

THE IMPORTANCE OF CHILDREN'S TIME SPENT IN NATURE AND THE
ROLE OF PARENTS AS ACTIVE OUTDOOR PLAY PARTNERS

by

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CHAPTER ONE

THE IMPORTANCE OF NATURE IN EARLY CHILDHOOD

Introduction

The world we live in is one where the amount of time we spend indoors heavily outweighs the amount of time we spend outdoors. Four out of five Americans live in neighborhoods that limit contact with nature and on average 90% of a person's day is spent indoors (Frumkin, 2017). Major areas of human development, including spiritual existence, social-emotional health, cognition, mental health, and physical well-being all become a concern when nature exposure is lacking (Mygind, 2021; Schein, 2014; Sharma-Brymer, 2016). Within this reality, there is a pernicious impact on the budding growth of young children. On average, American children spend less than 30 minutes a day engaging in unstructured play outdoors (Health Benefits and Tips, n.d.). Play is an essential experience in children's learning and overall development (Cevher-Kalburan, 2015), and when children play outdoors they practice independence through decision making, problem solving skills, language, creativity, self-confidence, motor skills, and controlling their own behaviors and emotions (Zamani, 2016).

Direct and indirect exposure with nature are both highly important for young children's quality of life, sensory exploration, healthy development, and overall well-being (Beery, 2017; Keniger, 2013; Omidvar, 2019). Nonetheless, children are spending a limited amount of time outdoors due to parental influences and attitudes towards nature, access to green spaces, urbanization,

and the rise of technology (Ahmetoglu, 2019). Despite research-based evidence demonstrating the importance of outdoor play and time spent in nature, there is still a lack of attention paid towards taking young children outside. To address this concern and increase children's time outdoors, parental figures and trusted adults can provide the gateway for children's exposure to the natural world (Lindsey, 2019). This literature review will further illuminate why being immersed in nature is highly important to young children's health and well-being, why spending time playing outdoors is fundamental for development during early childhood, why children are often lacking outdoor play time, and how to best help children thrive in natural learning environments. The overall purpose of this project is to provide a curriculum-based program for parents and caregivers to enhance their knowledge and understanding of the importance of play in nature and to encourage them to go outside with their children more. It is expected that parents' and caregivers' knowledge and understanding regarding spending time in nature, and their engagement in meaningful outdoor play with their child(ren) will increase following the workshop.

CHAPTER TWO

LITERATURE REVIEW

Children's Need for Nature

Both research and theory support the need for nature experiences during early childhood and show how spending time playing outdoors is vitally significant. Children from birth to 6 years old should be spending time outdoors at least 2-3 times a day in increments lasting between 60-90 minutes (Caring for our Children, n.d.). Children need to be exposed to nature consistently during early childhood, provided with stimulating ways to interact with nature, and given opportunities for unstructured play in outdoor environments (Dankiw, 2020). Within natural environments such as parks, forests, and wildlife reserves, children feel more encouraged to learn, appreciate the environment around them, and they become interested in topics that may have otherwise seemed uninteresting in indoor spaces (Ballantyne, 2002). Outdoor environments positively impact physical and cognitive functioning (e.g., maintaining focus and problem-solving) (Keniger 2012). Unstructured and structured play outdoors allows children to move their bodies and engage in activities in various ways from moderate to vigorous movements (Caring for our Children, n.d.). When children are deeply engaged in play, they are developing mastery of building relationships with adults and peers as well as developing social and language skills (Loebach, 2020). Spending time playing outside encourages children to become more in tune with the world around them, show increased feelings of joy, have reduced

levels of stress, and be better at managing their emotions (Omidvar, 2019; Schein, 2014). Outdoor play allows children to not only enhance their development, but to do so with a profound sense of freedom that cannot be matched by being indoors (Kernan, 2009).

Reducing the Risk for Nature Deficit Disorder

Richard Louv cultivated the concept of Nature Deficit Disorder (NDD), which demonstrates the importance of children being immersed in nature and reducing the amount of time spent indoors. Nature deficit disorder provides insight on how children's development, behaviors, and well-being are negatively impacted by increased time spent indoors and decreased time spent outdoors (Warber, 2015). When children are deprived of time spent outdoors, they are at a higher risk for childhood obesity, lack of social skills, attention-deficit disorder, and mental health challenges (Driessnack, 2009). In his book, *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder*, Louv discusses why children need nature, and he explores the pressing issue that children are losing their bond with nature and therefore a deficit is created (Louv, 2008). Louv explains how urbanization, fewer natural spaces, increased screen time, our car-focused culture, time constraints caused by work or school, and higher perceptions of risk are factors that contribute to a decrease in contact with nature for both adults and children (Warber, 2015). Although the deficit referenced by Louv is not a bona fide disorder recognized by the DSM5, nature deficit disorder is a way of conceptually thinking about how crucial time spent in nature is for young children (Warber, 2015).

