



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.

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See Refreshing Recess 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:

Minneapolis Recess Toolkit (Play to Learn) (2012) – a guide to promote active, safe and fun recess. See Section VII – Games (great ideas for indoor and outdoor recess) Link: http://sss.mpls.k12.mn.us/uploads/ar_toolkit_-_spring_2010.pdf

Minnesota Department of Education. Recess Moves: A toolkit for quality recess. (2013). Link: http://www.actionforhealthykids.org/storage/documents/teams/minnesota/Recess_Moves_A_Toolkit_for_Quality_Recess.pdf

Recess Revival: An Implementation Guide to Active Recess. www.ciraontario.com or <http://beinghealthymatters.weebly.com/uploads/9/7/9/3/9793849/recessrevival.pdf>

Publications

Tier 1 ~ Universal Strategies for Promotion and Prevention during Recess

- American Occupational Therapy Association. (2012). *Occupational therapy's role in mental health promotion, prevention, & intervention with children and youth: Recess promotion*. Retrieved from <http://www.aota.org/Practitioners-Section/Children-and-Youth/New/Recess.aspx?FT=.pdf>

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).

- Beighle, A. (2012). *Increasing physical activity through recess*. Retrieved from <http://www.activelivingresearch.org/recess>
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.

- Bossenmeyer, M. (n.d.). *Ten rainy day and snow day activities for indoor recess*. Peaceful playgrounds. Retrieved from <http://www.peacefulplaygrounds.com/10-rainy-and-snow-day-activities-for-indoor-recess/>
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.

- Bundy, A. C., Lockett, T., Naughton, G. A., Tranter, P. J., Wyver, S. R., Ragen, J., Singleton, E., & Spies, G. (2008). Playful interaction: Occupational therapy for all children on the school playground. *American Journal of Occupational Therapy*, 62, 522–527.
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.

- Fenton Communications. (2007). *Recess rules why the undervalued playtime may be America's best investment for healthy kids and healthy schools*. Retrieved from Robert Wood Johnson Foundation website: <http://www.rwjf.org/goto/sports4kids>

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.

- Heyene, L., Wilkins, V., & Anderson, L. (2012). Social inclusion in the lunchroom and on the playground at school. *Social Advocacy and Systems Change Journal*, 3, 54-68.

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.

- John W. Gardner Center. (2011). *Playworks: Supporting positive school climate in low-income elementary schools*. Retrieved from <http://gardnercenter.stanford.edu/resources/reports/4632.63651.schoolclimate.pdf>

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.

- KaBOOM! (2009). *Play matters a study of best practices to inform local policy and process in support of children's play*. Retrieved from www.kaboom.org

Type of Resource: Research summary

Summary: This is a report of a yearlong research project that focused on 12 communities with the same goal of improving play. They looked at improving play spaces quality, quantity, and access to play. The inclusive criteria for each of the 12 communities included: 1) They involve significant new financial and/or human resources for play and physical activity for children, 2) They contribute to system-wide change in the community, and 3) They can be replicated in other places. This study primarily focused on unstructured play, but also included programs that offered opportunities for structured and unstructured play. The 12 programs included: 1) a city led project eliciting citizen's ideas to improve city playgrounds; 2) the Playworks program, focusing on overall physical and emotional health through play, improving school recess by training staff and providing more structured activities; 3) a mayor-led project to make outdoor play spaces into outdoor educational classrooms; 4) encouraging children to

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.

- Lee, S.M., Burgeson, C.R., Fulton, J.E., & Spain, C.G. (2007). Physical education and physical activity: Results from the school health policies and program studies in 2006. *Journal of School Health, 77*, 435-463.

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.

- Leff, S. & Munro, J. (2009). *Bully-proofing playgrounds during school recess*.

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.

- Lewis, T.J., Colvin, G., & Sugai, G. (2000). The effects of pre-correction and active supervision on the recess behavior of elementary students. *Education and Treatment of Children*, 23, 109-121.

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.

- National Association of Early Childhood Specialists in State Departments of Education. (2005). *Recess and the importance of play*. Retrieved from North Kansas City Schools website

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.

