PhD, OTR/L (2014)
See Recess tab at www.everymomentcounts.org
Summary of the Recess Research & Resource

Research supports the need for recess in a child’s daily life. Recess participation supports the growth of the whole child – cognitively, emotionally, socially, and physically. When the child is able to have at least 20 minutes of unstructured or structured playtime during their day, they are better able to focus and have fewer behavior challenges in the classroom. This also impacts the teacher’s day by giving them a break at recess and having children come back to class calmer and more attentive. Some research also suggests that it may be beneficial to have recess before lunch to cut down on food waste and to give a chance for children to calm down.

Children in low-income schools have fewer opportunities for playtime due to cutbacks to recess or the elimination of school recess altogether. This may be due to lack of staff and/or the belief that recess time should be used to support academic development. Recess may be the only opportunity for playtime for children in low-income schools due to poor neighborhoods or home environments.

Recess was found to be the environment where children receive the most physical activity as compared to physical education and before/after school activities. Recess is an untapped resource that needs to be explored to increase children’s chances for physical activity during the day. It was found that children that were more active at a young age are more likely to be active adults, therefore decreasing their risk of obesity-related illnesses. It was also found that physical activity improves children’s math and reading skills.

There is debate in the literature as to whether structured or unstructured playtime is more beneficial to the child. It seems that although it may be beneficial to provide some structured activities for children, it is important for them to have their own unstructured free play to initiate play ideas and explore different avenues. This allows them to problem solve and develop social skills with their peers. Overall, it is beneficial to provide a combination of child-led and adult-initiated play with a skilled adult guiding play. The adult may assist in teaching children conflict resolution strategies or teaching them classic playground games. Structured play activities have been found to assist children/youth with various disabilities of social challenges to successfully enter a group and make friends.

Although there is an abundance of research supporting the benefits of recess, schools are still cutting back on recess time. No matter what the obstacles the school is facing, their lack of knowledge in the importance of playtime may lead them to believe it is better to spend time on academics than provide children with recess. Principals, teachers, and parents need to be educated on the value of recess and why it is integral to include this in students’ physical and mental health. Policies should be put in place mandating recess time for students. Communicating with government officials and including key stakeholders such as principals, teachers, and parents may pave the way in making this happen.

Occupational therapists play a pivotal role in advocating for structured recess time and sharing with school administrators and teachers about the many benefits
recess has upon children's school performance, social, emotional, and physical development.

Highly recommended online manuals:


Publications

Tier 1 ~ Universal Strategies for Promotion and Prevention during Recess


Type of Resource: Information Sheet

Summary: This source discusses occupational therapists’ (OT) role in helping shape recess in a school setting. Occupational therapists can embed services during recess to promote participation and enjoyment – specifically in play, social participation and friendship development, positive behavior and emotional regulation. Benefits of active play during recess are described. Intervention strategies that can be implemented at a school-wide level, for at-risk students and for those with challenges during recess are provided.

Application: This source summarizes OT’s role in helping to enhance recess and provides ideas of how OTs can help promote participation and enjoyment at the whole school level (Universal, Tier 1), for children at-risk of recess challenges (Tier 2), and for those already experiencing challenges during recess (Tier 3) (e.g. loners, those with behavioral challenges, those with friendship issues).

**Type of Resource:** Research brief

**Summary:** Research has shown that children who receive at least 20 minutes of recess a day have increased attention spans and fewer problem behaviors in the classroom throughout the day. Children who are at increased risk for obesity (i.e. children who live in low income urban areas), are shown to have less opportunities for recess, therefore decreasing their chances for physical activity throughout the day. Nationally, there is a decrease in the number of schools providing recess during the school day. Research has found that schools with adequately trained staff, low cost safe playground equipment/supplies, and painting places on the playground for activities were able to successfully increase the amount of physical activity children received during recess time.

**Application:** This source is useful in summarizing the research supporting the need for at least 20 minutes of recess and physical activity in the schools. Suggestions on how to increase physical activity during recess are shared. This source supports the need for relevant school staff (OTs, PTs, health educators) to become involved in promoting recess for elementary students. Supporting evidence for how recess enhances academic learning is provided along with realistic strategies for how schools can enhance active play by providing inexpensive playground equipment, training teachers and staff fun games for recess to increase the level of physical activity for the children, providing materials for recess games (i.e. painting lines on the playground for hopscotch), and identifying specific areas for vigorous physical activity.


**Type of Resource:** Web-based article

**Summary:** This source provides a list of activity ideas for indoor recess including activities focusing primarily on physical activities to do in the classroom. Links to additional websites with free ideas for physical activities are also provided. Finally, a video is provided about a physical activity idea for young children.

**Application:** This source may be useful for teachers, OTs, and recess aides for making providing enjoyable active play for all children.


**Type of Resource:** Journal article

**Summary:** This study explored changes in playfulness when new play materials (i.e. bike tires, foam strips, cardboard boxes) were introduced during recess. 20 school children between 5 and 7 years of age participated in the study. The Test of Playfulness (ToP), video recordings, and interviews with teachers were used to gather data. Results
indicated that when unique play materials were provided teachers reported children's play to be more creative and inventive, that socialization between peers improved, and that aggressive behaviors decrease. "So engaged were they in play that children who fell were more likely to pick themselves up and continue playing rather than cry as they might previously have done" (p. 525).

**Application:** The provision of developmentally appropriate play materials can have a positive influence on children's participation and enjoyment during recess. Occupational therapists can have an important role in enhancing the recess experience for students with and without disabilities and should be active contributors in shaping recess by helping plan play activities and helping make accommodations for students with disabilities when needed.

  **Type of Resource:** Online report
  **Summary:** Recess provides the most physical activity for children when compared to P.E. and before/after school programs. Children who are minorities and/or low income receive the least opportunities to participate in recess. This is due to lack of staff, lack of trained staff, and in some schools, the exclusion of recess altogether to focus on academic demands. Sports4kids is a nonprofit organization striving to provide physical activity and recess for all children. An outcome study of providing a Sports4kids programs at schools demonstrated positive results. The program consists of trained adults who teach the children games and strategies to resolve conflict on the playground. The study showed that a more structured play setting allowed more children to be involved and engaged in play during recess. However, this resource also found that there is a significant lack of funding to improve recess. Most of the funding for physical activity is put towards P.E. and before/after school programs. So, although recess was found to be the best way to reach children to improve physical activity, it receives the least amount of funding.
  **Application:** This source is useful in supporting the need for recess programs at schools. Compared to the other sources, this source focuses more on structured play opposed to free play. However, it may be helpful to determine how these two types of play may be combined on the playground to create the best environment for children to grow and learn physically, emotionally, cognitively, and socially. The information does present to be reliable as they surveyed 1,055 schools, interviewed principals, and completed a case study in conjunction with the Harvard Graduate School of Education. It may be helpful to replicate some of the recess developed by Sports4kids (renamed Playworks). As a side note, this article was very easy to read and informative, it would be a good resource to refer to school personnel and/or parents.