Nature deficit disorder has prompted a U.S. movement to increase children's physical, mental, and emotional well-being through their connection with nature called *Leave No Child Inside* which supports "a world in which all children play, learn, and grow with nature in their everyday lives" (Leave no child inside website, n.d.). The natural environment for children's play is one where creativity and exploration are not limited, yet the freedom to learn outdoors in today's world is declining (Beyer, 2015). While older generations may hold fond memories of climbing trees, exploring rocks being thrown in a lake, and just simply enjoying playing outside, this is not always the case for young children today (Yanez, 2017). One key element that Louv touches on is the importance of parents and their role in encouraging and providing more unstructured outdoor play time for children (Bingham, 2009). With ever growing research to support his findings related to healthy child development and direct nature exposure, Louv strives for change to be made within communities, schools, and families to increase time spent outdoors, and he stresses the importance of "nearby nature" experiences such as taking a walk outside (Bingham, 2009; Richard Louv, n.d.).

Supporting the Theory of Biophilia

Nature exposure is extremely important since a lack of it can put children at risk for developing not just Nature Deficit Disorder, but decreased Biophilia (Zhang, 2014). Biophilia is the theory that explains the positive emotional connection that is felt when a person is interacting within natural environments and the genuine feelings of connection with nature it creates (Zhang, 2014; Olivos-Jara, 2020). Biophilia is a term coined by Eric Fromm that stems from the

Latin root of the word “love of life” and constitutes a love of nature and all living things (Cho, 2018; Webb, 2021). Children younger than two years old are capable of displaying biophilia, but to have a true love for nature, children need opportunities to be stimulated and develop a curiosity to learn in natural environments (Fattorini, 2017). Conversely, the fear of nature is termed biophobia, which results from a lack of direct experiences within nature, and it contributes to a negative perception of the natural world (Cho, 2018).

There is a concern that when children are lacking access to nature and outdoor environments that biophobia may develop and block the developmental benefits of time spent outdoors. For example, Olivos-Jara (2020) measured levels of biophilia and biophobia by examining children’s (aged 5) emotional responses to natural images such as trees, flowers, various animals and natural processes using an Emoji rating scale (happiness, sadness, fear, disgust, and surprise). The results from this study showed that children’s most frequent emotional response towards the natural images was linked to happiness (Olivos-Jara 2020). Although this study did not measure direct developmental benefits of time spent in nature, it suggests that natural elements can increase feelings of happiness, which is an important developmental outcome. Creating genuine positive emotional responses such as happiness to nature requires children to become directly involved in the learning process where they can do more than simply appreciate what exists, but also to feel a part of the natural world (Cho, 2018). In summary, time spent outside can reduce Nature Deficit Disorder and increase children’s biophilia. In addition, nature has the potential to positively

impact children's physical health and well-being, thinking, and social-emotional skills.

CHAPTER THREE

NATURE'S BENEFITS FOR CHILDREN'S HEALTH AND DEVELOPMENT

Nature is one of the best experiences and environments for children's learning, growth, and overall healthy development (Loebach, 2020). Beyer (2014) used an Attitudes toward Outdoor Play scale with children ages 9-13 and found that 85% of children agree that playing in nature helps them to think more clearly, and 93% of children agreed that playing outside in nature makes them healthier (Beyer, 2014). If children are able to identify the positive impacts that nature has for them during middle childhood, integration of outdoor play early on in life is likely essential for optimal development and health. Li et al. (2021) defined health as a person's mental, physical, and social-emotional well-being, and it includes the benefits of nature exposure as a key factor in the trajectory of health throughout a person's lifespan. A growing body of research examines how children's social-emotional, mental, physical, and cognitive development are all heightened when they interact with nature and spend more time outdoors (Mygind, 2021; Schein, 2014; Sharma-Brymer, 2016).

Social-Emotional Development and Mental Health

As early as two years of age, children begin to develop a sense of self, form their own identity, and build a connection to the world around them (Olivos-Jara, 2020). Hands-on nature contact has been shown to positively increase children's social relationships, emotional well-being, and mental health (Maller, 2009). Children's mental health has been closely linked to social, emotional, and

psychological well-being (Tillman, 2018). Research has shown that a disconnect with nature contributes to greater symptoms of ADHD (Van Den Berg, 2011). However, when children have more access to greenness in their neighborhoods, their symptoms for ADHD are reduced (Li, 2021). Increased exposure to natural environments contributes to a higher likelihood of a decrease in children's anxiety, depression, and overall stress levels (Coe, 2016). Being in touch with nature and nature connectedness, as discussed above, can create emotions such as calmness, joy, creativity, and facilitate concentration which combat poor mental health outcomes related to anxiety and depression (Mental Health Foundation, n.d.).

Being immersed in nature promotes children's abilities to build deeper connections with the world around them, encourages them to connect with others, and helps them to learn about themselves on a deeper level (Schein, 2014). Play, especially outdoor play, enables children to develop heightened empathy, resilience, emotional regulation, and self-confidence (Bento, 2017; Harper 2020; Woolley, 2013). To support this, Richardson (2017) found that when children (aged 4-6) have more access to green spaces such as gardens, they score higher on a Social and Emotional Strengths and Difficulties Questionnaire (SDQ). Nature exposure not only positively impacts children's self-confidence and self-regulation, but it also helps children to learn essential skills for building interpersonal and intrapersonal relationships (i.e., relationship with one's self and relationships with others-peers and/or adults, respectively).

Additionally, children are practicing how to engage in cooperative play, communication, problem-solving, and conflict resolution (Mirrahimi, 2011).

Physical Health and Motor Development

Unfortunately, many children are not as physically active as they could be. With more than 20% of children struggling with obesity and being overweight by the time they have reached their 6th birthday, policy makers and The World Health Organization have advocated for changes to be made to improve the quality of children's outdoor learning environments (OLE) (Moore, 2014). The amount of physical activity in children's outdoor learning environments is a leading factor in decreasing rates of childhood obesity, fostering play, and supporting physical development (Smith, 2014). Dinkel (2019) found that children in childcare centers were physically active for more than half the time they were taken outside; yet the amount of time they were given to be out in nature was limited to less than once a day and did not fall within the 60-90 minute range (Dinkel, 2019). CDC guidelines and numerous studies agree that children should spend at least 60 minutes a day engaging in physical activity, but most children are not achieving this amount of movement time, let alone spending this time outdoors (Health benefits and tips, Caring for our Children, n.d.; McFarland 2014; CDC 2020).

Although spending time outdoors is associated with increased physical activity, many studies have shown that sedentary behaviors and screen time are at an all-time high for children (Tremblay, 2015). One study noted that children's sedentary behaviors at home and at school were greater than 60% during the

course of a day (Tandon, 2016). Increased sedentary behaviors are likely to lead children to participate in increased screen time which contributes to negative associations with nature, elevated negative moods, school interference, and impacted daily functioning (Wang, 2021). Excessive sedentary behavior can result in decreased physical activity and can lead children to develop health problems such as obesity, cardiovascular disease, and diabetes (Tortella, 2015). Casey (2015) looked at the relationship between children's (aged 3-12) outdoor play time, physical activity, cardiovascular fitness, muscular fitness, sedentary behaviors, and motor development and found that spending time outdoors is positively related to increased levels of physical activity and negatively related to sedentary behaviors. In short, the more active children are, the more physically healthy they tend to be; and the more time children spend outside, the more likely they are to engage in moving their bodies (Sharma-Brymer, 2016).

Movement is a way for children to experience the world and better understand their environment. When children are moving their bodies outdoors, they improve their fine and gross motor skills as well as gain control by repeatedly practicing mind to body connections (Pesce, 2016). When a child jumps, they can begin to learn the concept of high and low; when they crawl, they can get from point A to point B; and when they climb, they are practicing balance and coordination (Nel, 2017). Being physically active is essential for numerous reasons. Not only does physical movement help children to maintain the overall health of their bodies and minds, it enables them to build fundamental motor skills (Aulia, 2019). Fundamental motor skills can be defined as the use of large

and small bodily movements. Fine motor (manipulative) skills require small muscle movements (i.e., the hands and feet) and hand-eye coordination. Children can engage in the manipulation of small objects such as stacking blocks or picking up rocks and putting them into a jar (Suggate, 2017). Other manipulative activities can include throwing, dribbling, and kicking (Lim, 2017). Gross motor (locomotor) skills can be demonstrated by the use of bigger body movements such as hopping, climbing, and jumping. The motor skills that children practice during time spent outdoors not only increases their physical development, but functional motor behavior is a form of play that is linked to cognitive development (Zamani, 2016).