- Newstead, S. (2010). *The benefits of school playtime*. Retrieved from The Children's Play Information Service website: <http://www.ncb.org.uk/cpis>

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.

- O' Brien, L. M. (2003). The rewards and restrictions of recess. *Childhood Education*, 79, 161- 166.

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 were 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 be unstructured time, with plenty of physically and psychologically roaming space and a lack of imposed rules" (p. 166).

Application: This is 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.

- Pappas, S. (2011). *The top 5 benefits of play*. Retrieved from <http://www.livescience.com/15541-top-5-benefits-play.html>

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.

- Pellegrini, A.D. & Bohn, C.M. (2005). The role of recess in children's cognitive performance and school adjustment. *Educational Researcher*, 34, 13-19.

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.

- Ramstetter, C. L., Murray, R., & Garner, A. S. (2010). The crucial role of recess in schools. *Journal of School Health*, 80, 517-526.

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.

- Robert Wood Johnson Foundation. (2010). *The state of play Gallup survey of principals on school recess*. Retrieved from <http://www.playworks.org/sites/default/files/d6/StateOfPlayFeb2010.pdf>

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.

- University of Illinois at Urbana-Champaign. (2009). Physical activity may strengthen children's ability to pay attention. *Science Daily*. Retrieved from <http://www.sciencedaily.com/releases/2009/03/090331183800.htm>

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.

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

Barros, R.M., Silver, E.J., & Stein, R.E. (2009). School recess and group classroom behavior. *Pediatrics*, 123, 431-436. *Link to article:

<http://pediatrics.aappublications.org/content/123/2/431.full>

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.

- Rusby, J. C., Taylor, T.K., & Johnson-Shelton, D. (2006). The Playground Atmosphere Rating (PAR): Examining the extent to which adult supervision and physical features of the playground are associated with first grade student behavior. *Persistently Safe Schools, 2006: Collaborating with Students, Families, and Communities*.

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. "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). 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" and "monitoring and specific praise predicted less oppositional behavior, whereas a more enriched playground environment predicted more oppositional behavior" (p. 40).

- Stellino, M.B., Sinclair, C.D., Partridge, J.A., & McClary King, K. (2010). Differences in children's recess physical activity: Recess activity of the week intervention. *Journal of School Health, 80*, 436-444.

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 beam, 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

- Blauvelt Harper, C., Symon, J.B.G., & Frea, W.D. (2008). Recess is time-in: Using peers to improve social skills of children with autism. *Journal of Autism and Developmental Disorders*, 38, 815-826.

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.

- Caldwell, N. (2010). *Social skill recreational interventions: Finding the balance*. Retrieved from <http://www.positivelyautism.com/volume5issue1/section2.html>

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.

- Jarrett, O. S., Maxwell, D. M., Dickerson, C., Hoge, P., Davies, G., & Yetley, A. (1998). Impact of recess on classroom behavior: Group effects and individual differences. *The Journal of Educational Research*, 92, 121-126.

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.

- Lang, R., Kuriakose, S., Lyons, G., Mulloy, A., Boutot, A., Britt, C., et. al. (2011). Use of school recess time in the education and treatment of children with autism spectrum disorders: A systematic review. *Research in Autism Spectrum Disorders*, 5, 1296-1305.

Type of Resource: Journal article

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

- Medical College of Georgia. (2011). Exercise helps overweight children think better, do better in math. *Science Daily*. Retrieved from <http://www.sciencedaily.com/releases/2011/02/110210111309.htm>

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.

- Ridgway, A., Northup, J. Pellegrin, A., LaRue, R., & Hightshoe, A. (2003). Effects of recess on the classroom behavior of children with and without attention-deficit hyperactivity disorder. *School Psychology Quarterly*, 18, 253-268.

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.

Useful Resources

- American Cancer Society: Relay for Life. (2011). *Relay recess*. Retrieved from <http://www.relayrecess.org>

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 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.

- **Playworks website.** Excellent resources on active play, leadership skills, and conflict resolution.
<http://www.playworks.org/games/playbook-download>



- Recess rocks. (2011). *Recess rocks toolkit*. Retrieved from <http://recessrocks.com/toolKitForm.php>

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. Kerns, Winne & Bazyk (2014). *For Every Moment Counts*.