  **Type of Resource:** Journal article
**Type of Study:** Description of unique service-learning program

**Summary:** This article describes a unique service-learning program aimed at increasing social participation, inclusion, and decreasing bullying on the playground. Therefore, college students implemented new and inclusive games during recess for 4 to 6 weeks. The process consisted of seven steps: 1) Receive a "Referral"; 2) Gather information; 3) Bridge the gap; 4) Implement the plan; 5) Take notes; 6) Have fun; and 7) Fade out and evaluate. For step 1) Receive a "Referral", the college student met with the principal, teacher, and other school staff helps to determine the needs of the students. In step 2) Gather information, the college students observed recess time and gathered data about the children's goals, interests, skills, attitudes, and strengths. Once this baseline data is obtained, step 3) Bridge the gap was implemented. This is when the service-learning students incorporated a cooperative game into recess. During this step, any gaps in participation are mended, such as clarifying the rules of the game. In step 4) Implement the plan, the college students helped to "build natural connection and supports in the programs with the participant and then to fade out from helping, allowing the students to make friends and acquaintances that will last beyond the Inclusive Playground Program" (p. 64). In step 5) Take notes, the college students were encouraged to reflect upon their experiences and then in step 6) Have fun, the college students would implement the game while going in different areas of the playground to ensure that the children where safe and having fun. Finally, in step 7) Fade out and evaluate, the college students slowly stopped taking part in the playground but helped students and school staff remember how to play the new games while ensuring that the children have "natural supports and accommodations...in place and working well" in order to fully participate (p. 65).

As a result of this program, the students played together more, made new friends, displayed less disruptive behaviors on the playground, were nicer to one another, and encouraged each other. In addition, less bullying and "verbal negativity" was reported. This is believed to be partly due to the increased presence of adults on the playground. The college students also benefited from participating as they learned to be "more deliberate in their choice of words, consciously modeling what they had come to learn as the most accurate, sensitive, and respectful language", keep an open mind, and to sustain the positive inclusive environment on the playground (p. 66).

**Application:** This is a good description of a successful inclusive recess program. The results of the program are positive and the article clearly describes the implementation of the program. This article is good and supports other literature that speaks to the importance of a positive recess environment. The structure of this program was just what the children needed and the results were so beneficial that this can be used to spark new ideas for program in local schools and support the school staff during recess.

Type of Resource: Research brief

Summary: This source examines how the Playworks program, aimed at improving the overall health and well-being of students by providing opportunities for meaningful play activities, supports positive school climate and reports students’, teachers’, and principals’ views of the program’s effect on overall school environment. Playworks provides schools with coaches that teach students games with rules, conflict resolution techniques, and encourages positive language and inclusive behavior. It was found that Playworks improved the structure and organization of recess by teaching children how to be safer playing games, designating areas for certain games, teaching students how to resolve conflicts, and recruiting junior coaches to lead games. This provided more structure and less adult supervision during conflicts, making children feel safer on the playground. Playworks worked best in schools where there was strong principal leadership, staff worked as a team, and the school’s values aligned with the Playwork policies. It was also noted that what students learned in Playworks carried over to the classroom. Students used the conflict resolution techniques they learned and used positive Playworks language. This was mostly seen when the teacher embraced the Playworks program. Three quarters of teachers reported valuing student leadership more and had higher expectations of student behavior after the implementation of Playworks. The majority of teachers also valued play more after the program. Early training on Playworks showed a quick roll-out of program components, teacher buy-in, and integrating the Playworks coach into the school culture. The Playworks program also demonstrated a reduction of conflict and bullying and an increase in students’ feelings of safety on the playground physically and emotionally. Playworks had a difficult time influencing school climates where the school was trained late or not at all, schools with coach turnover, and in classrooms where teachers did not embrace the program.

Application: This source simply explains how the Playworks program works and under what conditions are best. So, if occupational therapists and other school staff decide to replicate this program or even enlist their services, this source will be useful.

ride bikes or walk to school and offering incentives to those who do so; 5) the SWITCH program which focused on having children switch what they do (physical activity), switch what you view (decreased screen time), and switch what you chew (healthy eating); 6) Learning Landscapes designed and rebuilt play spaces across Denver and made them accessible to the community; 7) a partnership between the city and homeowners association to draw attention to improving playgrounds and making them accessible to the community; 8) an urban city in New York advocated for street closures to have block parties and a place for children to play; 9) a Neighborhood Parks council developed “Park Scan” for Smartphones that enabled people to document playground maintenance issues, holding public officials responsible to fix the problems; 10) the Seattle Housing Authority received federal funding to create a play-friendly community; 11) a mayor developed a program called “Play ‘n’ Close to Home” to create play spaces within a half mile of every child in the city through joint agreements with schools and community organizations; and 12) a joint agreement between a city and its largest school district made school play spaces accessible to the community and upgraded these spaces to city standards. This report says that play should be included in local policies and provides a framework on how to receive increased federal funding for play communities.

**Application:** This source is helpful in that it has a wealth of knowledge on various programs across the country regarding play that worked. Some programs focused on improving play spaces while others encouraged healthy behaviors of children. This resource shapes our argument by providing solid evidence that improving play spaces and making them accessible to people in the community is a successful approach to pursue for occupational therapists. This source can also provide useful information when looking for further funding for improving playgrounds.


  **Type of Resource:** Journal Article
  **Type of Study:** Meta-analysis

  **Summary:** The authors of this study review studies supporting the mental and physical health benefits of physical activity for children. Many schools struggle with their physical education programs, but the authors suggest that "improving curriculum and instruction, making the physical education classes longer, and incorporating fitness activities into physical education classes" can help mend the problem in our schools. Questionnaires were distributed to schools on the state and district levels inquiring about the physical education policies for students in K-12. Findings indicated that 70.5% of the schools had a policy about physical education. There is also a great need to implement further policies and programs for physical education in the schools around the country. "Because physical activity participation for young people declines as they progress through childhood into adolescence, it is essential that schools provide regular opportunities for students to participate in physical education" (p.459). Another consideration is to limit the number of exemptions students are allowed to have from physical education, therefore encouraging participation from all students while making
teachers be fully qualified in the physical education area. The authors also call for an increase in policies on the state, district, school, and classroom level in order to make physical education as effective as possible to the students. "With strong multilevel policies and practices, many more of our young people will be given the opportunity to become physically educated individuals and thereby establish healthy, active lifestyles as then enter adulthood" (p. 462).

**Application:** This article provides an analysis of studies exploring the impact of physical activities and health in children. Findings can be used to make a case for ensuring active play during recess. Therapists can share their knowledge regarding physical activity and encourage school administrators to make classroom wide policies that will incorporate physical activity into the lesson, whether it is getting out of your seat and wiggling or warming up at the beginning of class with some jumping jacks.


**Type of Resource:** Online article

**Summary:** A study was done to examine the effects of a bully prevention program on the playground. The program was implemented at an urban elementary school with the researchers collaborating with school personnel and parents to develop the program. First, the researchers held meetings with school personnel and parents to determine the strengths and weaknesses of recess and ways to address these issues. Recess staff were trained in teaching children games and ways to resolve conflict on the playground. Five sections of the playground were painted with age and gender appropriate games. A staff was assigned to each section and the staff was encouraged to provide at least one structured game in each section. The study found that children showed more behaviors that are positive and less rough play after the program was implemented.