Cognitive Development

Studies have shown that when children have exposure to natural environments, their abilities to perform cognitive tasks are better (Mygind, 2018). Natural environments encourage children to engage in conflict resolution and focused play and activities that requires effortful and effortless attention necessary for optimal cognitive development (Ulset, 2017). Attention Restoration theory explains how a person's cognitive capacity to maintain directed attention can be restored after a period of fatigue when they are exposed to natural environments (Martensson, 2009). Children's increased attention and cognitive performance during time spent in nature can be due to lower distractions and better air quality in outdoor environments (Ulset, 2017). Studies have shown that during time spent in nature, preschool children are able to identify specific natural elements (i.e., animals and plants), become aware of actions and consequences,

and understand rules on how to protect and care for nature when interacting in natural environments (Yanez, 2017).

Outdoor time allows children to engage in cognitive play that is functional, constructive, exploratory, dramatic, and includes games with rules (Zamani, 2016). Jean Piaget is well known for his research on the stages of cognitive development that children go through during different periods in their lives (Western Governors University, 2020). Pretend play outdoors supports children's cognition during the sensorimotor and preoperational stages of development where children learn to understand the world through their sensory experiences, language, and symbolic thinking (Mcleod, 2020; Li, 2016). Being outdoors expands children's scientific thinking because they can make inferences, measure objects, and practice observation (Yildirium, 2017). Activities in nature such as playing with natural elements like soil and water can provide children with advanced opportunities to learn about mathematics and science, and it also promotes language acquisition (Bento, 2017). For example, a child making mud pies can estimate, measure and predict the ratio of water to soil, or learn how to identify and count using natural materials like pinecones (Honig, 2017).

CHAPTER FOUR

THE IMPORTANCE OF PARENTS AND CAREGIVERS TO CHILDREN'S OUTDOOR PLAY

Parents and caregivers are highly linked to the relationship between children's time spent outdoors and the developmental benefits that they can reap. Studies have shown that when parents spend more time outdoors, naturally so do their children (McFarland, 2014). The reality is that even though 87% of parents and caregivers agree that playtime outside is highly important, the majority of children's outdoor time amounts to only 30-60 minutes a day (Jayasuriya, 2016). Although many parents believe that there is a great risk if their children "miss out on the opportunity to experience the natural environment", and that outdoor play has been found to be important to children's overall health, development, and well-being, children are still not being given ample time to play outdoors for a variety of reasons (Health benefits and tips; Loebach, 2020; Puk, 2020). In addition to making sure that children have access to outdoor play spaces, parents play a role in dictating the types of outdoor spaces children use and how such use unfolds.

Provision of Varied Outdoor Play Spaces

Children's social, mental, and physical development and well-being all strongly benefit when they have access to a diverse range of outdoor play spaces (Perez-del-Pulgar, 2021). Having diversity in outdoor play spaces is a way to meet the needs of children of diverse ages, developmental stages,

genders, and physical abilities (Perez-del-Pulgar, 2021). High-quality outdoor play spaces are necessary in ensuring that children have opportunities to engage freely in unstructured and structured nature-based play (Cox, 2018). Various spaces to play outdoors encourage children to engage in unstructured object play, pretend play, and physically active play (Brussoni, 2012). Outdoor play spaces can be looked at from a geographical perspective marked by three zones: Manufactured, Natural, and Mixed. Manufactured zones include manmade structures such as swings, climbing structures, and play houses that promote gross motor development (Zamani, 2016). Studies have shown that children benefit from having both portable (e.g., balls, garden tools, scarves) and fixed equipment (e.g., swings, slides, play structures) in their outdoor play environments. For instance, the SHAPES Intervention Program encourages both unstructured and structured outdoor play time, and studies have found that by increasing accessibility to portable equipment, children's sedentary behaviors decreased and their locomotor and manipulative activities increased (Coe, 2018).

Providing children with a Mixed Zone environment enables elements of both Natural and Manufactured Zones which in turn encourage a variety of learning experiences. Natural zones provide children with open-ended natural materials such as plants, sand, trees, and wild spaces for hands on learning and exploration (Kras, 2021; Zamani, 2016). Natural outdoor playground spaces have been shown to have higher restoration properties for children (e.g., reduced stress and increased attention) (Harper, 2018). A journal review that examined the cause and effect relationship between nature and learning found that the

levels of motivation and engagement for both children and teachers were higher during nature activities and the act alone of being present in natural settings resulted in higher intrinsic motivation (Kuo et al, 2019). With positive outcomes resulting from both types of outdoor play spaces, it would follow that it is important for parents to provide a Mixed outdoor environment to motivate children to further explore the natural elements outside, create dramatic play, and enhance their constructive thought process (Zamani, 2016).

Allowing Opportunities for Risky Outdoor Play

During outdoor play, children will be faced with experiences that tap into feelings of uncertainty (for both adults and children), challenge their skill levels, and require them to take risks. Early childhood education and care centers have defined risky play as play where children may encounter great heights, high speeds, dangerous tools and elements, rough-and-tumble play, and strong impacts (Sandseter, 2020). Risk and involvement in risky play have been shown to be a concern that parents hold that limits children's ability to freely explore during outdoor play (McFarland, 2014; McFarland, 2018). Providing children with risky play opportunities are often a result of parenting styles: authoritative parents are seen to be more likely to allow risky play to naturally evolve and encourage challenges, whereas authoritarian parents are seen as more power-assertive and seek to adhere control which can present limitations in risky play (Cevher-Kalburan, 2014). This is unfortunate as risky play has many developmental benefits. For example, rough and tumble play between children and fathers has been shown to increase children's social and emotional regulation (Smith, 2015).

Risky play looks a little different in children one to three years old versus children four to thirteen years old due to their developmental capabilities, but nonetheless engagement in risky play helps children to increase activity levels and improve their physical development (Sandseter, 2020). Risky play often is constructed through physically active play, and it supports an increased sense of pride and self-confidence for children as they take on new challenges that stimulate their bodies and minds (Brussoni, 2012; Herrington, 2015; Zamani, 2016). Lim et al. (2017) examined children's outdoor play environments and found that 30% of children were lacking in gross motor opportunities during physically active (risky) play due to limited opportunities to engage in manipulative and stability movements, including catching, dribbling, pivoting, and the use of inverted supports (e.g., balance beams and ramps) (Lim, 2017). Children who attend schools and programs that focus on nature learning (e.g., Forest and Nature-Based Schools) are strongly supported and encouraged to engage in risky outdoor play within natural environments where they may fall, get bruised and cut, and be exposed to various weather conditions (Harper, 2020). Allowing children to learn through trial and error during risky play provides them with skill building on how to deal with unpredictable environments, gain resilience, and boost emerging self-confidence (Bento, 2017; Harper 2020).

Serving as an Active Play Partner

Both Vygotskian and attachment theory speak to the importance of parents and caregivers in the lives of children and as active partners in their play. Lev Vygotsky's sociocultural theory suggests that time spent learning by doing, in the

context of scaffolded interactions with significant others, is important for children's healthy development (Western Governors University, 2020). Play is one of the best ways for children to learn new skills, advance developmentally, make sense of the world, and create a greater understanding of who they are (Cevher-Kalburan, 2015). Children's cultural contexts strongly influence the types of opportunities and experiences they have for engaging in play (LaForett, 2016). Vygotsky explains how relationships are intertwined between human social interactions, cultural values, beliefs, and society as a whole (Western Governors University, 2020). For example, language is an essential cultural instrument that parents can provide children to support their cognition and social interactions during play (Eason, 2021). By understanding the connections between the sociocultural aspects of children's lives such as family values and beliefs, we can see how they impact the amount of time children spend in natural environments and engage in outdoor play (Sharma-Brymer, 2016).

Interacting with children through play in meaningful ways is one of the best ways to build a strong parent-child relationship (Smith, 2015). Attachment research demonstrates how children in secure relationships with adult figures in their early years benefit overall developmentally and this relationship helps them to create a healthy emotional attachment to the natural world where they feel more confident to freely explore in their environments (Olivos-Jara, 2020). Play is the primary means for children to interact with others, boost development, and learn vital skills such as turn taking and the regulation of big emotions (LaForret, 2016; Ritblatt, 2019). Parents play a huge role in children's play outdoors by

facilitating, creating, and directing what types of activities children engage in, how they utilize materials, and the level of support that they have during play (Ooi, 2020). For example, when caregivers model physical activity during outdoor time, it supports children's developing motor skills (Coe, 2018).

A common theme of both Vygotskian theory and attachment research is the importance of high quality interactions between children and their caregivers. High quality interactions are touted in the field of early childhood education and care (ECEC); but are useful for anyone engaging in play with young children (Tonge et al. 2018). When children are provided with explicit communication and hands on sensory learning experiences, they are more likely to create long-lasting knowledge (Stolpe, 2012). Scaffolding, which is an experiential learning tool, can be used by parents to create further engagement and enjoyment during outdoor play (Ritblatt, 2019). One study explored scaffolding during a botanical garden camp when two young children's curiosity was sparked while exploring wild berries in nature where they were able to use all their senses throughout their experience (Linzmayer, 2013; Coe, 2016). When children are given the chance for hands-on learning experiences and exploration where they can use all their senses (sight, taste, smell, touch, and sound), they can become more deeply connected with nature and are provided with an elevated sense of wonder and discovery. (Beery, 2017; Coe, 2016; Linzmayer, 2013). This single moment in discovery combined with adult support created a long-lasting positive impact socially and emotionally for these children, and allowed them to develop a healthy relationship with nature (Coe, 2016; Linzmayer, 2013). In sum, when

adults take time to support children's time spent outdoors, a vast array of learning and development is promoted (Tonge, 2019). To create more opportunities for children's outdoor play, education to understand the importance of play and the benefits of natural environments needs to be shared with parents and caregivers to eliminate the mismatch between children's time spent in nature and caregiver's attitudes and ideas.

Access to Nature-Based Learning

Nature and natural environments can be defined as space that has access to nature activities, natural settings (vegetation, landforms, surfaces, weather), and natural elements/living things such as plants, water, and animals (Frumkin, 2017; Liu, 2020; Kras, 2021). Programs for young children that include nature-based elements contribute to increased mental health, self-esteem, self-efficacy, self-concept, resilience, problem-solving, academic performance, cognitive performance, mood, less psychophysiological stress, greater physical activity, and fewer behavioral challenges (Mygind, 2019). Nature-based programs tend to heavily focus on nature infused learning both indoors and outdoors, high-quality interactions, and developmentally appropriate practices (Larimore, 2016). Nature-based learning is keen on using child development knowledge, building children's independence, using the natural environment, and providing a safe space for children to be innovative, creative, and active learners (Yuliani, 2021). Constructivism is a theory that supports nature-based learning because it focuses on how children construct their own knowledge of the world,

demonstrates how learning is an active process, and it recognizes that the way individuals learn is personal (Brau, 1997; McLeod 2019).

Nature-based learning is highly appropriate for young children's development given that it supports scientific thinking on how a person learns and understands the world using elements of nature (Aulia, 2019). Children can engage in both object and pretend play when they are outdoors where there are limitless possibilities for imaginative thinking, games with fantasy, games with rules, and the creativity to try out new ideas that emerge (Honig, 2017; Robson, 2012). Through nature-based learning, children can freely choose what activities they want to engage in and how they want to play (Aulia, 2019). A 2013 study found that when children were offered over 100 various play materials, the areas with art materials and with natural materials such as sand and water were touched the most by more than 70% of the children (Swank, 2015). Other natural materials that children can utilize during outdoor play include trees, flowers, grass, sand, water, seeds, stones, and dirt (Liu, 2020). Natural materials also known as "loose parts" provide children with opportunities to engage in play that is open-ended, unstructured, and child-led (Gibson, 2017). Incorporating loose parts into children's active outdoor play promotes creative thinking, physical skills such as risk-taking, independence, social and emotional skills, and overall health and wellness (Spencer, 2019).

Sometimes schools that adopt this philosophy (of spending ample time outdoors rather than indoors) are referred to as forest schools. Forest school kindergarten programs have children spend 70%-100% of their day outside and

immersed in nature (Larimore, 2016). The forest school play pedagogy supports an emergent, play-based, and inquiry-based curriculum which gives children opportunities to freely explore the natural world around them and engage in focused learning activities in natural environments (Harper, 2018; Coates, 2018). One study noted that when teachers used strategies during a forest excursion such as identifying specific characteristics and comparing species and natural elements with objects in everyday life, their students were better able to understand concepts in the natural space (Stople, 2012). Nature-based learning not only provides children with numerous opportunities to understand the world around them, but it also affords opportunities to create connections with nature and connections with one's self (Rose, 2014). Puk (2021) examined parental attitudes towards Nature-Based Learning and found that parents allowed their children the freedom to play outside when they themselves had positive experiences in natural environments. Parents and caregivers can adopt a nature-based education program with their children. By doing so, their children will be supported in gaining the benefits of spending time outdoors which can provide a restorative and culminating experience that helps create an internal bond between children and nature (Haas & Ashman, 2014).

Parental Inhibitors to Children's Outdoor Play

Although there are many things that parents can do to enhance the opportunity for their children to gain developmental benefits from time spent in nature, as noted above, there are many reasons why parents do not spend enough time with their children in nature. One reason, as noted earlier, is that

parents have concerns about risky play and are reluctant to take advantage of the opportunities the outdoor environment affords with regard to this type of activity. Time is also a big reason why many parents are not as involved in outdoor play with their children. Parents, especially mothers, find it hard to balance their work and home lives, thus resulting in less time spent outside with their children (Boxberger, 2019). Active outdoor play (AOP) has been examined by interviewing mothers about perceptions on how to manage their daily lives to include outdoor play time. Many mothers opened up about how they do not spend enough time with their children outside due to time constraints, and they often feel guilty for dismissing time that could be spent outdoors (Clark, 2020). In addition, lower parental education and socio-economic status (SES), as well as being of a minority ethnic group, are factors that have been shown to contribute to less time children spend playing outdoors and lower levels of engagement from parents (Boxberger, 2019).

Furthermore, research has shown that parental knowledge of nature and cultural experiences impact the time that children spend outdoors (Fattorini, 2017). Parental attitudes and beliefs are one of the leading factors that limit children's time spent playing outdoors (Ahmetoglu, 2019; Cevher-Kalburan, 2015). While many parents wish they spent more time outdoors with their children, some have constant fears of the outdoor world (Witten, 2013). Sadly, studies have shown that 50% of parents are fearful of stranger danger and more than 20% of parents are afraid of their children getting sick while playing outside in cold weather (Tandon, 2016; Kennedy, 2018)

CHAPTER FIVE

EXISTING OUTDOOR EDUCATION PROGRAMS FOR PARENTS AND CAREGIVERS AND THEIR LIMITATIONS

Previous work regarding nature exposure clearly show that outdoor experiences are beneficial to children's development and that there is much that parents can do to maximize children's time and experience in outdoor settings. Unfortunately, parents don't always know why it is important to play outside or what they can do to enhance children's play outdoors. This suggests that it is important to share this information with parents and encourage them to take their children outdoors and thoughtfully interact with them during that time.

Web browsing through Google and using Apps like Pinterest and YouTube make it extremely easy to find information about fun things you can do outside, but this smorgasbord of activities does not provide an in depth understanding behind the "Why." Why is nature important for your child? How can you be developmentally appropriate when spending time outdoors with your child? What does developmentally appropriate practices actually mean? What are the benefits of immersing your child in nature early on? This is just the tip of the iceberg of questions that many parents would not even know to ask when researching this topic and wanting to educate themselves about outdoor play. While there are many great resources related to nature exposure for young children and outdoor play education for parents and caregivers, there are limitations in what currently exists.

As discussed above, Richard Louv made it clear that nature exposure during childhood is extremely important for development and his books, like many other authors addressing this topic, tap into what parents should be doing when it comes to spending time outdoors. In addition to *Last Child in the Woods*, Louv wrote a book titled *Vitamin N* (N is for nature), which provides families and communities with enriching nature activities, informational websites, and powerful messages to increase the amount of time spent in nature (Richard Louv. n.d.). Books such as those authored by Louv, educational nature programs and courses, and organizations like Leave No Child Inside, Natural Start Alliance, and Children Nature Network are all stepping stones for creating a world where children are exposed to nature. While these resources aim to increase parent's understanding of the importance of time spent in nature with their children and provide tools to actively participate in taking children outside to play, there is a need for greater resources for parents.

Some of the major limitations of existing programs that parents may participate in are related to cost, the intended audience, and a lack of focus on the importance of nature exposure during early childhood. First, many programs and courses are fee-based and this is not always feasible for parents and families. For example, a program called Forest Playgroup shows how this nature playgroup helps "children learn outside alongside a parent or caregiver" in order to foster emotional connections and strengthen education processes. The webpage states that children will engage in circle time activities in nature and claims to be a hands-on and meaningful learning experience through self-

discovery. However, this is a limited local Los Angeles playgroup class where you must pay to attend each class. Tinkergarten is another nature educational program geared towards providing outdoor play curriculum for children and parents through courses, but there is also a fee for attendance.

Secondly, many educational resources and programs, such as NatureExplore.Org and NAEYC are made with the intent to be used for teachers and childhood educators and not directly by parents and families. Nature Explore has a family resource toolkit, which does provide some information for parents, but the majority of the information is intended for educators. Similarly, the NAEYC provides many articles on child development related topics pertaining to nature and outdoor play, but they are not readily accessible to parents. Lastly, many resources and programs that are currently available are focused on middle and older childhood. For example, The Wild Center is a science-based nature learning activity program that focuses on more complex learning concepts like observing birds and learning about tree ecosystems that do not meet the needs of young children.

CHAPTER SIX

SUMMARY AND PURPOSE OF PROJECT

Given the importance of outdoor play for young children's development and the limitations of current outdoor education programs, the purpose of this project was to provide parents and families with a better understanding of the importance of nature and being immersed in outdoor learning environments with their children. Educating parents about nature allows for heightened learning in enriching environments for young children. The world has a plethora of opportunities to deepen exploration and learning in nature. If parents and caregivers of young children do not understand the importance of exposing children in the early years to outdoor spaces and natural environments, and how to do so, they may inadvertently hinder their child's development and limit valuable outdoor possibilities. Educational programs and sharing of research related to nature education and outdoor learning in early childhood are the first steps in guiding children's nature exploration. Unfortunately, there is a lack of educational resources and programs that support parent and caregiver understanding of the importance of outdoor play.

Thus, this project describes the development of an educational program for parents and caregivers regarding the importance of outdoor play and how to support such play in young children. Specifically, this program covered:

1. The Importance of Nature in Early Childhood
2. Nature's Benefits on Children's Health and Development

3. The Key to Supporting Children's Outdoor Play
4. The Role of Parent's and Caregivers to Children's Nature Exposure

CHAPTER SEVEN

METHODS

The following materials and procedures were developed for a hands-on workshop designed to be implemented with parents of young children. They provide a detailed account about how to prepare for and provide this workshop

Materials

Workshop Flyer

Potential participants for the workshop will be contacted and provided with a Workshop Flyer (e.g., *Need for Nature: Parent Education Workshop*) (Appendix A). Flyers can be sent by email or posted in applicable locations either in person or through social media. The *Need for Nature: Parent Education Workshop* flyer provides an example of information to include: the goals of the workshop (i.e., learning about the importance of nature and how to support children's outdoor play), the incentives to join (hands-on learning activities, free snacks and a booklet to take home), the location, the time, the date, and directions for registration.

Pre-Workshop Survey

Participants who register for the workshop will complete a Pre-Workshop Survey (Appendix B). The first portion of this survey includes questions related to age, gender, level of education, ethnicity, race, occupation, number of children the parent has, age/gender of said child(ren). The second portion of this survey assessed their existing knowledge regarding outdoor play and learning, the

amount of time spent outdoors with their child(ren), the types of activities they engage in during outdoor play time, the types of outdoor materials they use during play, their accessibility to outdoor play spaces, current comfort levels with nature experiences, and current concerns related to being outside and in nature. Participants should complete this survey prior to attending the workshop and answers can be used to fuel meaningful discussion during the workshop.

Post-Workshop Evaluation Survey

After the workshop is over parents should complete a Post-Workshop Evaluation Survey (Appendix C) to reassess their knowledge of the importance of outdoor play during early childhood and current concerns related to being outside and in nature. They will also asked to rate their overall satisfaction with the workshop and to provide feedback to the presenter. This will allow the presented to evaluate the success of the workshop and make revisions when providing the workshop in the future.

Workshop Agenda

Participants will be given a Workshop Agenda (*Need for Nature Agenda*) (Appendix D) when they arrive to the workshop.

Workshop Booklet

Participants will be given a Workshop Booklet (*Need for Nature: A Guide for Parent's and Caregivers*) (Appendix E) when they arrive at the workshop. The *Need for Nature: A Guide for Parent's and Caregivers* booklet will be used in conjunction with information from the presenter to discuss workshop content.

Procedure

On the scheduled day of the *Need for Nature: Parent Education Workshop*, participants will meet at the designated location listed on the flyer and will be provided with a physical copy of the Workshop Agenda, Workshop Booklet, a notepad, and pen.

Introduction To Workshop

The presenter will begin the workshop with basic introductions, an ice breaker activity, and an overview of the Workshop Agenda. Participants will be asked to share their names and answer the following questions: “Why did you want to participate in today’s workshop?” and “What is your favorite memory related to nature and spending time outdoors?”. After the ice breaker activity, the presenter will discuss participant answers from the Pre-Workshop Survey questions. Participants will be encouraged to share their thoughts, ideas, and ask questions throughout the presentation.

PART 1: The Importance of Nature in Early Childhood

The presenter will next begin the educational portion of the workshop. The first lesson of the workshop will cover *The Importance of Nature in Early Childhood*. The purpose of this section is to provide participants with a theoretical understanding of what Nature Deficit Disorder and Biophilia are and their impact on children. The presenter will then read the answers participants provided for item 7 (What is your current comfort level on being around nature and in natural environments?) and items 10-14 (Rank your emotional response to the image provided below) from the Pre-Workshop Nature Survey. Participant’s answers

will be used by the presenter to facilitate a discussion on personal feelings towards nature and natural environments.

The main points of this lesson were the following:

1. Reducing the Risk for Nature-Deficit Disorder

Nature deficit disorder provides insight on how children's development, behaviors, and well-being are negatively impacted by increased time spent indoors and decreased time spent outdoors (Warber, 2015). In his book, *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder*, Richard Louv (the person who created the concept) discusses why children need nature and he explores the pressing issue that children are losing their bond with nature and therefore a deficit is created (Louv, 2008). When children are deprived of time spent outdoors, they are at a higher risk for childhood obesity, under-developed social skills, attention-deficit disorder, and mental health challenges (Driessnack, 2009).

2. Supporting the Theory of Biophilia

Biophilia is the positive emotional connection that is felt when a person is interacting within natural environments and has genuine feelings of connection with nature (Olivos-Jara, 2020; