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**Impacts of Early Childhood Professional Development on Educator Practice and
Subsequent Student Experience in the Outdoor Environment**

Submitted on December 19, 2021

In fulfillment of final requirements for the MAED degree

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Advisor _____

Date _____

Acknowledgements

I want to thank my Head of School for encouraging my continued learning and research, the assistant guides who opted to participate in my study, and the families who supported this project. I also want to thank the faculty at Saint Catherine University and my project coach, Emily Leutgeb for guiding me throughout this journey. Finally, I would not have been able to pursue this degree without this continued support and encouragement of my family.

Abstract

The purpose of this project was to study the impact of professional development on early childhood educator practice and its subsequent effects on toddlers' experiences with Risky Play in the outdoor environment. The setting of this project was a toddler classroom within a Montessori school in Missouri. The population for this action research study was three adult assistant guides with varying levels of experience with Montessori and early childhood education and 10 students in a Montessori toddler classroom between the ages of 17 and 32 months. The intervention consisted of a professional development workshop related to Montessori philosophy and benefits of outdoor Risky Play paired with daily reflective journaling. Data collection included my observations, participant journals, interviews, and an attitude scale. As a result of the study, adult participants intervened with children's play less often and in more constructive ways, and children had more positive experiences in the outdoor environment. In response to this study, future actions include implementing a classroom culture of continued coaching and reflection.

Keywords: professional development, outdoor play, Risky Play, toddlers

When I began my graduate degree, I had just stepped into a role at a school that was brand new to me. One of the things that drew me to this school was the vast opportunity for outdoor activity beyond the fences of the playgrounds. After all, research has shown that experiences in natural settings have numerous benefits for both adults and children (Brussoni, et al., 2017; Harper, 2017; Ulrich, et al., 1991; Ulset, et al., 2017; Wells & Evans, 2003). As I settled into my new classroom, I spent a lot of time observing and following the routines to which the adults and children had become accustomed. I noticed that those natural spaces which I so admired were not being used. I soon learned that the adults of this particular classroom had made the decision to stay within the comfortable confines of the playgrounds rather than venturing out into the natural spaces. I also observed children who played joyfully when exploring the sticks, trees, rocks, and dirt they could find within the playgrounds. My response to this observation was to venture past the fences and into the woods to allow for their more complete exploration of the elements.

The outings that followed gave me an opportunity to understand the reality of adults consistently redirecting children and prohibiting many of their behaviors in the outdoor environment. The children exhibited a desire to engage in a type of play called Risky Play (Harper, 2017), including climbing, running, handling sticks and rocks, and rough and tumble. This category of play affords children opportunities for gain that may outweigh the potential for harm. The classroom teachers tended toward a focus on the potential harm, stopping the activities before the children were able to experience their benefits. Within my first few months in my new role, I identified a need for improving the children's experiences in the outdoor environment. I considered how research that argues for outdoor experiences and Risky Play paired with studies that declare the importance of adults understanding their benefits. I identified

a gap in the research regarding the impact of changed practice on children's experiences, and I devised the following action research plan.

This project took place in a toddler classroom at a private Montessori school in Missouri. The Montessori Method is a child-centered approach to learning that follows the children's interests, encouraging freedom within limits and the development of self discipline. The participants were three adults in the roles of assistant guides and ten children between the ages of 17 and 32 months. To begin, the adults attended a workshop in which they learned about the Montessori outlooks on nature play and preparation of the adult and the benefits of outdoor Risky Play. They then participated in almost three weeks of daily, one-hour outings into the woods behind our school accompanied by reflective journaling, a process which has shown to increase success rates of professional development measures (McMillan, et al., 2012; Peleman, et al., 2018). By the end of the three-week period, I hoped to identify positive impacts of the workshop on the adults' decisions to allow or restrict play in the outdoor environment and, subsequently, on the children's overall experiences. Findings showed that the adults chose to intervene less often and in more supportive ways after the professional development workshop. This directly related to children's improved experiences with outdoor Risky Play.

Theoretical Framework

In order to work with the youngest children, teachers must look inward, analyze their childhoods, and rethink potential biases (Montessori, 1966). Montessori's Theory of the Prepared Adult emphasizes the importance of teachers' internal efforts in addition to the work they conduct outwardly with the children. The following study is guided by this theoretical framework. Montessori's pedagogy relies on the careful preparation of each part of the environment; while the outward environment is comprised of developmentally appropriate

materials in response to extensive observations of the children, the teacher's internal environment must be formed by considerable introspection. Montessori (2012) claimed that "the adult, the child, and the environment are a trinity" (p. 123), arguing for the importance of the prepared adult in tandem with the prepared environment to best support the needs of children. Even more explicitly, Montessori (1966) required that the followers of her method engaged in "systematically studying [themselves] so that [they] can tear out [their] most deeply rooted defects, those in fact which impede [their] relations with children" (p. 149). The preparation of adults is crucial to their relationships with the children in their care.

In my classroom, I have conducted extensive observations of the adults' interactions with the children, especially in the outdoor environment. I have found that the adults regularly intervene with the children's experiences, diminishing their quality. Though the outdoor environment is beautiful and filled with opportunity for learning, the children have previously been prevented from taking advantage of its potential. This could be a direct result of the adults' lack of preparation. Internal biases about risky outdoor play can be reflected in restrictions placed upon students by their teachers. In order to provide the greatest opportunity for development in the outdoor environment, the adults must revisit Montessori's Theory of the Prepared Adult.

Without unneeded intervention by adults, children have the potential to benefit greatly from experiences in nature. From stress relief (Ulrich, et al., 1991; Wells & Evans, 2003) to improved cognitive functioning (Harper, 2017; Ulrich, et al. 1991; Ulset, et al., 2017), children must be allowed to explore their outdoor environment in order to profit from it. Adults can interfere with children's learning when they have yet to revisit their own experiences in nature and rethink subsequent feelings about outdoor Risky Play. Montessori's Theory of the Prepared

Adult argues for the importance of teacher reflection to best support children's learning, and thus provides a useful framework for guiding this research study.

Review of Literature

A significant body of research shows a myriad of benefits children stand to receive from having general exposure to nature and, more specifically, experience with outdoor Risky Play. In childcare and early learning centers, the opinions and practices of adults may affect the quantity and quality of those experiences. The objectives of this literature review are first to explore the impact of outdoor Risky Play on children's wellbeing and cognitive functioning then to analyze the information that exists on the effects of professional development on early childhood educators' practice. Finally, it will draw connections between revisions in practice and children's overall participation in the outdoor environment. The research argues that, for healthy development, children should be allowed to experience nature extensively in their earliest years (Bento & Dias, 2017) but preconceived ideas about outdoor activity and subsequent practices of their caregivers may prove to interfere with their development. The purpose of this research is to discover whether when early childhood educators gain a greater understanding of the benefits of outdoor Risky Play, they provide more vital opportunities for children's learning.

Impacts of Experiences with Risky Nature Play

Throughout the literature, there exists a solid consensus that experience in nature results in overwhelmingly positive outcomes for both adults and children (Brussoni, et al., 2017; Harper, 2017; Ulrich, et al., 1991; Ulset, et al., 2017; Wells & Evans, 2003). In one of their landmark studies, Ulrich, et al. (1991) conducted an intervention in which they first presented their subjects with a stress-inducing video on preventing workplace accidents. The stressor was followed by another video of one of six everyday settings, four of which were natural (including

vegetation or water with the absence of human-made features) while two were urban. Ulrich, et al. (1991) collected measured physiological and self-reported emotional data. They discovered that natural settings had restorative effects for their subjects both physiologically and emotionally and even fostered sustained attention compared to urban settings. This study shows that viewing nature short-term has a restorative effect, but it is necessary to note that these particular results cannot be generalized to longer-term experiences in nature. In contrast, Wells & Evans (2003) discovered that consistent access to nature did have a calming effect on children. They observed that nature moderated “the effects of stressful life events on children’s psychological distress” (p. 320). While children were more likely to exhibit significant psychological distress if they were exposed to significant risk, they found that those with access to natural environments showed convincingly less psychological distress regardless of risk exposure. Harper (2017) agreed that nature play encourages positive coping mechanisms and subsequent resilience in children who encounter adversity. As a calming mechanism, nature’s impact is undisputed in the literature.

Studies show that sustained attention and a decrease in hyperactivity can also come from experiences with nature (Harper, 2017; Ulrich, et al., 1991; Ulset, et al., 2017). Ulset, et al. (2017) conducted a longitudinal experiment in Norway with 562 children at 28 centers; the children were between 12 and 78 months when the study commenced. Through the annual use of the Strengths and Difficulties Questionnaire, they collected teachers’ observations of children’s behavior at each center. They discovered that children between the ages of four and seven who attended centers where they spent more time outside exhibited greater concentration and less hyperactivity than those who spent fewer hours outside. Similarly, Ulrich, et al. (1991)

speculated that natural views were more calming in their study because they held attention without effort on the part of the subjects.

Finally, natural areas may encourage physical activity and be a catalyst for socialization. In one study, Brussoni, et al. (2017) observed decreased physical activity as a result of their intervention, which consisted of improving the quality of the outdoor play spaces at two centers. In others, Harper (2017) and Ulset, et al. (2017) argued that physical activity increases as a result of time in nature. The findings of Brussoni, et al. may be attributed to a decrease in hyperactivity or increase in engagement rather than an inherent decrease in physical activity due to the nature of their intervention. Additionally, their findings were inconsistent between centers, so it could be contended that the discovered decrease in physical activity lacks the weight to counteract the larger body of research. On the other hand, it is important to note their agreement with other researchers on the impact of natural play spaces on children's socialization. The study found "significant positive effects on children's play, social behaviors, and mental health" (Brussoni, et al., 2017, p. 144). Wells & Evans (2003) add to the conversation with their inference that the buffering effect of nature may be contributed to its support of peer attachment.

Pairing with the insights that nature has a positive impact on children's wellbeing and cognitive functioning is the literature that argues the importance of outdoor Risky Play to their development. While danger may produce a countereffect to nature's calming influence (Ulrich, et al., 1991), risk is key to developing problem-solving and social skills and a sense of competence (Harper, 2017). Harper (2017) differentiates between hazards, which present only the possibility of a negative outcome, and risks, which offer an opportunity for gain alongside the potential for harm. Adults must make space for the latter because children will never know how to identify risk for themselves if they are never allowed. As cited by McFarland & Gull-

Laird (2018), Warden (2011) asserts that “the adult role is to remove hazards that the children do not see, not the risks within the play” (p. 161). Risky Play consists of purposeful behaviors that induce thrilling positive emotions and expose children to stimuli that they may have previously feared or avoided or been prevented from experiencing (Harper, 2017). Together, Risky Play in natural environments may develop within children confidence, positive mental health components, and interpersonal relationship skills (Bento & Dias, 2017; Brussoni, et al., 2017; Harper, 2017; Ulrich, et al., 1991; Ulset, et al., 2017; Wells & Evans, 2003).

Professional Development as a Tool to Improve Practice

Adults hold the ability to support children's optimal development; they may also have the potential to thwart it. Formal education and credentialing are not the ultimate resources of educator learning (Sheridan, et al., 2009), so continuing professional development is needed in early childhood education to best prepare adults for their supportive role. The goals of professional development are to grow and improve educator knowledge and practice and to foster a culture of continued learning (Sheridan, et al., 2009). New knowledge can be dispersed through specialized training, coaching or consultation, and communities of practice. Sheridan, et al. (2009) describe the process of adopting new professional practice; it consists of training, application, and refinement. The last two steps of the process must occur in the environment with the help of continual coaching. Montessori (1967) supports this insight, stressing that educators cannot successfully follow children's needs without both theoretical knowledge and authentic experience. Hence, the optimal learning experience for adults would include a mixture of initial training and continued support (McMillan, et al., 2012; Sheridan, et al., 2009). The suggested extent of the continued support varies throughout the literature.

Throughout the existing research on professional development, a recurring theme is the importance of intrapersonal reflection and interpersonal collaboration (Bento & Dias, 2017; McMillan, et al., 2012; Peleman, et al., 2018; Ulset, et al., 2017). McMillan, et al. (2012) argue the value of reflexive inquiry used to piece together contextual elements of an educator's "past, present, and future in regard to practice, experiences, and potential" (p. 8). These insights support Montessori's (1966) philosophy of the spiritually prepared adult. Other studies expand the understanding of meaningful professional development experiences by stressing the importance of reflection and the equal relevance of teamwork for the success of professional development measures (Bento & Dias, 2017; Peleman, et al., 2018). The study conducted by Ulset, et al. (2017) profited from family involvement in addition to collaboration between staff members. Partnering with school administration also proved to be a lucrative variable in the 2021 study by Grady-Dominguez, et al., in which one of the most significant differences between two centers was the involvement of administration in their workshops. The purpose of these workshops was to change educators' ideologies surrounding Risky Play and therefore increase children's engagement on the playground. Participation from school leadership may have been related to the success of the intervention in one center, while the researchers did not observe a successful shift in practice without such support. In a field that relies on strong connections between adults and children, the research shows that the success of professional development correlates closely with similar supportive relationships between adults.

Administrative involvement, reflective practice, and continued coaching and support converge to build a successful model for improving teacher practice and establishing a community of continued learning. The accomplishment of any professional development method can be measured by observing changes in educators' practice. McMillan, et al. (2012) found that

the most significant outcome of their intervention was related to teaching quality, from which they were able to conclude that their project had successfully bridged the gap between knowledge and practice. Throughout 44 European studies focused on early childhood professional development, the overarching benefits were “greater pedagogical awareness, knowledge and sense of agency, and pedagogical competence” (Peleman, et al., 2018, p. 15).

It is important to note that the individual beliefs and dispositions of the people involved can mitigate the achievement of professional development. The success of professional development depends on the active involvement of participants (Peleman, et al., 2018). Personal characteristics such as attitudes about work and change, beliefs about children’s learning, understandings of theory, and views of their roles can affect outcomes (Sheridan, et al., 2009). These characteristics may also relate to individuals’ cultural backgrounds (McFarland & Gull Laird, 2018). On the other hand, trust between researchers and subjects may have a positive impact on study results. The varying confounding variables in early childhood environments, paired with the possible positive impact of trusting the researcher, support an argument for action research related to professional development in such settings.

The Effects of Educator Practice on Children’s Experience

Professional development is necessary to ensure educators’ understanding of the benefits of time in nature because adults’ views on children’s outdoor experiences could have a significant effect on their development (Grady-Dominguez, et al., 2021). Montessori (1967) credits adults with the responsibility to allow children time to explore nature freely. She also argues that modern society has removed children from nature and that people have developed a fear of its elements. In early childhood education centers today, the opinions of adults closely relate to the time children spend outside; in some of the literature, pre-intervention data

collection showed that adults made decisions to restrict outdoor Risky Play based on their feelings about the topic (Grady-Dominguez, et al., 2021; McFarland & Laird, 2017). Some educators cited increased comfort and security inside versus outside (Bento & Dias, 2017), while others expressed determination to prevent injuries due to a fear of contacting parents about them (Grady-Dominguez, et al., 2021). When professional development includes engagement between educators and parents, not only can new knowledge support evolving practice, but rapport between adults can encourage understanding when incidents occur as a result of outdoor Risky Play.

The sentiments of adults proved to interfere with children's experiences with outdoor Risky Play directly. In the first center studied by Grady-Dominguez, et al. (2021), where adults "foregrounded children's disabilities" (Grady-Dominguez, et al., 2021, p. 11) and did not modify practice, the children's engagement decreased as a result of their intervention. This outcome contrasts with the second center, where the original ethos was already strengths-focused, and the adults altered practice after the workshops; there, the children's engagement visibly increased. Of the two centers evaluated by Grady-Dominguez, et al. (2021), the one that exhibited their intended change in teacher practice was the only one where the child-led portion of the intervention was also successful. McMillan, et al. (2012) discovered a similar outcome when the "quality of the [children's] learning experiences improved across all five settings" (p. 10) after the implementation of their professional development model. Peleman, et al. (2018) also identified 15 European studies in which early childhood professional development resulted in educators employing practices that were more responsive to children's needs. This shift to allowing children to take charge of their development mirrors Montessori's (1967) claim for following children.

The previously discussed positive impacts of nature on children may also relate to adult's changes in practice after professional development. When they began spending more time outside, adults reported that they felt more relaxed and more available to support the children (Bento & Dias, 2017). Ulset, et al. (2017) also acknowledge the effect of nature exposure on teachers and their subsequent interactions with the children. Just as natural environments may serve as a catalyst for socialization in children, they may support relationships between adults, which is vital to the success of outdoor play activities (Bento & Dias, 2017).

Conclusion

Since the release of Sheridan, et al.'s (2009) research on process issues and research needs, there has been a slight increase in early childhood professional development studies. Nevertheless, there still exists a lack of information surrounding professional development in general and its subsequent effects on children's development. Research is still needed to distinguish what aspects and forms of professional development most effectively impact teacher practice. The question that still has not found its place in the existing body of research is how the evolution of teacher practice impacts children's subsequent experiences, especially in the outdoor environment. Based on the literature, future studies may employ initial training followed by continual support, perform qualitative data collection through interviews and reflective journaling, and emphasize the importance of intra- and interpersonal relationships. The study that follows implements these tools in an effort to explore a correlational relationship between early childhood professional development, succeeding changes in practice, and children's experiences in the outdoor environment.

Methodology

The goal of this study was to determine to what extent implementing a new professional development workshop would impact teacher practice in response to toddlers' Risky Play (Harper, 2017) in the outdoor environment. I utilized four measures of data collection, including interviews, an attitude scale, daily journals, and daily observations. The adult participants were three Montessori assistant guides in a toddler classroom at a private Montessori school in Missouri. The participants had varying levels of Montessori experience, ranging from no formal Montessori education to almost four decades of experience as a Certified Montessori Educator. Three of the four assistant guides in the classroom agreed to participate in the study by returning a signed active consent form that was distributed two weeks prior to the start of pre-intervention data collection. The assistant guide who refrained from participating worked only part-time in the afternoons, so the study and her schedule did not overlap. Ten children between the ages of 17 and 32 months also participated in the study. Six of these children were girls, and four were boys. There were seven children who attended school five days a week, and three who only attended four days a week. These children made up the entirety of my class, as all the parents gave permission for their children to participate. Passive consent was given through a parent assent letter, which was distributed two weeks before the study began. There were a few unplanned child absences throughout the study, none of which were related to the nature of the research.

Pre-Intervention

I began the study by collecting pre-intervention data for two days prior to the workshop. This time was slightly shorter than planned because the weather was too hot for us to go outside for three of the originally planned five days. All three adults attended the first of the two pre-intervention days, while only two were available to participate in the second. During the pre-

intervention period, my class ventured into the woods directly behind our school. The path to the space utilized is as follows: we left through the back door of the classroom, went through the gate in the back yard, followed along the outside of the fence until we reached the back hill, descended the hill, and followed the path until we reached a slight opening in the trees. This opening was a small area surrounded by many trees. There were a few trees that had either fallen or had grown close to the ground. One tree stood tall and split about two feet off the ground into four large trunks with openings between them. There were a few different piles of sticks and fallen branches. The ground was covered with sticks and fallen leaves. This space was situated at the top of a steep hill on two sides and the edge of a drop-off over the creek on the third. The path continued through the area, though it had become overgrown just past it, which created a natural stopping point. Another teacher had marked one side of the space with orange tape, signifying another obvious stopping point; there were no other taped boundaries in this area.

During the pre-intervention period, the children engaged in play they chose within the space. The adults were allowed to intervene as they felt was necessary. I recorded abbreviated observations in the Notes application of my locked phone, which I later transferred to guided observation forms (Appendix A). Each individual event was recorded on a separate form. On the forms, I noted the adult participant(s) involved and narrative details. I did not create pseudonyms to record the individual children's involvement. I chose not to catalog individual children because this study analyzed a relationship between the intervention and the adults' individual practices, rather than changes in individual children's play. Completed forms did not include any personal identifiers and were kept secure for the duration of the study.

Intervention

On Friday, August 13, 2021, I led a workshop for the three adult participants during the final day of my school's in-service period. All three participants attended. I started by welcoming them and thanking them for choosing to be a part of my research. I chose to focus on adults in my study based on information that I gathered while writing my literature review, which connected adult's opinions and feelings with their practices in the environment (Bento & Dias, 2017; Dominguez, et al., 2021; McFarland & Gull Laird, 2018; McMillan, et al., 2012; Peleman, et al., 2018). Before the start of the workshop, I distributed short attitude scales (Appendix B) to each participant to fill out and turn in before we began. These attitude scales measured each adult's individual level of comfort with the children's outdoor Risky Play. Next, I passed out guided journaling prompts (Appendix C) to each participant and encouraged them to find a space where they felt comfortable as they wrote their initial journal response. I distributed all the journaling pages that they would need for the entirety of the study at this time. I included journals in my study because research supports reflection as a measure to encourage greater effectiveness of professional development measures (McMillan, et al., 2012; Peleman, et al., 2018). I chose to supply guided journaling prompts based on a study by McMillan et al. (2012) in which they did the same in order to support participants' formation of relevant ideas and structuring their thoughts. As they returned their first journals to me, I met with each adult in the library of my school with the door closed to administer individual interviews (Appendix D). I used interviews to collect additional qualitative data surrounding the adults' feelings about the outdoors and Risky Play. These interviews lasted roughly five minutes each. I had provided each of the participants with a copy of the questions the previous day in response to a request that they have time to mentally prepare. One of the participants brought written answers to share, while the other two used the extra time to think about what they would say. I recorded each interview

on the Voice Memos application on my locked tablet. After all three interviews were completed, we reconvened for the remainder of the workshop.

For this part of the workshop, I created a Google Slides presentation (Appendix E) to guide my talking points and share a few videos of classroom children engaging in developmentally appropriate Risky Play. My presentation began with quotes about nature play, independence, and concentration that were taken directly from the work of Dr. Maria Montessori, the founder of the Montessori method of education. Following a short discussion about these quotes, I introduced some of the research that I had compiled for my literature review. Throughout the presentation, I encouraged the participants to ask questions or contribute to the conversation, but they did not engage in much discussion. First, I introduced three benefits of outdoor play: resilience, concentration, and socialization. Next, we dove into the idea of Risky Play and contrasted it with the concept of hazards. At this point, I shared three videos of children engaging in different types of Risky Play during the pre-intervention period. The first video showed a child repeatedly carrying large sticks and broken branches to the very edge of the steep hill that bordered the play space described above, then threw them off the edge and screamed joyfully. In the second video a child held a very large broken branch above her head, tapping the trees above her as she carefully balanced its weight. The third video showed a child climbing on a fallen tree and bouncing on its protruding branches as he shouted proudly to his friends and teachers. Following the videos, I went over some examples of phrases that I heard during the pre-intervention period and introduced alternatives that encouraged the children's independence.

In closing, I preemptively answered a couple of questions that I expected to receive from the participants. First, I reviewed the school's policy for injuries and assured them that we would not be asking the children to engage in any play that they don't already try to engage in. Then I

reviewed why we were doing the workshop in the first place, citing Dr. Montessori's concept of Preparation of the Adult (Montessori, 1966) and accompanying research on early childhood professional development from my literature review. The last thing I did was thank the participants again for choosing to be part of my study.

Post-Intervention

Beginning the Monday following the workshop, my class ventured back out into the woods. The original plan was to utilize a different, larger space, called the Adventure Playground, that other school teachers had previously prepared with more intentionality. On the first day, we were unable to do that because the landscapers were mowing in our path. Instead, we returned to the space behind the school that we had used prior to the workshop. On this day, all three adult participants were present. On day two, we were able to venture to the other space, but only two adults were available to attend. These two participants were full time staff members who already worked in the mornings. The third participant typically worked in the afternoons, but agreed to come in early on Mondays, Wednesdays, and Fridays in order to be a part of the study.

We utilized the Adventure Playground for the majority of the study that followed. In order to reach this area, we left through the back door of the classroom, went through the gate in the backyard, walked through a small grassy area, followed the tree-lined edge of the parking lot, then walked along a path which consisted of a small downhill portion followed by a section that led below the trees and ended at the Adventure Playground. It was characterized by a large open area surrounded by trees. On one side of the space was a very steep hill that ascended from the open area. On two other sides were drop-offs that led to a creek. Other teachers had intentionally marked this space with orange tape that signified clear boundaries. The ground was mostly dirt

with some fallen leaves and a lot of sticks. There were also small and large creek rocks on the ground that the school's older children had introduced to the space. There were several fallen trees, a bucket of digging tools, piles of broken branches, and an assortment of small, but heavy, logs. One tree grew out of the ground with an opening that closed as it got taller, creating a small archway. The steep hill had a rope with knots along its length that was tied to one tree at the bottom and another at the top of the hill.

Throughout the next three weeks, I continued to utilize the observation form that I had used to record notes prior to the intervention. I again recorded abbreviated observations on the Notes application on my locked phone and transferred them to the forms later in the day. I tried to record every event of Risky Play that I saw, but it is probable that I did not catch every single one. After each outing, the adult participants engaged in reflection through journaling. They each received one guided journal sheet for each day that they would be present. I expected them to journal daily to ensure their memories and accompanying thoughts were current. Journals were turned in to me every Friday and stored securely with the other data pieces.

On day 8, a child was stung by a yellowjacket on the Adventure Playground. We became aware of an underground nest, marked it with orange tape, and continued using the space for several more days. On day 12, another child was stung on the way to the Adventure Playground, and I learned of another nest situated along our path. Both of these incidents resulted in our time in the woods being cut short on those days. I made the decision to return to the wooded space behind the school in order to prevent further stinging incidents. I carefully inspected that space for yellowjacket nests and did not find any, so we spent days 13 and 14 there. On day 14, a third child was stung in the alternate space and our outdoor time was again cut short. In response to each incident, I followed school policy for reporting injuries to administration and parents. After

conferring with my school's director, we made the decision to end my study one day early as a result of the unexpected hazard we had encountered in both available spaces. After the final outing, each participant turned in any remaining journals and completed the attitude scale a second time. I again thanked the adults for their generous participation in my research.

Data Analysis

The first purpose of this action research project was to determine to what extent a professional development workshop on outdoor Risky Play would impact practices of three assistant teachers in a Montessori Toddler classroom. An additional goal of this study was to explore the connections between that potential change in practice and children's subsequent experiences with Risky Play in the outdoor environment. After just over three weeks of study, two days of pre-intervention followed by fourteen days of post intervention data collection, I analyzed the data to answer these questions. The data indicated that there was a shift in both teachers' practices and children's experiences.

Figures 1 and 2 represent a change in frequency of interventions by type from before the professional development workshop and after. Figure 1 illustrates the breakdown of adults' interventions by type before attending the workshop. I observed and recorded these interventions on observation forms (Appendix A). Negative interventions included "shouting," "unsolicited physical removal," and "prohibiting behavior." Neutral interventions included "reminder of rules," "praise," "solicited physical help," and "conversation." Positive interventions were simply observing and not interrupting play. I isolated these instances by observing the gaze of the adults in the environment to verify that they were watching the Risky Play occurrences while choosing not to intervene. Some interventions included elements of multiple types and were coded based on the total score; for example, on day 2, "unsolicited physical removal" (-1) accompanied by "reminder of rules" (0) was coded as negative. Before the workshop, the

majority of the interventions were negative, at 45 percent, and less than one-third of interventions were positive. This data set represents the two days prior to the workshop, as the remaining three planned days of pre-intervention data collection were canceled due to weather.

Figure 1

Types of Interventions Pre-Workshop

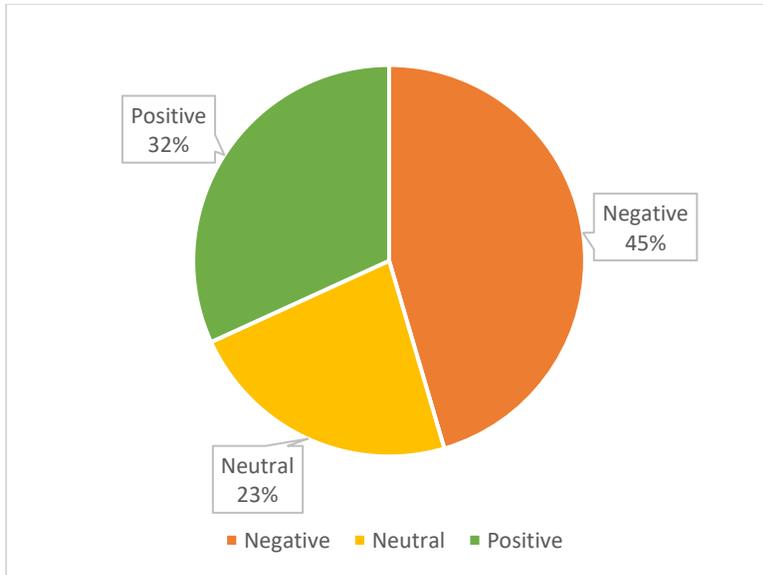


Figure 2 represents a notable change in adults' interventions. In the 14 days after the workshop, the frequency of negative interventions dropped to only 9 percent, while positive interventions rose to 41 percent. Neutral interventions went from only 23 percent pre-workshop to accounting for half of all interventions after the workshop. Again, interventions that included multiple types were coded based on their total score. This jump in the number of neutral interventions may be attributed to children's increased engagement in hazardous play, such as crossing the physical boundaries of the space, to which the adults began to respond with "reminder of rules" as opposed to "unsolicited physical removal" or "shouting" after the workshop.

Figure 2

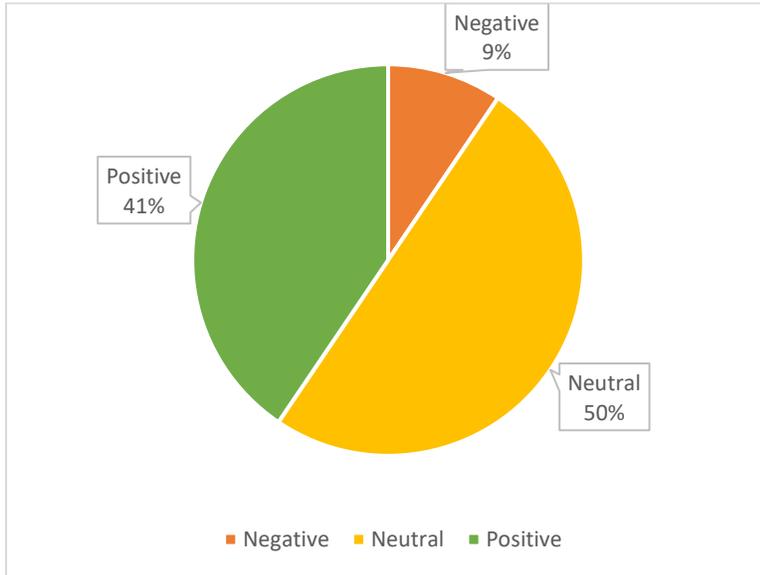
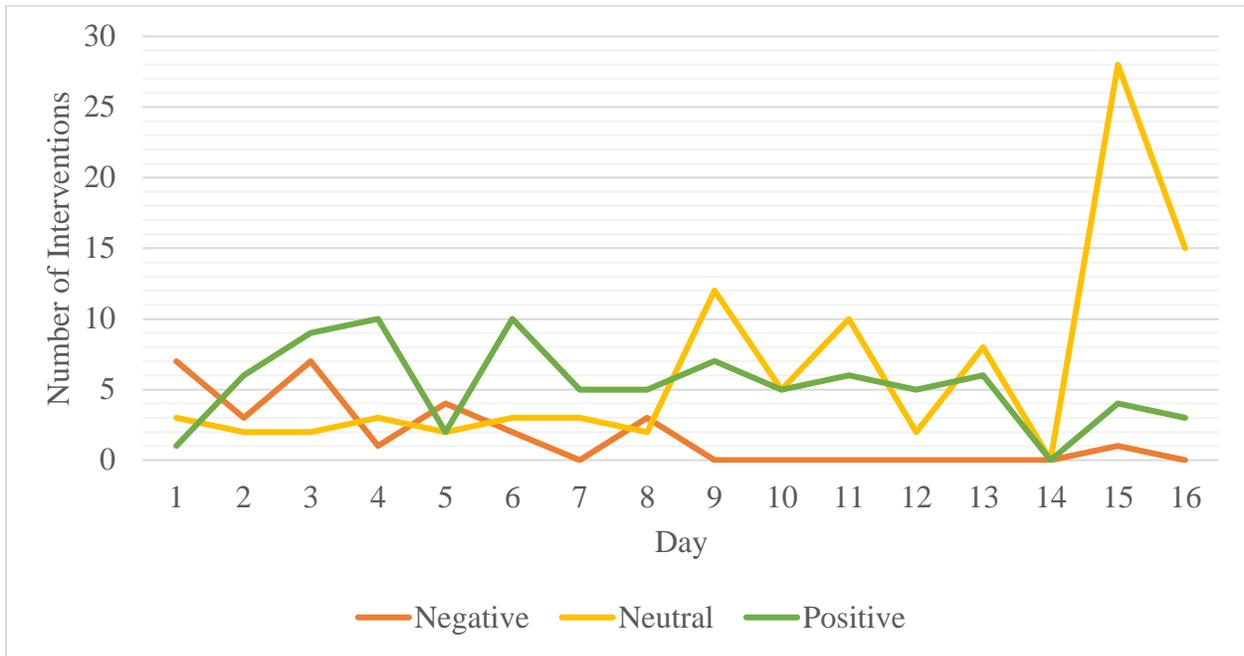
Types of Interventions Post-Workshop

Figure 3 expands upon these results even further, showing interventions by type on individual days. This figure illustrates a few important data trends. First, negative interventions gradually decreased between day 1 of pre-intervention and day 15, with an extended period of zero negative interventions from day 9 to day 14. This trend may also be attributed to the level of comfort the adults felt in the environment, a variable that I did not particularly consider. As so, the outlying negative intervention on day 15 may be attributed to an unexpected change in environment, a return to the wooded space behind the school, where teachers and children had spent much less time in comparison to the Adventure Playground. This change in environment may have left the participants feeling less comfortable in the space and their roles. One of the adults discussed this in her journal (Appendix C) that day, where she said that she “noticed that in the other area of the woods [the Adventure Playground], the children had lots more space that they were used to. We had to set more boundaries as to how far the children could go.” It is also important to note that positive interventions increased in the few days directly following the

workshop and stayed consistently higher than both negative and neutral interventions for roughly half of the post-intervention data collection period.

Figure 3

Adult Interventions by Day



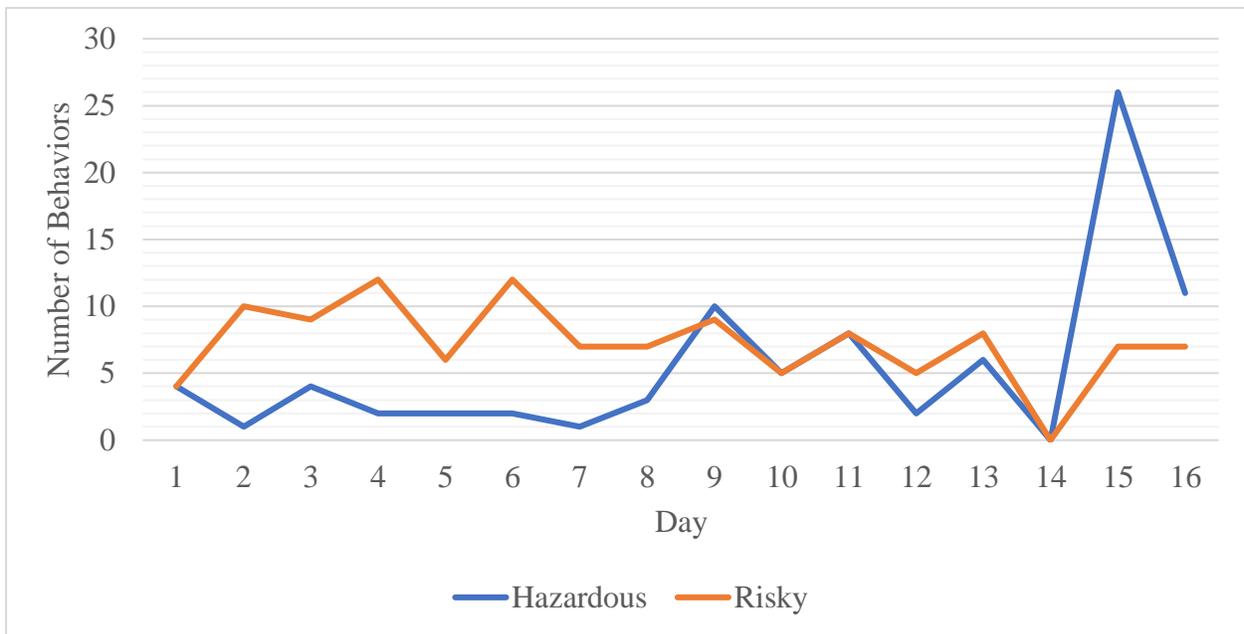
Note: Baseline data collection days 1-2; post-intervention data collection days 3-16; On day 14 I canceled data collection due to a yellowjacket sting on the way to the Adventure Playground.

The significant increase in neutral interventions on day 9 may be attributed to the previously mentioned increase in hazardous behaviors, such as crossing physical boundaries, which can be seen in Figure 4. These behaviors, which I also recorded on observation forms (Appendix A) throughout the outdoor play time, escalated further on day 15, after returning to the wooded space behind the school. This space was far smaller with less obvious boundaries than the Adventure Playground to which the children had become accustomed. Figure 4 also shows that the children engaged in Risky Play slightly more often after the workshop, with a mean of 7 during the baseline data collection days and a mean of 7.9 during the post-intervention

data collection days. This data piece may fail to best represent a change in Risky Play frequency because of the lack of pre-intervention data. I excluded day 14 from my calculations because there was no opportunity for Risky Play on that day. It is notable that, in addition to the slight increase in Risky Play after the intervention, hazardous play increased significantly. Harper (2017) cited six types of Risky Play, but I only included five (great heights, high speed, dangerous tools, dangerous elements, and rough and tumble) in my study. I excluded the sixth category, “disappear/get lost” (Harper, 2017, p. 324) because our primary responsibility as educators was to keep the children safe, which we could not do if we could not see them. Because of that, I coded the final type of Risky Play as hazardous. Crossing the boundaries of our space could have fallen under that final category.

Figure 4

Types of Child Behaviors before Adult Intervention

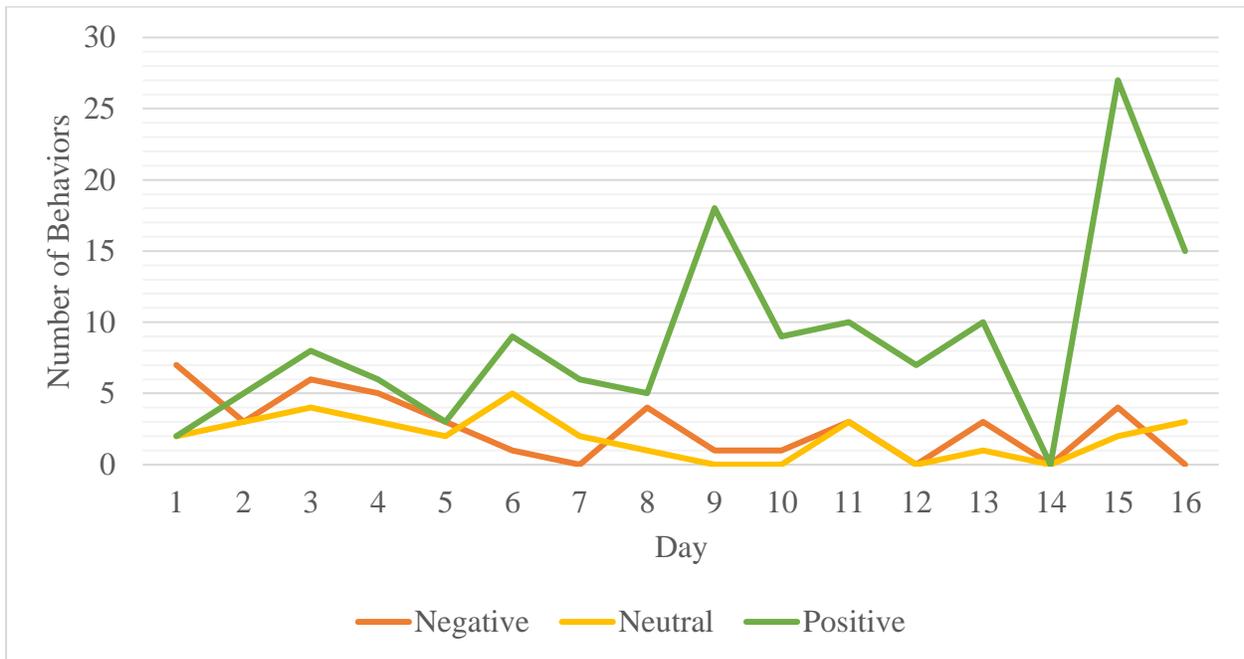


Note: Baseline data collection days 1-2; post-intervention data collection days 3-16; On day 14 I canceled data collection due to a yellowjacket sting on the way to the Adventure Playground.

In addition to the slight increase in Risky Play events after the intervention, positive outcomes significantly increased throughout the post-intervention portion of the study. I recorded outcomes on my observation form (Appendix A) after each adult response to individual instances of Risky Play. These positive resulting behaviors included “creative play,” “resilience,” “problem solving,” “socialization,” “joyful expression,” “concentration,” “repetition,” “leadership,” “confidence,” and “halting hazardous play.” This is in contrast with negative outcomes that included “retreating from play,” “missed social interaction,” “missed problem solving,” “tears,” and “repeating hazardous behaviors.” Figure 5 illustrates both the increase in positive outcomes and decrease in negative outcomes.

Figure 5

Positive Outcomes of Risky Play Instances

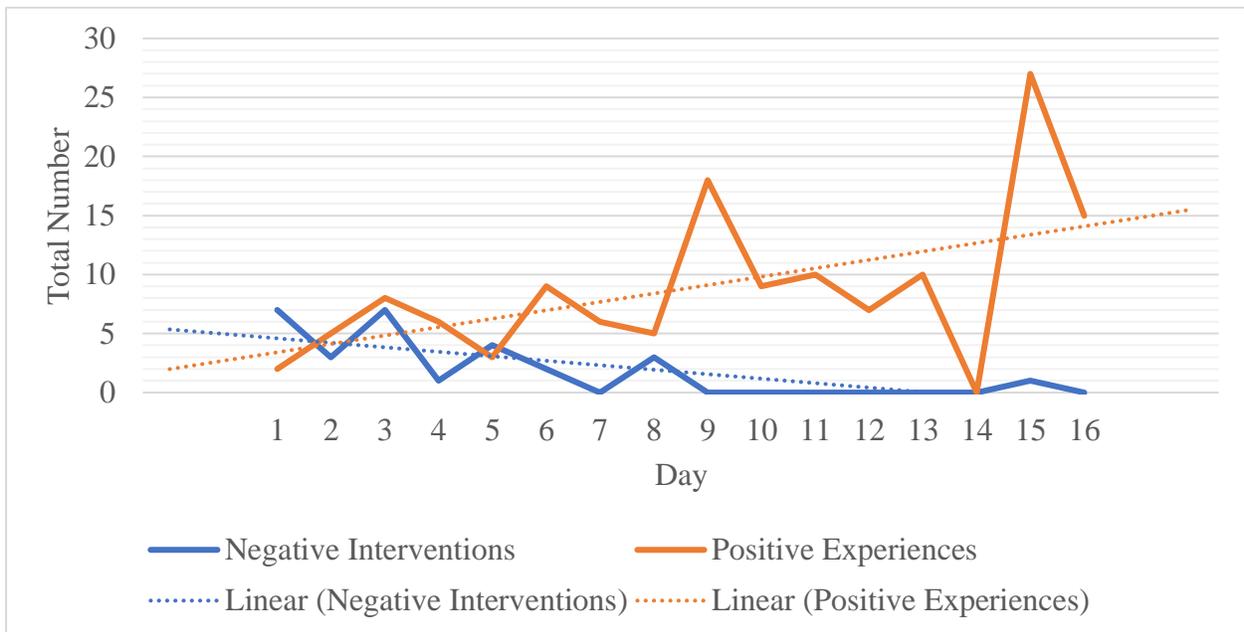


Note: Baseline data collection days 1-2; post-intervention data collection days 3-16; On day 14 I canceled data collection due to a yellowjacket sting on the way to the Adventure Playground.

Figures 3 and 5 demonstrate a clear, inverse relationship between the numbers of negative interventions and positive outcomes throughout the study. While negative adult interventions decreased after the workshop, positive outcomes increased significantly. This relationship is represented in Figure 6. Positive outcomes peaked on day 15, when there was only one negative intervention. This data is significant because, as illustrated in Figures 4 and 3 respectively, hazardous behaviors and neutral interventions also peaked that day. This means that, when the adults redirected the children with a respectful reminder of rules, they more often halted hazardous behaviors, rather than repeating them as they had previously.

Figure 6

Relationship Between Negative Adult Intervention and Positive Child Experience



Note: Baseline data collection days 1-2; post-intervention data collection days 3-16; On day 14 I canceled data collection due to a yellow jacket sting on the way to the adventure playground.

My next question for the data was whether the participants’ journals (Appendix C) reflected their observed change in practice. Their pre-intervention journals (Appendix C)

included language and anecdotes that showed support for Risky Play in nature. One participant described an environment she had explored in her childhood, writing “I grew up in the woods. My family’s property was very spacious with lots of maple trees, a creek with a bridge going across & trees that grew together to make a cave like area. We were encouraged to go out & do risky play.” She continued to write nostalgically about her experiences in the woods as a child. Another participant focused more on the experiences of children in our class, writing “I can be there to ‘spot’ a climber or remind a child where the boundaries are, but generally feel confident about the outdoor space and the children’s freedom within that space [the Adventure Playground].” The third participant expressed slightly less confidence in the subject, writing “I think I feel comfortable in nature play outdoor.” These statements were mirrored by the participants answers in their interviews (Appendix D), creating an overlap in my data.

Both the initial journals (Appendix C) and interviews (Appendix D) seemed to contradict my observations before the workshop. This is important because while the participants mostly expressed support for outdoor Risky Play and exhibited an understanding of their roles in the outdoor environment, in practice they had engaged in more negative interventions than neutral or positive. The interaction between the participants’ perceived attitudes toward outdoor Risky Play and my observations supports a need for professional development for even the most vocally supportive of this type of play. Professional development aides in the spiritual preparation of the adult, supporting the teacher in preparing “himself interiorly by systematically studying himself so that he can tear out his most deeply rooted defects, those in fact which impede his relations with children” (Montessori, 1966, p. 149). Despite the participants’ perceived support of outdoor Risky Play, professional development was needed in order to begin this process and spark a change in teacher practice.

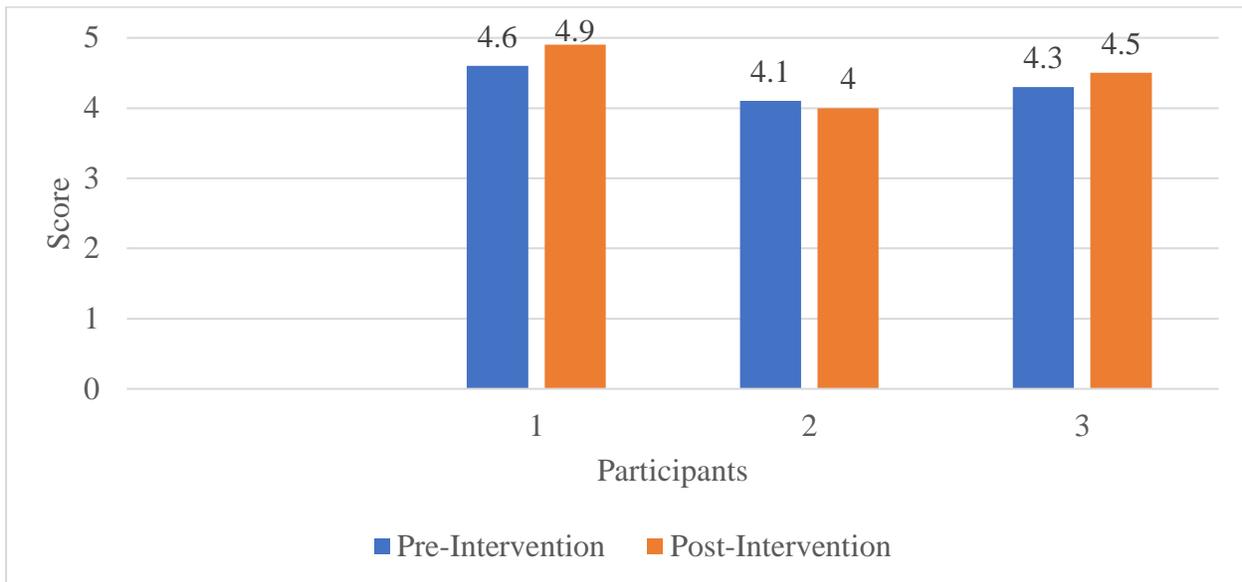
Throughout the study, participants continued to journal. I observed a couple notable shifts in language over time. One participant began by stating that when a child crossed the physical boundary of the space, she “had to pick her up.” This type of language was used 3 times between days 5 and 8. On day 10, she wrote “one child again crossed the boundary line so I intervened.” On day 12, she used this more neutral language again. She did return to saying “the youngest one crossed the boundary so I needed to pick him up” on day 15. This instance is represented in Figures 3 and 6, where one negative intervention was recorded on this day. This was also the day that we had to return to the smaller space behind the school, a change that I had previously discussed as potentially uncomfortable for the adult participants.

Another trend that I discovered in the journals (Appendix C) was one participant’s description of her concern throughout the study. She expressed “concern” about Risky Play activities on days 4 and 5, but this language subsided by day 6. She only returned to using this language on day 13 after the discovery of yellow jackets on the adventure playground, an unexpected hazard. On this day, she expressed concern about not only the hazard, but one instance of Risky Play, writing “A child placed large flat rock(s) on a fallen log while another child was very close by, beneath the log and rocks. My concern was that the rock(s) might fall/be thrown down onto the child below. Thankfully, that did not happen.” The presence of a hazard proved to make more than one adult uncomfortable that day, as another participant wrote “I felt concerned in the woods. The swarm of bees were still in the woods & I didn’t want a child to get stung but the children did not play in that area.” More than one adult had discussed the importance of protecting the children from hazards throughout their journals and during their interviews. The adults did not have much control over this particular hazard, so their concern was well-warranted, considering their understanding of their roles in the outdoor environment.

The participants' journals also helped me in trying to understand some of the shifts in Attitude Scale (Appendix B) scores. As seen in Figure 7, two of the three participants' scores increased slightly the second time I administered the scale. This indicates adults' increased comfort and overall improved relationship with Risky Play in the outdoor environment.

Figure 7

Attitude Scale Scores



Note: Pre-intervention scores were collected from the Attitude Scales (Appendix B) administered immediately before the professional development workshop; post-intervention scores were collected from the Attitude Scales (Appendix B) administered on the final day of the study.

The first participant's increased score was due to the answers to only two statements: "being in nature has a calming effect on me," and "I am confident in my responsibilities in the outdoor environment." On day 8, this participant wrote that she felt "peaceful and calm, with the wind blowing through the trees, the birds singing in the background & the children laughing and playing." Again on day 11, she described feeling peaceful, writing "even though we are out in the woods & a lot of risky play can happen, it's peaceful because it is a prepared environment."

This sentiment also connects with the second statement to which she answered differently at the end of the study, in that she acknowledges the importance of an environment prepared by the adult. She also clearly states her role in the environment in her final journal, writing “Children need to run free & test themselves & their own limits, we as adults are there to protect them from anything that may be hazardous.” This concluding thought coincides with her strong agreement with the idea that she was sure of her role in the outdoor environment by the end of the study.

The second participant’s score went down the second time she filled out the Attitude Scale (Appendix B) as a result of changed answers to “being in nature has a calming effect on me,” and “I understand the importance of spending time in nature with the children.” Her answers to these statements both changed from “strongly agree” to “agree.” Throughout her journals, she focused on the actions of the children, and never mentioned feeling calm in nature as she had in her pre-intervention journal, having written “the trees were comforting—it felt like a very spiritual space” while describing her childhood environment. This shift in focus from how this participant felt when in nature alone compared to how she felt in nature with the children may explain the change in her answer to the statement about feeling calm outdoors. I was unable to find any significant statements in this participant’s journals to explain the change in the other answer.

The third participant’s score increased slightly the second time I administered the Attitude Scale (Appendix B). All her answers either remained at “agree” or increased to “strongly agree” except for one: “I can observe the children playing without feeling the need to intervene.” To this statement, she answered “disagree” the second time. Much of the focus of her journals was on needing to intervene with children who had crossed the physical boundary of the space. This prolonged focus clearly relates to her choice to disagree with this statement. In

contrast, her answer to “I am confident in my responsibilities in the outdoor environment” went from “agree” to “strongly agree.” This confidence may stem from having a better understanding of when it is appropriate to intervene. Her journals included instances of her intervening on every day except for our final day at the Adventure Playground, in which she simply described several instances of Risky Play that she had observed. Her language surrounding these interventions also became more neutral over time, in contrast with originally expressing that she “had to pick [the children] up.” In her journals, she expressed an increased understanding of her role, which was mirrored in her final Attitude Scale (Appendix B).

The purpose of this study was to explore a connection between professional development and change in teacher practice regarding outdoor Risky Play. Additionally, I asked whether a change in teacher practice may result in more instances of children’s creative play, resilience, problem solving, socialization, joyful expression, concentration, repetition, leadership, confidence, or halting hazardous play. After 2 days of pre-intervention data collection, I implemented a professional development workshop for the three assistant guides in my Montessori toddler classroom. The workshop consisted of additional pre-intervention data collection using an attitude scale, journals, and interviews followed by a presentation about Montessori philosophy paired with the benefits of outdoor Risky Play. Following the workshop, my class ventured into the woods adjacent to our school for 14 days, where I collected post-intervention data through observation and adult journals. At the end of the study, the adult participants completed the attitude scale a second time, signaling the end of my data collection.

Before the intervention, my class went to a wooded space behind our school where the children could engage in the play of their choosing, risky or not. On day 1 of post-intervention data collection, we planned to go to a new space, but could not reach it because the landscapers

were mowing in our way. During the next 11 of the 14 post-intervention days, my class was able to go to the Adventure Playground, a wooded space adjacent to the school parking lot with many opportunities for Risky Play, such as fallen trees and a steep hill to climb on and logs and broken branches to carry or move. On day 12 of post-intervention data collection, a child was stung by a yellowjacket on the way to the Adventure Playground. This was the second sting to happen during my study, so we canceled our trip to the woods that day. The following day, after a discussion with my head of school, we returned to the smaller wooded space behind the school and remained there until the end of the study. I made the decision to cancel my final planned day due to yet another yellowjacket sting in the alternate area of the woods.

During this time, I observed elements of Risky Play in both outdoor environments. I noted each time a child engaged in this type of play, the response from the adults, if any, and the final outcome for the child of each experience. The types of Risky Play that I allowed in my study were: great heights, great speed, dangerous tools, near dangerous elements, and rough and tumble. I did not allow disappearing or getting lost, the final type of Risky Play cited by Harper (2017), because our primary responsibility was supervising the children. I also collected journals from the adults throughout the study as a data tool because the literature supported reflection as a tool related to greater success of professional development measures (McMillan, et al., 2012; Peleman, et al., 2018). The literature also encouraged continued coaching after professional development (McMillan, et al., 2012; Peleman, et al., 2018; Sheridan, et al., 2009) so I tried to offer feedback to the adults as needed.

Based on the data that I gathered, the professional development workshop, combined with journal reflection and continued coaching, had a measurable impact on the adults' interactions with the children in relation to Risky Play in the outdoor environment. They began

to refrain from negative interventions such as shouting and physically moving children, instead opting to observe and only intervene in situations of hazardous play. In those situations, the adults chose respectful verbal reminders of rules over the negative alternatives. This indicates that the professional development workshop was successful in supporting a change in teacher practice. The literature hinted at this outcome when Peleman, et al. (2018) discovered that the biggest benefits of professional development were “greater pedagogical awareness, knowledge and sense of agency and pedagogical competence” (p. 15).

Similarly, previous studies established a connection between improved knowledge and practice and children’s experiences (Grady-Dominguez, et al., 2021; McMillan, et al., 2012). I also observed a change in the children’s experience in response to the altered practices. As the adults’ negative interventions declined, the children’s positive outcomes increased. With this, my study further solidified a connection between changes in teacher practice and child experience.

The children in my class had regularly attempted to engage in Risky Play prior to the start of my study. Previously, the adults in the environment had not allowed regular participation in this type of play. As a result of my intervention, the adults began to allow many types of Risky Play in the outdoor environment, but there is still room to grow. The results of my study motivate me to establish an environment of continued coaching and support. The success of my professional development workshop showed me that the best way to present pertinent pedagogical information to my staff is through interactive discussion paired with personal reflection. This key to altering practice will support increased opportunities for the children to develop a sense of competence, as the adults are better acquainted with pausing to observe, rather than being quick to intervene.

There were a couple variables that I was unable to isolate due to the design of my study and the nature of action research. First, patterns in my data brought to my attention that the children and adults had appeared to grow in their comfort in each environment the longer we were there. This may have impacted the number of interventions on a given day, as they declined in correlation to the time we utilized one space. Additionally, while I used the adult journals as a tool for data collection, I was not able to isolate their effects on the study results. Similarly, since I had paired the journals with the professional development workshop, I do not immediately know if one or the other had a more significant impact. There is potential for additional action research regarding any of these aspects of my study.

This study set out to explore the impact of professional development on teacher practice and subsequent child experience. Over approximately three weeks, I observed a significant change in the adults' interactions with the children's instances of Risky Play. I am inspired to question how significant the impact a longer period of time may have on the children's overall experience in the outdoor environment. Following this study, I can confidently recommend the use of professional development paired with continued coaching and reflection as a valid tool for altering teacher practice. I discovered and explored connections between teacher practice and child experience that had not been previously discussed in the literature, namely in relation to toddlers' engagement in Risky Play. This study invites additional research regarding toddlers' participation in outdoor Risky Play.

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Appendix A

Observation Form

Date:

Time:

Behavior (Child)	Intervention (Adult)	Result (Child)
<p>Hazardous</p> <ul style="list-style-type: none"> - Past boundaries - Violence 	<p>Negative</p> <ul style="list-style-type: none"> - Shouting - Forbidding behavior - Unsolicited physical removal from situation 	<p>Negative</p> <ul style="list-style-type: none"> - Tears - Repeating hazardous behaviors - Retreating from play
<p>Neutral</p> <ul style="list-style-type: none"> - Play that does not include hazardous or risky elements 	<p>Neutral</p> <ul style="list-style-type: none"> - Reminder of Rules - Praise 	<p>Neutral</p> <ul style="list-style-type: none"> - No change
<p>Risky Play</p> <ul style="list-style-type: none"> - Great heights - High speed - Harmful tools - Near dangerous elements - Rough-and-tumble 	<p>None</p> <ul style="list-style-type: none"> - No intervention 	<p>Positive</p> <ul style="list-style-type: none"> - Joyful expression - Creative play - Social interaction

Narrative notes:

Appendix B

Attitude Scale

Attitude Scale for Outdoor Risky Play

I feel comfortable letting the children climb	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I can observe the children playing without feeling the need to intervene	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
It is okay for the children to fall	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel comfortable letting the children explore the woods	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I know the difference between hazards and risks	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Being in nature has a calming effect on me	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I can trust the children with their own development	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I believe the children are capable of problem solving independently	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I understand the importance of spending					

time in nature with the children	Strongly Disagree Disagree Neutral Agree Strongly Agree
I am confident in my responsibilities in the outdoor environment	Strongly Disagree Disagree Neutral Agree Strongly Agree

For researcher use below dotted line

Subject:

Round 1

Round 2

Score:

Appendix C

Journaling Prompts

First Journal Entry: Please write about your experiences with and feelings about the outdoor environment and risky play.

Daily Journal Entry: You may journal during nap time, on your break, or after work. Please return your journals to me by 3:00 each Friday during the study. Please write daily about your experiences with the children in the outdoor environment. You may respond to any of the following prompts or you may free-write on any aspect(s) of the experiences.

- Write about a time when you intervened with the children's play.
- Write about a time you chose not to intervene with the children's play.
- Write about how you felt in the outdoor environment.
- Write about something that you felt went well in the outdoor environment.
- Write about something that you felt could've gone better in the outdoor environment.
- Write about an observation you made of a child or children in the outdoor environment.
- Write about something you learned in the outdoor environment today.
- Free-write!

Appendix D

Interview Questions

Subject:

1. How would you describe your relationship with nature as a child?
2. How would you describe your relationship with nature now?
3. Did you utilize nature play with your own children? How? How often?
4. How do you feel when walking through the woods with the children?
5. How do you feel when you see a child engaging in play that might result in minor injury?
6. Can you explain the difference between “hazards” and “risks”?
7. What do you feel are your responsibilities in the outdoor environment?

Appendix E

Google Slides Presentation

St Catherine University Thesis Project Fall 2021

Impacts of Early Childhood Professional
Development on Educator Practice and Subsequent
Student Experience in the Outdoor Environment

Agenda

- I. Welcome
 - II. Surveys
 - III. Journals
 - IV. Interviews
 - V. Data Collection and Confidentiality
 - VI. Presentation
 - VII. Closing
-

Welcome

Thank you everyone for agreeing to participate in my research. This project is crucial to the completion of my Masters Degree and I appreciate your enthusiastic support.

Surveys

You will fill out this survey once today and again at the end of the three week period. It should only take a few minutes. Please reach out with any questions!

Journals

Research has shown that regular reflection improves outcomes of professional development measures, so you will be engaging in reflection through journaling over the next three weeks.

Daily journals will take approximately 10 minutes each day. Don't feel the need to stretch your writing to take up the whole time, nor the need to stop if you would like to write more. You may journal during nap or before or after your shift. Please return your journals to me by the end of my day on Friday of each week.

Today, you will write your first journal. The topic will be slightly different than your daily journals, and may take slightly longer. Find a space where you feel comfortable and take your time! Please return your completed journal to me today.

Interviews

I have provided the interview questions beforehand so that you have had time to prepare answers if you chose to. Interviews will be audio recorded for my transcription purposes and will be destroyed with the rest of my data.

Interviews will be private and may take approximately 20 minutes each. While others are being interviewed, you may fill out your initial journal, consult the work days task list, take some time to recharge, or explore the nature outside our classroom.

Data Collection and Confidentiality

I will be observing your interactions with the children over the next three weeks. We will be utilizing the adventure playground from approximately 9:30 to 10:30 each morning as weather permits. My observations will not include personal identifiers and will be destroyed with the rest of my data. All data will be stored on a locked computer or iPad or in a locked section of my bag.

Montessori Philosophy

"Let the children be free; encourage them; let them run outside when it is raining; let them remove their shoes when they find a puddle of water; and, when the grass of the meadows is damp with dew, let them run on it and trample it with their bare feet; let them rest peacefully when a tree invites them to sleep beneath its shade; let them shout and laugh when the sun wakes them in the morning as it wakes every living creature that divides its day between waking and sleeping." - The Discovery of the Child

"When children come into contact with nature, they reveal their strength." - The Discovery of the Child

"Under the urge of nature and according to the laws of development, though not understood by the adult, the child is obliged to be serious about two fundamental things ... the first is the love of activity... The second fundamental thing is independence." - What You Should Know About Your Child

Montessori Philosophy (cont.)

"The hand is the instrument of intelligence. The child needs to manipulate objects and to gain experience by touching and handling." The 1946 London Lectures

"Praise, help, or even a look, may be enough to interrupt him, or destroy the activity.... The great principle which brings success to the teacher is this: as soon as concentration has begun, act as if the child does not exist." The Absorbent Mind

"As we observe children, we see the vitality of their spirit, the maximum effort put forth in all they do, the intuition, attention and focus they bring to all life's events, and the sheer joy they experience in living." The Child, Society and the World (Unpublished Speeches and Writing)

Importance of Outdoor Play: Resilience

Natural settings have restorative effects both physiologically and emotionally after the presence of a stressor (Ulrich, et al., 1991).

While children are more likely to exhibit significant psychological distress if they were exposed to significant risk, Wells & Evans (2003) found that those with access to natural environments showed convincingly less psychological distress regardless of risk exposure.

Photos were removed for the purpose of including this Appendix in my final action research paper.

Importance of Outdoor Play: Concentration

Ulset, et al. (2017) discovered that children between the ages of four and seven who attended centers where they spent more time outside exhibited greater concentration and less hyperactivity than those who spent fewer hours outside.

Ulrich, et al. (1991) also speculated that natural views were more calming in their study because they held attention without effort on the part of the subjects.

Photos were removed for the purpose of including this Appendix in my final action research paper.

Importance of Outdoor Play: Socialization

In a study in which the quality of the outdoor play spaces at two centers was improved, Brussoni, et al. (2017) found “significant positive effects on children’s play, social behaviors, and mental health” (p. 144).

Wells & Evans (2003) add that the buffering effect of nature may be contributed to its support of peer attachment.

Photos were removed for the purpose of including this Appendix in my final action research paper.

Benefits of Risky Play

Risk is key to developing problem-solving skills and a sense of competence (Harper, 2017).

Risky play consists of purposeful behaviors that induce thrilling positive emotions and expose children to stimuli that they may have previously feared or avoided or been prevented from experiencing (Harper, 2017).

Children will never learn how to maneuver risk if they are never allowed.

What is the difference between Risks and Hazards?

Harper (2017) differentiates between hazards, which present only the possibility of a negative outcome, and risks, which offer an opportunity for gain alongside the potential for harm.

Children willingly seek out these types of activities that they may perceive as potentially dangerous because they provide thrilling experience and opportunities for mastering skills which outweigh the possible negative consequences (Sando, et al., 2021).

As cited by McFarland & GullLaird, Warden (2011) asserts that “the adult role is to remove hazards that the children do not see, not the risks within the play” (p. 161).

The children are capable!

Videos were removed for the purpose of including this Appendix in my final action research paper.

What Not to Say

"Be careful"

"Slow down"

"Stop"

What to Say Instead



What happens if someone gets hurt?

If someone is injured, we will follow normal school procedures. We will administer first aid and fill out an incident report, and I will notify the parents.

I will keep record of any injuries.

It is important to keep in mind that we are not asking the children to engage in any activity that they do not want to participate in. These are activities that they already show an interest in performing, but may have previously been prevented from doing so.

We will continue to prevent hazards that the children may not recognize.

Why are we doing this?

Adults hold the ability to support children's optimal development; they may also have the potential to thwart it. GradyDominguez, et al. (2021) found that adults' views on children's outdoor experiences could have a significant effect on their development.

Montessori (1966) argued the importance of the spiritually prepared adult. McMillan, et al. (2012) followed Montessori in encouraging reflexive inquiry used to piece together contextual elements of an educator's "past, present, and future in regard to practice, experiences, and potential" (p. 8).

Montessori (1967) also valued authentic experience in tandem with theoretical knowledge. Sheridan, et al. (2009) describe a supporting process of adopting new professional practice; it consists of initial training, application, and refinement. The latter two must happen in the environment with the help of continual coaching.

Closing

Thank you so much for agreeing to participate in my research. I will provide regular coaching as is deemed needed and am available to answer any questions throughout the data collection period.

I want you all to see this as a learning experience. Know that there is no wrong answer, and that we all always have room to improve.