**Application:** This article describes how one school was successful in creating a positive recess environment. This source is useful for occupational therapists by showing that focusing on improving recess can improve children’s participation in recess activities and decrease the risk for bullying behaviors. The source did offer a more detailed report on this particular study and also listed several other useful resources that can be used by occupational therapists.


**Type of Resource:** Journal article

**Type of Study:** Multiple baseline across groups design

**Summary:** "Recess provides an essential component of a child’s educational and developmental needs" (p. 109). Although recess is an essential component, teachers and parents alike are concerned about the child’s safety, amount of adequate supervision, and lack of social skills while they are on the playground with classmates. Therefore, a call to improve the level of supervision on the playground "ensures that (a)
children utilize the playground in a safe and orderly manner, (b) dangerous events or settings are identified in a timely manner, and (c) students play appropriately so that educational and developmental goals are more likely to be met" (p. 110). Although the presence of adults during recess is crucial, it does not eliminate problem behavior altogether. Those who are employed to supervise students should model behavior that is positive, use appropriate social skills, interact appropriately with students and other adults, and follow the rules. When this takes place, the students are more likely to display appropriate recess behaviors.

This current study used three different phases, (1) teachers reviewed school rules and social skills specific to the playground environment, (2) recess supervisors reviewed rules and expectations, and (3) pre-corrections and active supervision was added to recess (p. 111). All of these phases were implemented at an appropriate pace and were not all started at the same time. The playground supervisors were instructed to increase the amount of times they reinforced the rules, amount of corrections they used when children broke the rules, and the amount of times they actively moved around the playground in order to provide better supervision. One elementary school participated in this study with 475 students and 42 staff. A strong social skill component was incorporated into this study. This included identifying problem behaviors and providing written rules for students to follow in regards to proper classroom and recess conduct. As a result, student behavior in structured and unstructured activities improved, however no significant changes in recess behavior occurred. In addition, teachers and school staff were able to positively influence their students with minimal training on how to supervise recess.

**Application:** This study is clearly written, easy to follow, and provides practical interventions to making the recess environment positive, a place for improving social skills, and an environment that allows teachers and recess supervisors to properly take control of recess. The outcomes of the study were positive and showed a decrease in negative behaviors from students. The study is helpful to model future recess programs on, motivate school staff, and help students behave appropriately.


**Type of Resource:** Position statement

**Summary:** This source provides the position of the National Association of Early Childhood Specialists in State Departments of Education on recess and states that they find recess an integral part of the child’s day in preschool through elementary school. This source outlines some key benefits of recess to children, including specific benefits related to physical activity, social interactions, cognitive development, and emotional regulation. This source provides supportive evidence of the benefits of recess in each of these areas.
Application: This source is very useful as it supports the other sources that discuss free play and physical activity as benefits of recess, and it provides valuable research that builds on these components. It also provides research on the emotional and cognitive benefits of recess and why these are important to a child academically. The goal of this source is to provide a strong argument for the need for recess and why play is important for a child to develop life skills.


  **Type of Resource:** Fact sheet  
  **Summary:** This source argues that playtime plays an integral role in the child’s school day. This source specifically focuses on the benefits of “free” play in which the child self directs and chooses how to use their playtime. Research shows that utilizing free play during the child’s day increases inclusion for children with disabilities, decreases stress children may feel, helps children learn social roles, develop resilience, and allows them to stay attentive during class time. This source also discussed why adults have problems with playtime in that they may interpret children’s play styles as unsafe and risky. In this way, many schools have banned certain forms of play, decreasing children’s opportunities to engage in free play.

  **Application:** This source is useful in that it emphasizes the need for free playtime in a child’s day and the benefits children receive when allowed to do this. This resource supplements the information found in additional literature discussing the benefits of physical activity during recess by adding the play component to the benefits as well. The goal of this source is to provide information of the benefits of school playtime and provide supporting research to back up these claims.


  **Type of Resource:** Magazine article  
  **Type of Study:** Qualitative observational study  
  **Summary:** This article is written from the perspective a parental recess volunteer at her child's school. The observer recorded her observations in a journal and described the challenges and benefits of being a recess volunteer. The author recognizes the importance of recess for students, as it allows for creativity, exploration of the environment, and imaginative play (p. 161). The goal of this study was to support the need for recess and document the many benefits of recess along with some suggestions for improvement. First, the author stated how recess is important because it allows children to make their own choices without adult influences. In addition, if recess is eliminated, then children are sent the message that they are inferior to adults; adults get breaks therefore children should as well. "Researchers have even shown that a break such as recess, in part because of its multi-dimensionality, enhances children’s well-being, as well as their social-emotional, physical, and cognitive development" (p. 165). The author noted the amount of compassion and support the children showed to one another when one person got hurt and also the collaboration between the children
during recess as the older children pushed the younger children on the swings. The author noted how recess is an ideal time and space to observe children in their natural environment and see what skills they have and how they socially engage with one another. O’Brien’s observations also noted the over concern for safety, restricting what the children where able to participate in. The activities that were considered even remotely unsafe were stopped before they began. She felt this limited the skills children could use, the level of imagination that took place, and the amount of physical activity they participated in during recess. Although, she did not want the children to engage in unsafe activities, she did not feel these activities were truly harmful, but instead would have benefited the children in other ways such as sensory exploration and imaginative play. "In summary, free, safe, relatively unrestricted play during recess is an essential requirement for helping children learn and grow" (p.165). Previous studies have shown the importance of recess in developing children's imaginations as when they are allowed to be creative during recess. Adults are the key to making recess a success for children – adults can promote children to play in their natural environment and provide the proper supports they need to be creative and social with their peers. O'Brien concludes that "to open the 'doors and minds' of children, recess needs to unstructured time, with plenty of physically and psychological roaming space and a lack of imposed rules" (p. 166).

**Application:** This a useful article because it shares the perspective of a recess supervisor who has spent a substantial amount of time observing the playground environment during recess. Occupational therapists understand the importance of imaginative play and exploration of one's natural environment. Recess is crucial for the social, emotional, cognitive, and physical development of children. Therefore, we can act as advocates by discussing with the school staff, administrators and parents the importance to keep recess and allow for unstructured playtime.


**Type of Resource:** Online tip sheet

**Summary:** This source discusses why play is important in helping children develop crucial life skills through play. Pappas indicates that taking away a child’s recess time as punishment is counterproductive because a research study found that children who received 15 minutes or more of recess per day displayed better behaviors in the classroom. The same study also found that 30% of the more than 100,000 of children looked at did not receive recess or received less than 15 minutes of it. Research from the Early Childhood Education Journal in 2007 found that children who engaged in free play or adult-guided play were more apt to understanding others’ emotions and learn how to regulate their own emotions. The author of this source says that play gets children active and moving and found research saying that active children are more likely to grow into active adults, therefore decreasing their risk of heart disease or other diseases associated with not being active. A 2009 study in the Journal of School Health found that children who passed more physical tests did better on academic tests as well. Another benefit of play is that it’s fun and children need a break from school. This
section of the source comments on the Playworks program and how it teaches children classic playground games and how to run their own recess.

**Application:** This source is useful because it provides user-friendly about the research evidence supporting play and recess. The website allows the user to see one section at a time and then scroll to the next page. It also has some links one can click on for extra resources throughout the reading (e.g., article on how to cut down childhood obesity). This makes it a great source for teachers and parents in educating them on the importance of play.

  
  **Type of Resource:** Research brief
  
  **Summary:** Recess is an important part of the school day for all children. Previous literature has shown that having a break from educational/cognitive work helps to maximize learning and minimize distractions or cognitive intrusions; structured recess can provide this. In addition, structured recess can help build into the social development of the child, "when children engage in social play with their peers, for example, they are often enacting roles and behavior that are, at some level, not attainable in real life" (p. 14). Social interactions can lead to positive school performance, improved social confidence, and a reduction in the amount of stress at school.

  **Application:** This short article summarizes the benefits of structured recess and the opportunities for social skills to develop.

  
  **Type of Resource:** Online article
  
  **Summary:** This source outlines all the benefits of recess. It says that outdoor recess is preferable to indoor recess so children can get fresh air and sunshine. This source says that PE and recess are needed for a child’s overall health. This source also discusses the benefits to teachers as well, saying that there are fewer problem behaviors after recess and that children can pay better attention in the classroom when they have recess. This resource also discusses research on how active movement times during the day benefit children and provides a couple of lists from multiple resources on the benefits of recess.

  **Application:** This source is useful in providing supplemental information on why recess is an integral part of a child’s day. It can be used to develop informational fact sheets and give info on all the benefits of recess. It supports other sources in this bibliography by stating some of the same findings as others.

  
  **Type of Resource:** Journal article
Summary: This source provides a comprehensive review of the literature regarding recess. The review of this research indicates that recess should be considered a child’s personal time during the day and is an important aspect in developing the whole child in regards to their social, emotional, cognitive, and physical skills. The authors found that recess improves a child’s cognition by helping them to be more focused on academic tasks. Recess should be considered a complement to physical education and not a replacement for it. Research showed that it might be beneficial to have recess before lunch instead of after to decrease food waste and improve behaviors in the classroom afterwards. This source focuses on the benefits of unstructured recess, as they found free play was more beneficial to students with regards to their social-emotional needs as compared to structured recess. The authors also state that recess should not be withheld as punishment. They suggested to improve recess, schools should have well trained staff, safe age appropriate playground equipment, and supervised, unstructured playtime. The authors found there is a movement to combat childhood obesity, and this effort has started to focus on recess as a way to improve children’s physical activity. However, they say that structured recess may be better for the child, whereas this source has found that unstructured free play is the best way to improve the whole child. In only looking at the physical aspect of the child, trying to combat childhood obesity may ignore the social and emotional needs of children.

Application: This source provides a useful summary of current recess literature. It complements other sources in that it had similar findings regarding the benefits of recess and recommendations for improvements. The goal of this source was to determine the value of recess during the school day in the U.S. The information provided in this source is plentiful and may be utilized to develop how to best implement recess for children.


Type of Resource: Recess report

Summary: A survey of 1,951 principals and vice principals was done regarding their feelings about recess. The study focused on principals in particular because they play a key role in making changes and enforcing best practices in schools. The study had six major findings: 1) Recess has a positive impact on students’ academic learning and focusing in the classroom 2) Recess benefits social development and overall well being 3) Despite the benefits of recess, schools continue to cut recess in order to comply with required academic testing 4) Schools take recess away as punishment for bad behavior 5) The majority of discipline-related problems occur during recess and lunch 6) Principals would like more staff during recess, better equipment, and better training for staff. This resource recommends that staff be better trained on managing recess time, schools should attempt to improve recess, schools should stop taking away recess as punishment for bad behavior, and recess should be seen as a vital part of the day.

Application: This is a useful source and it is unique in that it looks at the principal’s perspectives on recess. This is the first study to do such a thing, and it is very beneficial.
when proposing plans to principals to show them what principals across the country think about recess. It will be a great source to use when developing fact sheets specific to principals on the benefits of recess and suggestions on how to make improvements.


Type of Resource: Magazine Article

Summary: Time for recess is continually shrinking in various schools across the United States (p. 37) and there is a vast difference between physical education classes and unstructured recess. Where physical education is a structured class with objectives, recess is unstructured and allows children to play games, be creative, use their imaginations, and socialize. One expert explains, "there's a lot of development that goes on during recess...it gives children the opportunity to take control of their lives. This is where they have the opportunity to learn life skills: How are we going to solve conflict? How are we going to deal with bullies?" (p. 39). The same expert also argues that children will apply classroom lessons at recess, such as addition and teachers can learn a lot about their students by watching them during recess. In addition, one teacher noted that her students were less fidgety. Children require a break, just like adults in order to take in information. Another benefit of recess is the physical activity the children receive and the prevention of several childhood disorders such as obesity and diabetes. The article strives for schools to make time for recess and watch the benefits of it unfold.

Application: This article is easy to read and follow while directly addressing the issue of recess. The author clearly lists the many benefits of making time for recess and the need for schools to take action to promote the well-being of their students. The article also brings opinions of professionals in the field to address the issue at hand.


Type of Resource: Journal Article

Type of Study: Systematic review with methodological quality assessment

Summary: Regular physical activity "is linked to enhancement of brain function and cognition, thereby positively influencing academic performance" (p. 49). However, many schools feel the pressure to improve in academic performance and therefore cut out recess and physical education. A systematic literature review was performed to help gain further knowledge on the topic. As a result, 14 studies were found to be relevant. From the studies, physical activity and academic performance were found to have a positive correlation. However, some articles reported sport participation to be negatively correlated with academic performance of the child while other studies found that participating in athletics was found helpful for the child's academic performance. "Being more physically active is positively related to improved academic performance in
children" (p. 53). The authors concluded that more studies are needed to further examine the relationship between physical activity and academic performance.

**Application:** This study supports the link between physical activity and academic performance. The authors of this systematic literature review conclude that physical activity is beneficial for the student's academic performance. Therefore, recess should be a valuable part of the school day because it can offer the child an opportunity to be physically active, therefore benefiting their academic performance.

- Sparks, S. D. (n.d.). *Imaginations more active despite less play time, study shows.* Retrieved from Education Week website: [http://www.edweek.org/ew/articles/2012/06/26/36imagination.h31.html](http://www.edweek.org/ew/articles/2012/06/26/36imagination.h31.html)

  **Type of Resource:** Online article
  **Summary:** A research study done over 23 years looking at elementary age children using the *Affect in Play Scale* found that children in 2008 are more comfortable and more imaginative during playtime despite having less free playtime than children years ago. However, the researcher did comment that children may be “sneaking in” playtime during the school day during academic learning. The study also found that children show less negative responses during playtime in 2008 than before. So, even though the research found that children are showing more signs of being imaginative, researchers say children still need unstructured free play during their school day.

  **Application:** This source is not as useful as other sources. It does bring up the fact that children need to release their negative emotions during play, but the study itself does not strongly support our project. It discusses the need for free play in the child’s day, but other sources gathered support this idea better.


  **Type of Resource:** Fact sheet
  **Summary:** A survey of 1,000 American adults was completed showing that Americans generally agree that school recess is in trouble and children obtain many life skills on the playground. On the survey, one question asked Americans if they thought children are getting more than enough, less than enough, or about the right amount of physical play activity on a daily basis. 77% responded that they thought children were getting less than enough physical playtime. 80% of men do not think children are getting enough physical play, while 74% of women feel they are not getting enough physical play. 89% of Americans believe schools are responsible for making sure children get this physical playtime, with 59% ages 35 and older believing this and 47% of ages 18-34 believing schools are responsible. 73% of American parents surveyed disagree with cutbacks to recess, while 67% without children disagree; overall 69% of Americans disagree with eliminated or shortened recess time. 91% of Americans believe having a physical break helps children focus in the classroom and 88% also think it is good exercise for kids. 85% of Americans believe recess is an important part of a child’s life, and 69% view recess as a break for teachers as well. 91% of Americans think that
recess helps build a child's social development. 43% of women believe that recess helps children make friends, while 36% of men believe the same.

**Application:** Yes, this is a useful source in highlighting Americans’ opinions about recess and its importance to children’s lives, which makes it different from other sources.


**Type of Resource:** Journal article  
**Type of Study:** Descriptive qualitative research study  
**Summary:** A maximum variation purposive sample was used to collect the participants for this study. Focus groups with in-depth interviews were used to collect data regarding children's feelings and views of their physical activity during recess. Children were taken on a tour of the school and asked to tell the researcher where they played at lunchtime and what type of activity they participated in. The children were also asked what the five most important factors they felt were about lunchtime play. As a result, most of the physical environmental factors were considered barriers to play during lunch, such as a lack of space, programs, facilities, and usable equipment. Intrapersonal barriers among the students included level of motivation, preference of sedentary activities, and confidence levels. In addition, bullying and restrictions on various "unsafe" play activities by the teachers were also perceived as barriers. Children would also choose various play activities based upon the types of play equipment available to them and the weather. Children reported wanting to make up their own rules during playtime and select games based on personal preferences. "Children commented that they often modify existing rules to match personal and group capabilities, making lunchtime play more appealing. Children also reported the importance of having their friends/peers with them during lunchtime play and the acceptance of their peers during playtime. In conclusion, the children in the study stated their desire to have a more active lunchtime but school rules were presently hindering them. "Even though school rules are established for safety and legal reasons and a means of controlling situations, schools need to be aware that children generally perceive these to be barriers to their lunchtime play, in which access to spaces, equipment and ultimately their opportunities to be active, are restricted" (p. 49).

As a solution to these barriers, the children requested increased access to equipment and increased freedom in choices when it comes to play at lunchtime. The author lists some practical implications as a result of the findings of this study: "Communicating with children provides a unique opportunity to uncover new factors and better understand the factors that influence children's" physical activity "in the context of the lunchtime period. Efforts to promote" physical activity" in school settings should focus on addressing important barriers, such as bullying/teasing and access to space and equipment, to increase children's" physical activity "opportunities and perceptions of choice in the school yard" (p. 50).
Application: This article is helpful as it clearly describes barriers to recess play and suggests involving students in developing strategies for improvement. Another reason why this article is relevant is because it not only focuses on physical barriers to participation, but also social and emotional barriers that might be present, such as bullying.


**Type of Resource:** Online article

**Summary:** A study done on eight 9 year old girls and twelve 9 year old boys found that physical activity in the form of a 20 minute walking session on a treadmill increased students’ ability to pay attention and increased their performance on academic tests. They also found that the P3 potential, which relates to the allocation of attentional resources, had a larger amplitude following walking, indicating that following physical activity children may be better able to attend to the correct stimulus. The researchers also gave the children a test on reading spelling, and math, and again found better test results after exercise; the largest effect being found in reading. One of the researchers that did the study suggests that outdoor school playgrounds should be available before and after school. The researcher also suggests a short amount of physical activity school-wide at the beginning of each day, scheduled outdoor recess daily, offering physical education 150 minutes per week for elementary students and 225 minutes per week for secondary students, and encouraging teachers to integrate physical activity into lessons.

Application: This study reinforces the need for physical activity throughout the day and the benefits to learning.


**Type of Resource:** Magazine article

**Summary:** This article is practical and applicable for occupational therapists. As previous studies have shown, children's engagement in play and physical activities helps overall mental functioning as well as school performance (p. 8). "Occupational therapy practitioners can use recess to promote health and wellness for all the students, including advocating for healthy routines like daily exercise for physical and mental health, promoting anti-bullying and obesity strategies, and providing interventions for those with a disability who, for example need individualized support from an occupational therapist to increase accessibility on the playground" (p. 8). Therapists can use recess time as therapy, it does not have to feel like additional work but instead as time well spent. Therapists can work with children in their natural environments and help the children become successful in their school environment by providing verbal and tactile cues during recess or modifying play equipment. During recess, children are constantly using different performance skills, allowing the occupational therapist to
Observe strengths and weaknesses in various performance areas. Being involved in recess can allow the occupational therapist to become involved in the nutrition, physical activity, and social participation of the child. Occupational therapists can "provide information on a variety of activities during recess time that ensure that all students can participate—like gardening, chalk for hopscotch, walking programs—given that not every child wants to engage in a competition like a kickball game or to navigate on the monkey bars amid crowds of kids" (p. 10). Occupational therapists can use the time with the students to learn about how to encourage the principal and school staff about how to work with children during recess and the benefits this time has upon the children. In conclusion, the critical role of occupational therapists on the playground can help provide "environments to facilitate the just right challenge of sensory motor experiences and life skills that the students would gain from recess and play" (p. 11).

**Application:** This article very clearly and practically shows how relevant and crucial the role of the occupational therapist is during recess. The article provides specific ways therapists can assist children on the playground and how to advocate for occupational therapy services on the playground by educating teachers and administrators on the role of occupational therapy and the benefits it has upon the mental and physical well being of the child. In addition, the article is easy to read and follow, providing useful quotes from interviews with occupational therapy practitioners.

**Tier 2 ~ Targeted Interventions for Children at Risk of Challenges During Recess**


**Type of Resource:** Journal article  
**Type of Study:** Secondary analysis of longitudinal study  
**Summary:** Recess can be defined as a break during the school day that allows children the time for active free play" (p. 431). Previous literature has shown how recess provides the appropriate break from academic work and as a result, attention during class is much better. For this particular study, data from the Early Childhood Longitudinal Study was used to determine the amount of recess third grade students receive. Teachers completed a questionnaire about how often their students participated in recess along with the behavior of children in the classroom. The results from this study found that recess is the only time for children to exercise their social skills and that the overall behavior of children in the classroom improved once they had recess about 15 minutes a day.  

**Application:** This article important as it supports the need for recess and the positive impact it can have on overall mental health and attention during the school day. Occupational therapists can use this article to advocate for schools to keep recess as a
daily activity for children as it can help the children focus, attain therapy and academic goals, and aid in social skill development.

  
  **Type of Resource:** Online article  
  **Summary:** This article provides a easy-to-read summary of the study conducted by Barros, Silver and Stein (2009) (see above).  
  **Application:** This article can be used to help support the need for recess and the importance of unstructured play.

  
  **Type of Resource:** Research summary  
  **Summary:** The Alliance for Childhood is a nonprofit partnership of educators, health professionals, and other advocates for children who are concerned about the decline in children’s health and well-being and who share a sense that childhood itself is endangered. This report indicates there is a crisis in the kindergarten in that school professionals are falling away from play-based learning and moving toward a stricter, test-driven kindergarten curriculum. Research states that children are spending more time on learning math and literacy than they are on play exploration, exercising, and using their imaginations. The authors quote the research saying that it has been shown time and time again that play in the classroom works for early childhood education. A call for a change is in order to make kindergarten a place rich in child-initiated play with a balance of focused learning through experiential activities guided by the skilled teacher. This report discusses 9 studies that were done in regards to the kindergarten problem. The findings of these studies found that in a sample of 254 NYC and LA kindergartens, the majority of the time was spent teaching literacy, numbers, testing, and test preparation. The studies found that scripted teaching is often found in kindergarten classrooms despite the lack of evidence that it works. This push for more academics has decreased the amount of time children have for unstructured play. Another study found that teachers and principals often had different meanings of play and teachers may not always know the true importance of play for children. The report comments on play, telling of its importance on the social emotional aspect of children. It also discusses different types of play such as large-motor play, small-motor play, mastery play, rules-based play, construction play, make-believe play, symbolic play, language play, playing with the arts, sensory play, rough-and-tumble play, and risk-taking play. The authors say how teachers need to be educated on effective play-based programs through workshops, courses, websites, and other educational materials.  
  **Application:** This source focuses on kindergarten and not recess specifically, however, it also focuses on the value of play in kindergarteners. This research summary also talks about how it may be difficult to convince teachers and young parents on the importance of unstructured playtime if the teachers and parents themselves weren’t
exposed to it in order to understand its true value. Therefore, this resource helps occupational therapist educate people on the value of recess and playtime, as occupational therapists may need to explain to others why recess is so valuable for children.


Type of Resource: Journal Article
Type of Study: Multiple regression analysis
Summary: Bullying and hostility often takes place on the playground during recess where the presence of teachers is limited. "Children who display frequent acts of aggression with peers during the early elementary school years are likely to develop further behavioral problems, such as delinquency, school drop out, and substance abuse" (pp. 35-36). These issues can lead to anti-social behavior and physical aggression by school children on the playground. Some schools have implemented programs to counteract the negative behaviors of their students, including having clear playground rules, increased adult supervision, and positive reinforcement of appropriate behaviors. The Playground Atmosphere Rating (PAR) as presented in this article can be used for "(a) monitoring, (b) social management and engagement, (c) playground visibility, (d) playground enrichment, and (e) overall problem behavior on the playground (e.g., fighting and rule breaking)" (p. 37). This assessment tool was created "to assess the quality of adult supervision and playground physical features that are important for decreasing and preventing problem behaviors on the elementary school playground" (p. 38). Nine elementary schools participated in the study and their kindergarten and first grade students were observed for 15 minutes while on the playground. Finding of this study included how "better monitoring, higher quality management and engagement by playground supervisors, and an enriched playground environment were associated with fewer problem behaviors on the playground" (p. 39) and "monitoring and specific praise predicted less oppositional behavior, whereas a more enriched playground environment predicted more oppositional behavior" (p. 40). Practical implications for school staff is to ensure that there is adequate supervision on the playground, praise for good behavior, good visibility of what is taking place on the playground, and allowing children to have various opportunities to participate in a variety of activities.

Application: This study shows the value of allowing children to participate in recess while also providing a little structure to provide them with the proper recess environment. Although more research is needed in this area, the authors did specifically mention how an adult presence, praise of positive behavior, and allowing children to be creative helps to combat negative behavior and promote positive social interactions. Occupational therapists can be some of the adults who are present on the playground during recess and help to shape the proper environment for children. Occupational therapists are trained to look at the surrounding environment and realize the importance
of having a positive social and play environment, therefore occupational therapists can help stress the importance of this to other school staff and administrators.


**Type of Resource:** Journal article  
**Type of Study:** Within-subjects design  
**Summary:** Childhood obesity is a growing concern for our nation’s youth; in fact, it has grown from 6.5% to 17.0% (p. 437). Many studies show that there may be a significant relationship between physical activity and obesity. "A focus on how physically active children are during their discretionary time is 1 approach that may yield ideas for how to reduce childhood obesity" (p. 437). One of these discretionary times is recess, which allows students to have "a necessary part of the elementary school experience...develop physical competence, health-related fitness, personal and social responsibility, and enjoyment of physical activity" (p. 437). In addition to the physical benefits of recess, social skills can be greatly improved through recess participation because children are forced to use their imaginations, interact with peers, and participate in games during recess. "Increased physical activity during recess has been shown to have the potential to improve children’s productivity, concentration, and attention and behavior in the classroom" (p. 437).

As a way to combat this problem, previous studies have developed specific interventions to increase physical play during recess, such as having colorful play equipment and having structured games during recess. The authors of the current study saw the need for better recess interventions and therefore sought to see what the outcome of physical activity would be in students if they had three different recess activities of the week (RAW). 61 elementary students, grades 1-4, participated in the study, with 20 children having a body mass index of equal to or above the 85th percentile, classifying them as overweight. The school had a large playground area with a grassy area, several basketball hoops and swings, a jungle gym, and foursquare areas. The data collection was gathered from: pedometers used during the recess period, demographic surveys completed by parents, and the body mass index scores for each student. Each week a new recess activity of the week (RAW) was presented. "All activities were intended to promote self-determination of free time physical activity so children (a) could choose how they wanted to be active (i.e., autonomy), (b) had opportunities to connect with other students (i.e., relatedness), and (c) had opportunities to improve abilities in the physical domain (i.e., competence)" (p. 438). The RAWs used were: a circuit course, obstacle course, and Frisbee. The circuit course involved different fitness stations such as hula-hoops, jump ropes, and balls. The obstacle course had four different components: "a zigzag balance bean, a hula hoop 'tire course,' poly spots, and jump ropes" (p. 438). The Frisbee component was used in two different ways, the students were allowed to throw soft Frisbees in groups of 2 or more for distance or at targets.
As a result, a mean of 870.67 steps occurred during the recess period for 4 weeks with boys, older students, and those who had a lower body mass index as being more physically active. "Current findings may suggest that RAW choices closed the gap between boys and girls physical activity levels at recess or that a difference among boys and girls physical activity levels is difficult to detect in children grades 1 to 4" (p. 441). In addition, the circuit training and obstacle course RAWs promoted more physical activity than the Frisbee RAW. In conclusion, the authors state "a one size fits all approach to promoting physical activity during recess must be avoided. Instead, children should be provided opportunities to make developmentally appropriate choices about the nature and type of their own physical activity behavior" (p. 442).

**Application:** Results of this study can be used to promote appropriate recess activities for all children and tailor them depending on the grade level and gender. "Children will be more physically active during recess if given choices that accommodate their individual differences, activities, and equipment that are appropriate for gender, age, and weight status preference, and allowed increased time to experiment with the challenges presented by novel activities" (p. 443). This study is a call to advocate for proper playground equipment and appropriate structured activities during recess. Occupational therapists are specifically trained to know a child's developmental sequence and grade activities and be a vital contributor in creating a recess environment that encourages students to be physically active and develop their social skills.

