

8-2016

# Cooperative Activities to Reduce Aggression in Young Children

Kristin R. Beardsly Schoenherr  
*St. Catherine University*, [krbeardsley@stkate.edu](mailto:krbeardsley@stkate.edu)

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## Recommended Citation

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# Cooperative Activities to Reduce Aggression in Young Children

An Action Research Report  
By Kristin Beardsley Schoenherr

Cooperative Activities to Reduce Aggression in Young Children

Submitted on May 27, 2016

in fulfillment of final requirements for the MAED degree

Kristin Beardsley Schoenherr

Saint Catherine University

St. Paul, Minnesota

Advisor: Syneva Barrett

Date \_\_\_\_\_

### Abstract

I investigated the effect of introducing cooperative games during recess to reduce aggressive behaviors in preschool-age children. The action research was done at an intentionally culturally and socio-economically diverse Montessori school in St. Paul, Minnesota. The 23 children involved were all children from the three to six age group who take daily naps. I recorded every aggressive incident I saw before, during, and after the intervention. I also recorded what cooperative activities I introduced for the intervention. Once before and after the intervention I asked the children if they enjoyed recess. I recorded observational notes such as weather conditions, and what activities the children chose each day. The data did not show that the cooperative games had a significant effect on the number of aggressive incidents recorded. Many more boys than girls were involved in aggressive incidents. There was no significant change in how the children reported their enjoyment of recess. Aggressive behavior could possibly be reduced through another action research project with a longer intervention period, a conflict resolution plan, and more purposeful activities for the children outside.

*Keywords: Montessori, preschool, recess, aggressive behavior, cooperative activities, outside, children's house*

As a California transplant living in Minnesota, I love being outside. Recess is a beautiful opportunity to be outside with the preschool and kindergarten age children who I work with daily at a Montessori school. I love singing with the children during recess, and talking about the sun on our faces or the breeze that feels like it could blow us away. I love how excited the children get to see grass seeds that they planted pop up above the ground and grow tall. I love how a snowfall seems to create a kind of magic and everyone delights in seeing how big of a snowball can be rolled with the help of friends. I love how excited they are to notice the leaves growing back on the trees in the springtime. There is so much joy to experience outdoors.

I go outside every day with these young children, wanting to only be apart of the magic that I believe exists in nature. But surrounding these magical moments of sun, breezes, snowfalls, and spring growth is the possibility for chaos. Recess is not only an opportunity to be outside, but it is also a time of day when we remove the expectation we have that the children need to be involved in something that we believe to be “purposeful.” We take another step back as adults, and see what the children do with what is available. I’ve noticed that one group of boys came up with a game of pretend that they called “bad guys” or “ninjas” and it involved pretending to stab each other, slice each other with swords, or take one person to jail. Another group of children came up with a game where one person had a ball and threw it across the playground. Then a group of children ran after the ball all with the goal of being the first to get it. The children fell on top of each other in a heap and grappled for the ball. Whichever child ended up with the ball would get to be the next person to throw it. Often these games

would end up with children being upset and in tears, with small injuries to their bodies, and would create a feeling of unease during recess.

My coworkers and I noticed that these concerning behaviors and games were present during recess but not during the rest of the day. I decided to address our concerns through my action research project. I had so many questions. Is this just how children play? Is it aggressive? It is certainly unsafe, but is it bad? I noticed that it seemed to be more often the boys that were involved in these incidents that we had to address. Were we so concerned about their behavior because we are all female and just did not understand? Do boys have a need to rough and tumble a little? Can adults do anything about this unsafe behavior? Should we?

Honestly, aggressive or unsafe play is very concerning to us in the school setting. The children are at an age when every bump, bruise, and scrape must be documented and reported to parents. Every mark on a young child's body that happened at school needs to have documentation of how it happened. This protects the school, parents, and children. Aggressive acts are hurtful to others and cause physical and emotional pain for children. It is also noted that aggression shown during free play situations, like recess, predicted the child's aggressive style during structured settings later while learning (Ostrov & Keating, 2004). It is important for educators to create a constructive outdoor experience for children that is as safe as possible. With my action research, I strove to reduce aggressive and unsafe incidents during recess.

I did this research at the Montessori school where I work. The school is in a Minnesota metro area and serves an intentionally culturally and socio-economically diverse population. The school consists of a private preschool and toddler room attached

to a public charter Montessori school. Many children in the private preschool have their tuition at least partially paid for, before they are old enough to be in the free charter school. The preschool and kindergarten year are combined in our two children's houses with children ages two and half to six. After lunch every day, the 23 children who nap in both children's houses come outside for fifteen to thirty minutes while the older children clean up lunch. Then the younger children go in to nap and the older children come outside for recess. The study was done during the first recess with the 23 children who nap. During my study, I was outside every day during recess with the children unless it was raining too hard or too cold to go outside. Children of this age cannot legally be outside for extended periods of time if it is under zero degrees Fahrenheit with wind chill. The research started in the middle of February and lasted for seven weeks.

### **Review of Literature**

Before my study I reviewed literature on the subject. This literature review seeks to highlight current ideas on how to reduce aggressive outdoor play and how to provide the best experience for the child outside during recess.