**Tier 3 ~ Interventions for Children with Identified Challenges During Recess**


**Type of Resource:** Journal article  
**Type of Study:** Concurrent multiple baseline study  
**Summary:** Peer interaction for children who have autism has been noted as very beneficial for social and play skill development. The goal of this study was to examine what happens when third grade students who are typically developing help third grade students who have autism play in the classroom and recess. The typically developing students were chosen by their teachers to be a peer buddy; these peer buddies were provided with strategies on how to interact with the children who had autism and how to help keep them engaged. In order to gain the attention of the child who had autism, the peer buddies were told to get the attention of the child first before offering them an option of what activity they wanted to participate in. The peers were also taught how to get the child's attention, and how to deal with aggressive behavior. As a result, both students who were typically developing and those who had autism were able to improve their social peer interactions and overall skill set. In addition, the students who had autism were more comfortable with their typically developing peers and socially
engaged with them, developed friendships, and engaged in age-appropriate play. "Inclusion of peers creates buy-in and also divides the responsibility of integration across many individuals" (p. 823). In conclusion, the naturalistic environment and peer mediated intervention is very important for children who have autism as they can generalize skills and develop social skills.

**Application:** This article points out key methods to use with children who have autism to maximize skill development. This article clearly shows the benefits of having a peer led intervention program during recess. Occupational therapists can use this article as a model for intervention to promote an inclusive environment for all children. The therapist can use this article to encourage typically developing children to become a "peer buddy" to help children in the classroom who have autism. This can help change the outlook of the recess environment that promotes social and emotional development.


**Type of Resource:** Online newsletter

**Summary:** This source discusses how to implement a socialization program for students with autism. The author, Nicole Caldwell, stresses the need to balance having a student participate in a socialization program and the child’s desire to play individually. Caldwell suggests having a social skills group with other children so the child who has autism does not look or feel singled out. One suggestion is to create the group according to a specific interest of the child who has autism, but to still make it appealing to other children who will participate in the group so the group doesn’t look tailored for the child who has autism. The author thinks one of the best times for this type of group is during lunch or recess. Since lunch and recess are generally thought of to be a time for free play, the child who has autism may prefer individual play, therefore not getting the chance to interact with their peers. Running a group during this time may promote the utilization of social skills for a child who has autism. Caldwell says that even one or two planned activities a week may be beneficial and gives many suggestions for running a successful group such as making sure it is short and simple due to possible staffing issues and to get children used to it, still allow for some free time during recess, prepare the student with autism for the group (i.e. picture schedule, first then chart, social story, etc.), reward the child who has autism for participating if needed, and prepare other students how to help the child who has autism be successful during group.

**Application:** This article makes a case for why children with autism need a structured socialization program during recess or lunch and offers suggestions on how to make a program like this successful.


**Type of Resource:** Journal article

**Type of Study:** Observational quantitative study, single subject design
Summary: This current study sought to explore the argument that recess interferes with the academic work of children and their school routine, resulting in inattention. This study also sought to examine how recess affected the behavior of the children (i.e. fidgeting and listlessness). Previous literature supports the break in the school day, actually stating that recess helps with attention and change the pace for children. This study was conducted at a school where recess was not incorporated into the normal school day. Two fourth-grade classes participated and were observed on the days were they did not have physical education classes. "Without recess, the students were on task 85% of the time and fidgety 16% of the time. With recess, they were on task 90% of the time and fidgety 7% of the time. They did not differ in listless behavior" (p. 124). Recess was beneficial and "had a renewing effect" for the children, helping them decrease fidgeting and keep them on task (p. 125). The amount of socialization and playing with their peers helped provide the break children needed to continue with their school day and attend to the tasks at hand. In particular, the children who have ADD benefited from the break in recess.

Assessment: This study supports the need for movement that can take place during recess and it’s impact on attention during the remainder of the school day. Occupational therapists are educated on attention and how to assist children, including allowing children time to get up and move, fidget, and have a break. Recess is the perfect time to do these things and recharge their batteries, as this article shows. Therapists can use this article as a support for advocating for recess in the school environment; this will actually improve the children's academic performance and therapy goals.


Type of Study: Systematic literature review

Summary: Recess is defined as "a regularly scheduled period in which children (with and without disabilities) are free to interact with their peers, make choices concerning their own activities, and to engage in play" (p. 1297). Children who have autism may require additional supports to be successful in recess as they tend not to interact as much with their peers, hang out with adults more, are not as physically active during recess, and may require more support from adults during recess. "During recess it may be possible to allow students with" autism "more freedom of movement, increased access to potentially reinforcing activities not found in classrooms, and opportunities to practice social interaction with peers in a natural setting without disrupting classroom academic instruction" (p. 1297).

15 studies were reviewed in this article, with the most common intervention for children who have autism as being peer-mediated intervention, "a treatment approach in which peers (e.g., classmates) are trained to act as the intervention agents, implementing instructional programs, behavioral interventions, and facilitating social interactions" (p. 1299). Three main benefits of peer-mediated interventions are: 1) it reduces the stress and demand put on the teacher when he/she has to attended to
several children who have special accommodations, 2) it can help increase inclusion between students and, 3) children who have autism can benefit greatly because peer-mediated intervention occurs in a natural environment (p. 1303). Various intervention ideas using the peer-mediated approach include having picture schedules, vibrating pagers to provide tactile stimuli, turn-taking, and having the teachers reinforcing the goal behaviors. For children who have autism, more supports may be needed to make the playground experience successful and appropriate. Additional interventions from these various studies include, changing the physical playground environment to facilitate goal behaviors, "increasing the physical challenge of the playground equipment in order to promote object-oriented physical activity, including equipment based upon themes preferred by the students with" autism "that promoted imaginative play (e.g., train and train tracks with road crossings), arranging playground structures so that one activity led naturally to the next activity (e.g., the slide curved to send the child to the beginning of the next play structure) and providing specific areas for children to easily observe the play of other children" (p. 1303). Recess can be used as a much-needed break for children who have autism from the educational and social demands placed upon them throughout the normal school day. The overall conclusion from this systematic literature review is that recess is a key time to work on educational goals for children who have autism.

Application: This article is useful as it reviews current literature and various interventions for students who have autism. In addition, this article is helpful as it provides a unique approach to saving recess and outlines the benefits recess can have on both children who have autism and children who are typically functioning.


**Type of Resource:** Online report

**Summary:** A study was done on 171 overweight 7-11 year olds that were all sedentary previous to the study. They found that regular exercise improved the children’s ability to think and plan. After exercise, MRI’s were done, showing increased brain activity in the prefrontal cortex, which is associated with complex thinking, decision-making, and correct social behavior. Executive functioning improved and intelligence scores improved as exercise minutes increased. Math skills showed progression, however, reading skills did not improve. The exercise the children engaged in was vigorous, including jump roping, hula-hoops, and running.

**Application:** This source is useful in that it provides evidence that physical activity is essential to a child’s learning in the classroom. This source is also unique in that it looks specifically at overweight elementary aged children and they even used MRI’s as evidence.


**Type of Resource:** Journal article
**Type of Study:** Single-case, multi-element design  
**Summary:** This study sought to examine how recess influences children who have Attention-Deficit Hyper-Activity Disorder (ADHD). As schools become increasingly concerned with time for classroom learning, recess is cut out of the school day. However, previous research has shown how children need recess. "It has been consistently found that children focus more and fidget less when they had recess, compared with when they did not have recess, and that children are more focused after recess, compared with immediately before recess" (p. 254). Three young boys participated in the current study, all of whom had a previous diagnosis of ADHD. The study took place at the boys' school and involved classroom observations with the key focus on fidgeting, getting off task, getting out of his seat, and speaking out during class. In addition, the children were observed before and after recess. As a result of participating in recess, the boys had decreased bouts of inappropriate classroom behavior. This allows for the teachers and peers to have a successful class together and improve classroom function.  
**Application:** This article clearly lays out the benefit of recess for children with ADHD. The single case studies showed how each of the children who participated benefited from the recess environment. Although more research is needed and there were only three participants from the study, the results are still significant. Occupational therapists working in the school environment can help to advocate for children who have ADHD by talking with teachers, school administrators, and even parents about the importance of allowing recess for children. The occupational therapist can help teachers and school administrators structure the recess environment in order to help children get out some of their energy. This will allow for better classroom behavior and concentration after recess.  

**Type of Resource:** Online column  
**Summary:** This is a parent’s personal account of her school deciding to include her child in with the general education children during lunch and recess. She did not feel this was an appropriate decision for her son, and voiced her concerns to the school. From her description, it did not sound like the school was taking her concerns seriously. She did say that she thinks the inclusion of children with disabilities during lunch and recess with their typical peers may be beneficial for some students if it is done correctly. She suggested using social stories and properly training staff to deal with behaviors to make the transition successful. She also mentioned that the general education children may need to be educated on how to communicate with their peers with disabilities. She provided several resources that discuss integrating children with disabilities, and there are quite a few resources relating to a lunch bunch group.  
**Application:** This article provides a parent perspective about recess supports for her child with autism.
Useful Resources

  
  Type of Resource: Innovative recess program for all children attending elementary school.
  
  Summary: Relay Recess is an original program put on by the American Cancer society during recess time for elementary school children, teachers, and administrative school staff. This program can be used for a week, a day, or for one recess period. This fun program helps to educate children about cancer and being healthy by having classroom activities and activities at the Relay Recess event that teach them about how to prevent cancer and stay healthy (i.e. wear hats, use sunscreen). The students are also encouraged to raise money for the American Cancer Society to help fight cancer. This event is used as a fun event during recess time to help encourage the school to come together as one, unite the surrounding community, and educate children about health all while having fun! The actual event is tailored to the needs of each individual school but the most common activities include walking around a lap, having "stations" educating the children about physical activity, nutrition, or skin protection.
  
  The website also has an interactive game about nutrition for kids, printable calendars and coloring sheets, and downloadable posters to get the students excited about the upcoming Relay Recess event at their school.

  
  Type of Resource: Executive Summary
  
  
  Type of Study: Web Survey
  
  Summary: This web survey had a total sample size of 1,951 principals participating in this school based-survey about the school environment, school discipline, recess specifics, and behavior of students after recess. As a result of the survey, recess was found to have "a positive impact on achievement and learning" as well increased listening and focusing skills while in the classroom (p. 6). Recess was also found to spur on a child’s social, emotional, and overall development. In addition to these findings, recess was found to be decreased in many schools, acted as a punishment for bad behavior when the student is not allowed to go to recess, and schools want help with their recess problems.

Type of Resource: Project report.
Summary: The overarching purpose of this study was to determine if children who have recess before lunch are less inclined to waste food and beverages and how students and school staff felt about moving recess before lunchtime. Four schools participated in this study and three different phases of the study took place. Phase one was "plate waste studies" to determine the amount of food and beverage waste that took place, phases two and three included focus groups and school staff surveys in which the students and school staff answered questionnaires about meals and recess changes (pp. 27-28). As a result from this study, the amount of food and beverage waste decreased, the cafeteria environment was more relaxed and quiet because the children were not anxious to go out to the playground, there was a decreased in playground and classroom behavioral problems, and teachers had more time for instructional classroom time because they were not helping the children wash their hands after recess.


Type of Resource: Collection of various games and activities.
Summary: This is a book of games for children. The games are specified for what grades they are appropriate (preK-6th +). The game details also specify if the game is inclusive (all children can play), if the game can be played without equipment, minute moves games (2-5 minute classroom activities), transitional games (quick activities to change games), good for classroom games, special needs games and specific diagnoses the games may be appropriate for, and the level of the game according to difficulty. This is a free resource offered on the Playworks website.
Application: This source is especially useful for indoor recess. It provides a plethora of games and breaks down types of children the game is suitable for in terms of age, disability, and difficulty level. Although this resource is not evidence-based, it is a useful resource for occupational therapists to have in order to provide teachers and recess aides with a resource that they can use with their students during recess time. The goal of this source is to provide ideas for games for students to increase opportunities for physical activity and safe, meaningful play for children.


Type of Resource: Innovative program from website
Summary: This source explains the peer buddy program used through the Puyallup School District. The program encourages general education students to interact with special education students. The general education students can earn points for their interactions and receive rewards. The program also educates students on different types of disabilities.
Assessment: This source is useful in the idea of having peer buddies in some sort of program. It supplies some good guidelines as to how to implement such a program.
This source might also be useful for occupational therapists to use in showing parents of general education students how this type of program has been implemented at another school and the benefits it has for the children.


**Type of Resource:** Free, online toolkit

**Summary:** This resource is available to anyone, free of charge when a subscription to the website is provided by the user. The program outlined in the *Recess Rocks* toolkit is designed for elementary students of all abilities to enjoy physical activity and an enjoyable recess experience. This toolkit outlines the steps needed for teachers and other school staff to implement an active recess program. Schools have two options when implementing the program; use the tips and tools provided to implement the program independently or the school staff can be trained by *Recess Rocks* personnel, however movement instructors should can be volunteers or paid to lead the program. The toolkit provides training and in-service plans for training school staff. Using this program, recess time is consumed by dance, physical activity (i.e. yoga, zumba), and music while making the enjoyment level of recess high. The toolkit also provides lesson plans to help supplement recess time. The toolkit provides marketing materials to gain buy-in from the community, parents, and school personnel.

**Application:** This innovative and exciting program is a great way to encourage healthy activity during recess time for elementary children. This is a good resource because it provides all of the materials needed to implement this program, including training for staff, lessons plans, and marketing materials. This resource is good because it encourages physical activity and emotional well-being for children.

---

**Kerns, Winne & Bazyk (2014)**

**Disclaimer**

There are no copyright restrictions for use of these documents. However, please cite and credit the source when copying all or part of these materials. This website and all of the Every Moment Counts documents were supported in whole or in part by the U.S. Department of Education, Office of Special Education Programs, (Award number H027A130158-13A, CFDA 84.027A, awarded to the Ohio Department of Education). The opinions expressed herein do not necessarily reflect the policy or position of the U.S. Department of Education, Office of Special Education Programs, and no official endorsement by the Department should be inferred.