#### **What is Recess and the Value of Recess**

Recess in today's schools is an opportunity for children to play and be involved in recreation. The Center for Disease Control and Prevention defined recess as "regularly scheduled periods within the elementary school day for unstructured physical activity and play" (Ramstetter, Murray, & Garner, 2009, p.4). Unstructured play is child led and not adult directed. In 1989 the United Nations Convention on the Rights of the Child issued a statement saying children should have opportunities for play and recreation; authorities and society should ensure that children have these opportunities (Ramstetter et al., 2009).

However children's opportunity for recess has decreased. According to the National Association for the Education of Young Children (NAEYC, 2009) recess had been decreased since the late 1980's to allow for more instructional time. This intensified after the passage of No Child Left Behind. NAEYC also stated that they have found no research showing that less recess improved test scores (2009).

Some research had shown benefits for an unstructured recess. The American Academy of Pediatrics (2013) advocated for an unstructured recess, so children have a break from academics. This break from their structured school day had been shown to benefit cognitive processing and academic performance. During recess children should be able to play, rest, socialize, imagine, think, and move. Recess can be thought of as a child's personal time and should complement physical education instead of replacing it. The American Academy of Pediatrics (2013) also warned about withholding recess for punitive reasons. NAEYC (2009) believed that recess is a child's right. It is a right to have time for rest, leisure, play, and recreation.

Other benefits of recess include the opportunity for the child to develop large motor movements and communication skills. Recess provides children, who may have been sitting for large parts of the day, a chance to move. If unstructured but well supervised, it is a time when children can have opportunities to negotiate, problem solve, cooperate, and share (Ramstetter et al., 2009). During recess children have a chance to play and through play they develop strong positive social skills. These skills, like the ability react in collaborative ways, are a huge part of a child's development. Children need these skills for life and to be successful in future relationships and careers (Bay-



Hinitz, Peterson & Quilitch, 1994). Recess is an opportunity for children to gain these positive skills.

### **Why a Natural Space Outside**

The traditional setting for recess is the outdoors, and being outside has many benefits for children. The outdoors is rich with sensory experiences. The young child uses his sensory experiences to stimulate brain development. Children like to be outside because there is so much life to observe. When outside they can witness traffic, animals, garbage trucks, clouds, airplanes, and plants. Being outside is a time for children to experiment with “big behaviors,” things like shouting, running, and jumping. These big behaviors are not well accommodated in indoor spaces (Rivkin, 2000). Recent national research also showed that when the school’s curriculum is integrated with the outdoor environment, achievement is higher (Lieberman as cited in Rivkin, 2000)

There are things that are unique to nature and explain why children love it so much. Nature has more diversity than the inside, nature is not man-made, and nature gives the impression of timelessness (Fjortoft & Sageie, 2000). Children may prefer the outdoors because there are things that children want and need to do that are not possible indoors. Also, children’s activities tend to be less adult-directed while outside (Merewather, 2015).

Children are not getting outside enough. Rivkin (2000) and NAYEC (2009) wrote about the importance of outdoor experiences for young children and concern over fewer opportunities for children to be outside because of the busy schedules of parents. Children may be going outside less because of the need to be supervised by adults who are also spending less time outside. Parents worry about the dangers associated with

going outside, such as injury, traffic, kidnappings, and ultraviolet rays (Rivkin, 2000).

In-school recess is a way to ensure that children have the opportunity to be outside, even if they do not have the opportunity away from school.

### **Creating an Outdoor Experience for Optimal Development**

There are many well-supported ideas about what is best for children during recess. There is debate on if recess should be structured or unstructured, before lunch or after lunch, inside or outside, nature-scape or play structure, as a break from the school day or a flowing continuation. What everyone can agree on is that the children need to be safe. Researchers have also studied how to provide the best possible recess.

According to Fjordoft and Sageie (2000) many studies indicated that a diverse and adventurous playground may stimulate creative play in children. They found that the most important elements in children's outdoor play areas are the possibility for children to choose their own activities and to manipulate their surroundings. The outdoor area should include natural structures and diversity in sights, sounds, and smells. Children see their surrounding landscape as functions, not forms, and love to interact (Fjordoft & Sageie, 2000). Merewether (2015) also found that preschool children would talk about people when she was prompting them to talk about their favorite spaces. She took this to mean that the interaction with others was more important to the child than what space they were in (Merewether, 2015).

Flinch (2012) agreed with Fjortoft about the benefits of nature for children. He wrote that nature play is dangerous, but the benefits outweigh that risk. Flinch (2012) believed that children need risk to develop confidence and good judgment skills. Adults go through their day making a series of risk-reward assessments. Children will learn how

make good risk-reward assessments by climbing a tree when they are young or wait until they are behind the wheel of a car at 16. Nature play may lead to scrapes and bruises, but Finch (2012) argued that these are small injuries compared to how nature play helps a child's healthy development. He did recommend eliminating any blind hazards from where children play but not requiring children to stay on the ground and on pathways. Adults could reduce hazards by putting mulch under trees and removing any sharp branches or rocks. Children also need the opportunity to explore and take risks in nature to develop an appreciation of nature (Finch, 2012).

The American Academy of Pediatrics (2015) advocated for recess as a break for children from academic demands. But Black and Davis (2015), practitioners of the Montessori method, noticed that children in Montessori schools shouldn't need this break from academics. They have the freedom to move, communicate, and make their own work choices throughout the entire day. If they need to rest or take a break, they can, and they do not have to wait for recess to do so. Dr. Maria Montessori actually warned against the dangers of interrupting the children at fixed times during their day for things like a scheduled time outdoors (Pickering, 2012).

Another practitioner of the Montessori method, Margot Waltuch (1996), described her room, saying, "There was no separation between outdoors and indoors. They were treated as one. No division should exist" (p.44). Just like the prepared classroom inside the outdoor environment should be prepared for optimal development, with lots of purposeful things for the children to do (Black & Davis, 2015). Black, Davis (2015), and Rivkiv (2000) wrote about the outdoor environment being a place where

children are able to live their lives. It can be thought of as a habitat for the children (2015; 2000).

O'Shaughnessy (2014), a teacher educator of the Montessori method, believed that children should explore nature and forge an emotional bond with nature. She said the outdoor environment should be fenced in, so children can independently go wherever within a safe area. Children can take whatever they want to work on outside, even sleeping cots can go outside. In the outdoor environment, there can be a small tool shed with child-sized outdoor tools, binoculars, balls, and jump ropes. A garden with vegetables, flowers, and herbs is a beautiful addition. There should be plant-life and paths for exploration, a sand box, and child-sized benches and picnic tables to provide places to meditate or read a book. The outdoor environment can include a climbable rock formation, a hill, or a small play area made out of natural materials. An outdoor environment of this design would provide lots of purposeful work (O'Shaughnessy, 2014).

According to Rivkiv (2000), if caregivers provide ample role modeling and positive experiences, the children learn to care for the outdoor environment. Rivkiv (2000) believed that the outdoor environment should include much of the same things as O'Shaughnessy (2014), such as, trucks, wagons, wheelbarrows, hills, paths, art supplies and gardening opportunities. The process of maintaining the outdoor space can be the work of the whole community and provide a link between school and home (Rivkiv, 2000).

There is much debate over whether a free play or structured play recess is best for children. Williamson (2013) did a study comparing the physical activity levels and

attention in preschoolers between a free play recess and a structured play recess. The control recess was a time when the children could choose developmentally appropriate activities in their classrooms for 30 minutes. For the free play option, children could choose developmentally appropriate activities in a gym, such as scooters, balls, and mats. For the structured recess, the children were lead by a fitness instructor from Stretch-n-Grow, a franchise company that trains children's fitness professionals. The teachers reported no difference in attention levels across all three situations. The children were equally active during the free play and structured play recess, but significantly more active than they were during the control. They continued to be more active throughout the rest of the day after the free and structured play recesses. The children were asked which kind of recess they preferred. None of the children liked the control day best and their preferences were split equally, about half and half between free play and structured play (Williamson, 2013).

### **Aggressive Play**

Children need the opportunity to be outside, but even in a supported recess setting at school there are still safety concerns such as aggression. Ostrov and Keating (2004) defined physical aggression as physical acts that are intended to harm another individual, such as hitting or kicking, or verbal threats alluding to a physical act. Another study, done by Bay-Hinitz, Peterson, and Quilitch (1994) defined aggressive play as any behavior that was intended to be destructive or hurtful to a person or object, including physical and verbal aggression. Aggressive behaviors tallied included but were not limited to hitting, kicking, scratching, name-calling, throwing materials, threatening,

resisting instructions, excluding a child and negative feelings about another child (Bay-Hinitz, et al., 1994).

There is another kind of aggression worth mentioning. Relational aggressions are acts that intend to harm an individual by damaging their social relationships or their feelings of peer acceptance. Examples of relational aggression are excluding children from activities, ignoring someone, or gossiping about someone with the intention of being hurtful. Ostrov and Keating (2004) found that boys displayed more physical and verbal aggression because of males' need for physical dominance. Girls displayed more relational aggression by manipulating social situations to meet their need for peer acceptance. Gender differences in the kind of aggression displayed have been reported in children as young as three (Ostrov & Keating, 2004). Interestingly, early observational research on aggression mostly looked at physical and verbal aggression. It was not until more recently that researchers started looking at the more subtle tactics of relational aggression (Ostrov & Keating, 2004).

In order to reduce aggression it is important to try to discover why it might happen. Negative behavior, such as aggressive or unsafe play, is a sign of a need not being met (O'Shaughnessy, 2014). It is important to discover what the need not being met is, and in turn construct an outdoor experience that best supports the child and reduces aggression.

### **How to Reduce Aggressive Play**

Parents, teachers, and administrators are concerned with children's safety. Some administrators, out of fear of lawsuits, even ban recess because of the increased risk of injury during time outside. Because there is usually less adult control at recess,

aggressive play is more prevalent and can lead to injuries. More often schools do not allow games or activities that may cause an injury (Ramstetter et al., 2009; NAEYC, 2009). There are many things schools can do to help make recess outside a safe and peaceful experience for children.

There is evidence that outdoor spaces with lots of things for children to do reduce aggressive play. In contrast, if an outdoor environment has lots of space, but lacks in equipment and materials, the children show signs of boredom and aggressive behavior (Moore and Wong, 1997).

According to Ramstetter (2009) recess must be well supervised by well-trained adults who know how and are ready to intervene as needed. There must be established and enforced guidelines to ensure the safety of the children, and to prevent bullying or aggressive behavior. There must be opportunities, such as a physical education class, for children to learn games and conflict resolution. During recess there should be plenty of age-appropriate equipment available for the children and play structures, should be regularly inspected and in good order (Ramstetter et al., 2009).

One study found that aggressive behaviors during elementary recess were reduced when organized games and a time out system replaced free play (Bay-Hinitiz et al., 1994). Playworks is a nonprofit organization that tries to reduce bullying through an organized recess. Playworks trains full-time professionals to lead games and activities during recess and throughout the school day. One randomized controlled trial found that in schools with Playworks, teachers reported less bullying and more inclusive behavior (Robert Wood Johnson Foundation, 2013).

**Cooperative Play**

One specific way to reduce aggression has been to introduce cooperative games. Cooperative games can be defined as games that require a coordinated effort from two or more people to succeed as a group (Orlick, 1978). Cooperative games lend themselves to all participants encouraging and assisting each other. Competitive games in comparison are games where there are winners and losers; individuals are interested in succeeding at the expense of another's loss (Bay-Hinitz et al., 1994). Competitive games are linked to decreased academic performance and aggression.

Cooperative games are associated with many benefits including decreased aggressive behaviors and increased feelings of peer acceptance and self-esteem. One study showed that cooperative games helped to increase cooperative behavior and decrease aggressive behavior, while competitive games led to increased aggressive behavior and decreased cooperative behavior. Teachers introduced competitive and cooperative games to children, asked if they wanted to play, and researchers recorded every aggressive or cooperative behavior. The children could leave the game and return when they wanted. When asked, the children also preferred the cooperative games to the competitive games. (Bay-Hinitz et al., 1994)

The cooperative games in Bay-Hinitz study were inspired from Terry Orlick's work. Orlick (1978) noticed that because of the leftover effects of industrialism on the United States of America, most traditional games are competitive in nature. The culture was interested in productivity and created the education system in reflection of such. Orlick (1978) had to look to other cultures or his own invention to find cooperative



games to play with children. The games Orlick wrote about are the basis for current cooperative activities with children.

### **Conclusion**

Based on research, children need opportunities to play outside. Through outdoor play, children develop social skills, judgment, gross motor movement, and a love of nature. The outdoor environment used for recess should be designed so the children can manipulate things and have lots of choices of activities. Children need the opportunity to be shown games, gardening, and appropriate things to do outside. But children need to be safe while outside and aggressive behavior can lead to safety issues. Aggressive behavior may be reduced with regularly played cooperative games. There is much debate over structured versus unstructured recess. If children are invited to cooperative games and other activities, they will still enjoy the benefits of an unstructured recess, while also learning the games and skills that children get through an organized recess that help to reduce aggressive play.

My hope in introducing cooperative activities as the intervention for this action research was to give the children positive ways to play as an alternative to aggressive games that may be a safety concern. Cooperative games provide opportunities for the children to develop skills needed to respect others wishes and interact collaboratively. Everyone gains together when involved in cooperative games or activities. This study is important because there is very little research done on recess with preschool aged children and even less done in a Montessori setting. My study sought to answer the question: What effect will introducing cooperative activities have on aggressive and

unsafe play during recess for preschool children in a Montessori environment? Will learning cooperative games have an effect on the children's enjoyment of recess?

## **Methodology**

### **Data Collection Tools**

I used four data collection tools during my research to record my observation. Each tool had a spot to record the date. Before I started my research, I made multiple copies of each tool and put them into a binder. Since my research was done outside, I took the data collection tools I needed each day and put them on a clipboard. After recess I returned the pages to the binder.

The first tool, Record of Aggressive or Unsafe Incidents, seen in Appendix A, is a data collection tool with many boxes in which to record each aggressive or unsafe incident I noticed. I used the words aggressive or unsafe because I did not know if the child intended harm. Aggressive implies that harm was intended, but even if harm was not intended, unsafe play was worrisome as well. I recorded every incident I saw where more than one child was engaged in aggressive or unsafe behavior. I did not record something like one child being aggressive with an object or a child using the monkey bars in an unsafe way. I recorded aggressive behaviors between two or more children, for example if a child got angry and pushed another, or if children were playing a pretend ninja game and used a trowel to pretend to stab each other. If I heard verbal aggression, I recorded that as well, such as a child threatening to hit another. If I noticed social aggression, such as children purposefully and hurtfully excluding a child, I also recorded that. I used the Record of Unsafe or Aggressive Incidents daily, before, during and after the intervention.

I also used the Reflective Journal daily (see Appendix B). In the Reflective Journal, I recorded what the weather was like, how many children were out at recess, and what activities the children chose. When I recorded the weather, I did not necessarily take the temperature, but instead I wrote if it was sunny, cloudy, or rainy, and if it felt warm and comfortable or chilly. Unfortunately, I was not able to track which children tended to choose which activities; instead I recorded which activities were being used.

Only during the intervention did I use the Cooperative Activities Observation Sheet (See Appendix C). On the sheet, there is a place to write about the adults' involvement in the activities, if the children seemed to enjoy the activity, what happened, how long the children played without an adult, and if the game seemed to be successful in encouraging cooperative play. I ended up recording what I noticed more in the form of narratives than specifically answering each question individually. I filled out the Cooperative Activities Observation Sheet daily while I implemented the intervention.

Once before and once after the intervention I had a conversation with the children individually and recorded their answers on the form, Do the Children Enjoy Recess (see Appendix D). I spoke with each child during recess in the form of a casual conversation. First I asked if the children enjoyed recess and being outside, then I asked what they liked to do outside during recess. I originally intended to ask children individually as they went in for their naps, but quickly discovered that it took longer to talk to 23 children than expected. I ended up using two days before and after the intervention to speak with the children. I was curious to see if the children reported enjoying recess more or less after the intervention.

**Timeline of Research**

I planned to record preliminary data for two weeks before starting my intervention. Unfortunately, the weather was too cold for the children to go outside for the first week, so I only got one week of preliminary data. I implemented the intervention of cooperative activities for four weeks. Anything that I introduced had to be something that I felt sure the children would be safe doing, and could be done on snowy, icy, wet, rainy, or sunny days. Every activity had to have a cooperative element; I defined cooperative as more than one person working together to achieve a common goal or a group gaining together. Then for a week I collected data with minimal involvement with the cooperative activities. All of the materials were available to the children during this time.

I originally intended to introduce a new cooperative activity each Monday and then try to be less and less involved as the week went on to see if the children continued without adult involvement. I ended up introducing new activities and equipment when I thought the children might be interested. After I introduced something it was available for the children to choose every day following.

The cooperative activities took on two main categories. Some of the activities centered on equipment I introduced that encouraged cooperation, like passing balls and a parachute. Other activities were from games that the children were playing competitively; I showed them a cooperative version that they could choose.

The very first day of my intervention, I brought out a parachute. I showed the children how to hold the edges and how they could bounce a ball on it. Anyone was welcome to participate. I also showed the children how to lift the parachute up an over

our heads so we could see each other underneath. Later in the week I showed the children how to go under the parachute and pull it down around us.

During the second week, I brought out hula-hoops, a Frisbee, and more balls. We originally only had one ball available to the children. I showed the children how to pass the Frisbees, hula-hoops, and balls to each other. The children were interested in moving around in the hula-hoops together like a train, so I encouraged them to do this safely.

Prior to my intervention, the children used the balls and Frisbees in a more competitive way where one child would throw it and a group of children would race to get it. The children piled on top of each other to try to get the ball or the Frisbee, because whoever got it first got to throw it again. I showed the children a cooperative alternative where whoever is ready to throw the ball or Frisbee called the name of who should catch it. Only the child's name that was called can get the ball or Frisbee and then they throw it, calling someone else's name. This encouraged the child to aim and another child to work on catching. It also prevented a violent competitive struggle to be the first to get the ball. Some children realized they did not know everyone's name so they had an opportunity to learn. I encouraged the children to include others. If a game got too big or if there was a frustration, I would show the children how to get another ball and start a new game. I called this game name pass.

During the third week I introduced a non-competitive relay game. Some of the children enjoyed racing around a winding track and trying to be the first to slam their body into the gate at the end. I showed them how a relay team works where one runner goes around the track and then gives a high-five to a teammate and the next person would run around. I never introduced different teams any child could run and give a high five to

any waiting child. I also did not stop children from running around the track without getting a high-five.

In the fourth week of the intervention, another adult outside during recess showed the children how to use the hula-hoops in another cooperative way. She showed one or two children how to hold a hula-hoop up high. Another child would try to throw a ball through the hula-hoop.

### **Analysis of Data**

At the conclusion of my research, I analyzed my data to find trends and results.

#### **Data Collection Tool: Do the Children Enjoy Recess**

Part of my research question was to discover if the intervention of cooperative activities had an effect on the children's perception of their enjoyment of recess. During the week before and again after the intervention I asked each child if they enjoyed recess and being outside and what they liked to do during recess. I recorded their answers on the form Do the Children Enjoy Recess.

It was not surprising to me that most of the children said that they enjoyed recess, but what they said they liked to do was interesting. Before the intervention, all of the children except for two said that they enjoyed recess. One boy said that he had not enjoyed recess, and another girl said that she probably enjoyed recess. When asked what she liked to do outside during recess she said, "the cylinder blocks," a puzzle available for her to do only when inside not during recess.

After the intervention, all of the children responded saying that they enjoyed recess outside except for one boy. He preferred when he could go inside for nap because he got to see his teacher. The children who said they liked to play outside reported a

wide range of things they liked to do. Some children said that they did not know what they liked to do; others said that they liked to do nothing, and some children didn't answer at all. Some children said that they liked to play, slide, play in the sand, play with balls, do the monkey bars, ride on the sled, and other things that are a possibility outside during recess. Other children said that they liked to color, write with the moveable alphabet, play with their mom, do the cylinder blocks, and other things that are not a possibility during recess.

From this data collection tool, I came to the conclusion that the children may have misunderstood the question. Even if the child said they liked to play, I did not have any more information to know if they understood if they were answering for just recess or saying that they enjoyed playing during a different part of their day. If a child responded with something that they could only do inside or at home, such as play with my mom, or do the cylinder blocks, they most likely misunderstood the question. We use the word recess with the children often, but they may not of known what I asked about. I do not think this data source led to valid conclusion because I did not know how many children understood the questions.

#### **Data Collection Tool: Reflective Journal**

Every day before, during, and after the intervention, I took notes on the data collection tool, Reflective Journal. There was a spot to record the date, number of children out at recess, weather conditions, and the activities chosen by the children.

I noticed that the popular activities tended to be consistent from day to day; but slowly evolved as the snow melted, weather conditions changed, and with the introduction of a new materials for the cooperative games.

I recorded weather conditions each day, because I thought there might be a correlation between number of aggressive incidents and weather. I did not record the temperature, but how the day felt. Was it rainy, windy, or sunny? Did it feel like a lovely day or was the weather not so nice? I compared the weather to days with many or few incidents and saw no correlation.

### **Data Collection Tool: Cooperative Activities Observation Sheet**

The Cooperative Activities Observation Sheet contained questions to record how the cooperative game went and was used during the intervention. Each day after recess I took notes on the cooperative activity in the Cooperative Activities Observation Sheet. I did not necessarily answer each question everyday, but wrote in narrative format about a powerful observation from recess.

Once I introduced the parachute, the children had the freedom to use it I noticed and recorded that the children preferred to be under the parachute. The children would start by holding the handles, raising the parachute, and most would go under. Usually the adult and one helpful child would hold it up as the rest of the children stayed under the parachute giggling. They really liked being under the parachute in the shelter it provided, and it was a peaceful moment.

Name pass was a success because a large group would choose to play a variation they came up with. Most of the children would stand along the fence. One child holding a ball would stand by the tree nearby. That child would give commands to the other children like raise your hand, or say hello. Then he would choose a child's name and throw the ball as far as he could away. The child whose name he called would run and



get the ball. The new child with the ball would stand by the tree and the game would continue.

**Data Collection Tool: Record of Aggressive or Unsafe Incidents**

The Record of Aggressive or Unsafe Incidents yielded the most results. I recorded every aggressive or unsafe incident I was able to see. For every incident, I tried to record who was involved and what happened. I recorded aggressive or unsafe incidents that involved more than one child. I did not record if a child made an unsafe choice that only involved him, or if a child was aggressive with an object. Some days I felt like I was able to record close to all incidents and other days I knew I missed several when I was distracted by my other duties outside or because of leading a cooperative game.

Below is a graph depicting the number of aggressive incidents I recorded each day. The intervention started on day five and concluded on day twenty-three.

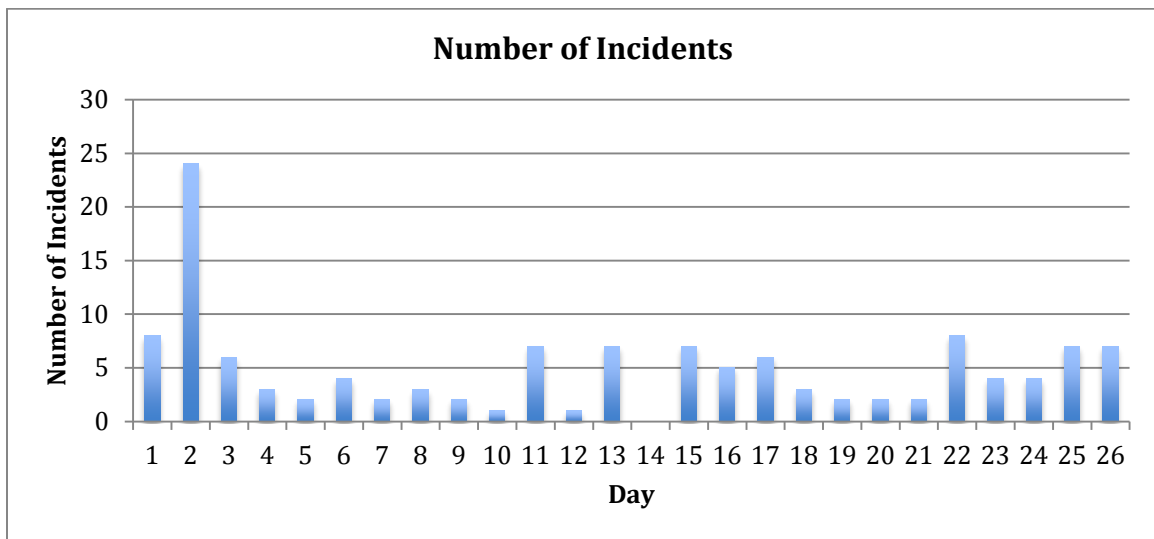


Figure 1. Number of aggressive or unsafe incidents across the study.

A longer amount of time before and after the intervention to record would have been beneficial. This was shortened because of days that were too cold to go outside and

due to vacation days at the school. The intervention did not have a significant impact on the number of daily incidents. It is possible that if the intervention was done for a longer period of time a decrease in aggressive incidents may have been seen.

The second day had a high number of incidents for unknown reasons. On day thirteen one boy was involved in every incident recorded. That boy was absent on day fourteen and there were no incidents recorded. There were no other patterns I could find in the number of incidents that were recorded each day.

There was an apparent trend in the results. Many more boys than girls were involved in the aggressive or unsafe incidents I recorded. Even with the understanding that I was not able to see every aggressive incident, the trend is clear. Below is a graph that breaks apart aggressive incidents per day by boys versus girls. If a boy and a girl were involved in the same incident, I depicted it in the graph by the gender of the aggressor. For example, if a boy pushed a girl, that incident is recorded as a boy incident. Some incidents are not represented in the graph if it was not possible to decide if a boy or a girl instigated the incident.

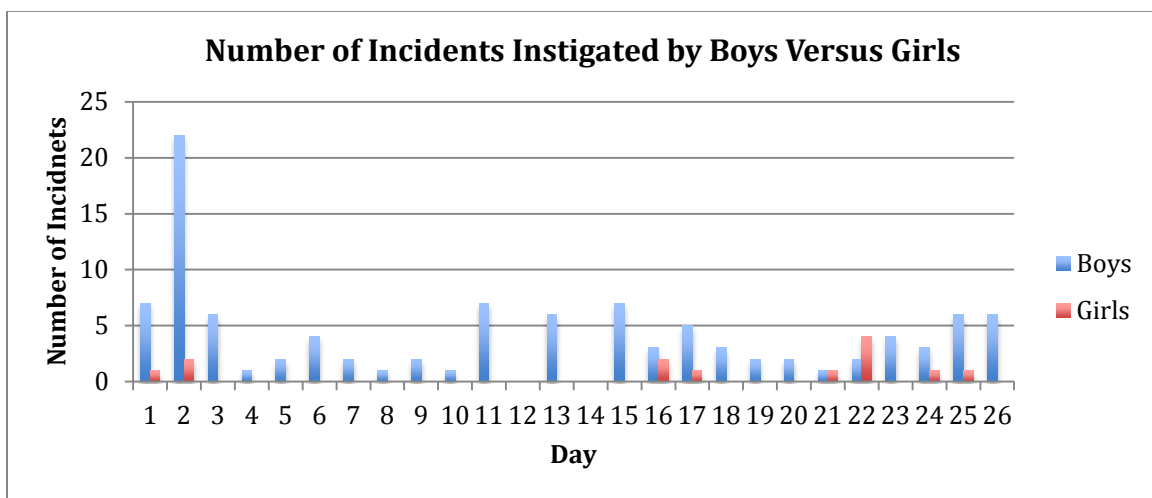
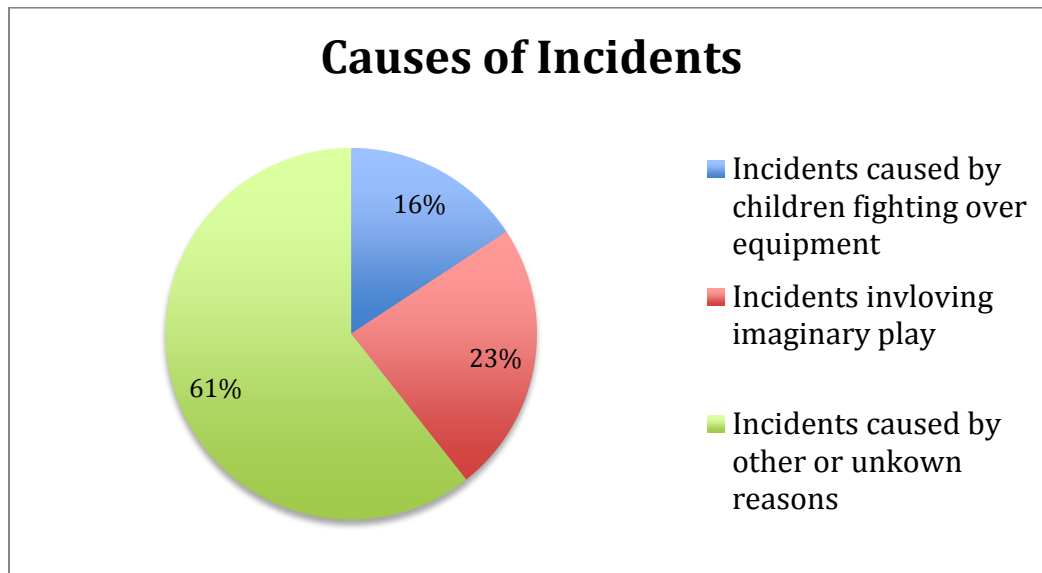


Figure 2. Number of aggressive or unsafe incidents instigated by boys or girls.

The huge difference in boys that instigated incidents versus girls could have been a result of the kind of aggressive or unsafe incidents I was recording. As mentioned in the literature review, there is research to suggest that boys are more involved in verbal and physical aggressive behavior than girls (Ostrov & Keating, 2004). This is the kind of behavior an adult, such as myself is best able to see, identify, and record. Girls may be more involved in aggressive behavior that is social and relational in nature, for example, manipulating social situations to meet their need for peer acceptance (Ostrov & Keating, 2004). I did record a couple of incidences where a girl was intentionally and hurtfully excluding another child. There is a strong possibility that these examples of relational aggression were much more prevalent and I just was not able to hear and notice them. Also, the adults who supervise recess for three to six year olds are really aware and concerned with physical aggression or unsafe incidents that could lead to a child going home with a scrape or a bruise. Since these are very young children every mark on their body is documented. While feeling excluded from friends' games can be just as hurtful to a child, I think my adults worry about it less because there is no physical mark on the child to prove it happened. Girls could be under-represented in the number of incidents recorded each day because adults are less concerned with relational aggression at this age and because it is harder for an adult to notice.

I recorded 127 incidents total over the entire seven-week research process. I noticed a trend in what caused the incidents. There was a group of four to six boys that routinely played imaginary games where they pretended they were ninjas, bad and good guys, or cowboys. Every time they pretended to punch, stab with a knife, or shoot with a gun, I recorded it as an aggressive incident. These kinds of incidents made up at least

23% of the total over the six-week period and are shown in the graph below. Children fighting over equipment caused another large chunk of incidents. For example, if two children wanted to use a ball they would try to grab it from the other child. This caused at least 16% of total incidents. The remaining 61% of incidents were caused by other or unknown reasons. This means that some of the 61% of remaining incidents could of resulted from imaginary play or arguments of equipment but I did not know.



*Figure 3.* Causes of aggressive or unsafe incidents across the study.

### **Action Plan**

Moving forward, I think additional action research would be beneficial. My intervention did not reduce aggressive or unsafe incidents, but I believe it may be possible to reduce aggression with a more extensive intervention. The intervention should be implemented over a longer period of time after a longer period of data collection. The intervention should include lots of adult modeling, a conflict resolution plan, including how the adults address incidents, and more purposeful and cooperative

activities for the children to choose. This more thorough intervention could reduce incidents.

The adult modeling of positive behavior and language should be consistent in informal situations and presented formally in grace and courtesy lessons. Grace and courtesy lessons are where adults and children model how to perform in a certain situation, followed by an opportunity for the other children to practice. Appropriate lessons for the outdoors include: how to ask someone to play a game with you, how to politely say you would like to use the ball independently, how to invite a friend to a game.

The conflict resolution plan should include how adults respond to children's conflict or an aggressive or unsafe incident. The adults' response should help the children to resolve their conflict. The adults should all be on the same page and respond consistently.

Purposeful activities for the children to choose may have to be introduced in two stages. Something that may be possible to implement soon at my school would be to add a little shelf for the materials that are only used outside. The little shelf can be stage one. There can be a spot for a ball, Frisbee, jump rope, hula-hoop, rake, broom, sand toys, and everything that we currently use outside. Presentations can be given to the children on how to get a material, use it, and return it to the shelf when they are done. This is the expectation of the materials used inside; why not keep that expectation consistent outside?

Little presentations can also be given to help the children be successful with a game of pass. The children can be shown how to ask a friend to play pass and then go to

get the ball together. There should be a presentation on how to ask if they can join a game. They should be shown how to politely say yes, or “I’m sorry not right now. We are playing pass with just the two of us. We can let you know when we are done so you can use the ball.” The children can be encouraged to look at the person they want to throw the ball to and check that the person is ready before they pass the ball. This would reduce confusion leading to aggression over who is using the equipment.

Once stage one is successful, more choices can be added. The children can be shown how to run laps around the track. A balance bike can be available and the children shown how to take it out, and carefully ride it around the track, avoiding the runners. The outdoors is perfect for dances and boisterous songs, lots of cooperative games, and an aisle with paints. There can be a gardening presentation for every step of growing a plant. Having so many options for constructive engagement may help to redirect the violent imaginary behavior seen during the study. Eventually, the children could be shown how to work together to put up a small tent. The children loved the shelter of the parachute and would probably feel the same in a tent.

Doing this action research has positively benefitted my ability to look critically at how the children are spending their recess time. The research process has encouraged me to really think about recess and challenge my own assumptions about recess. I am considering why, in a Montessori setting, do we do recess? Maybe the very concept of recess leads to aggressive behaviors.

Another follow-up action research question could be: What effect will having the option to go outside all day long, instead of one set time of the day, and eliminating recess have on children in a Montessori Children’s House environment? It is worth

investigating allowing the children open access to the outdoors. Along with allowing the children to be out when they are compelled, the action research could also investigate how to truly allow the children to eat when they are hungry, rest when they are tired, and work on what their inner drive pushes them toward. I would love to study what would happen if the children were shown what they could do outside the same way they are shown presentations inside, to remove the separation between outdoors and indoors. My hope is for the children to experience all of the magic of nature without the chaos that comes with recess.

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**Appendix A**  
**Record of Aggressive or Unsafe Incidents**

Date: \_\_\_\_\_

In each box record the children seen in an aggressive or unsafe incident, in order the incident happened when possible.

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

**Appendix B**

**Reflective Journal** - Record observations of recess everyday after recess in a reflective journal.

Date:

Number of children at recess today:

Weather Conditions:

Activities Chosen by children today:

**Appendix C**  
**Cooperative Game Observation Sheet**

Date:

Game played:

Adult introduced, adult lead, adult suggested, or child organized:

How long did the adult spend with the children?

Did the children seem to enjoy the game?

How did the game go?

Was the game successful in encouraging cooperative play?

How long did the children play the game for without an adult?

Other thoughts:

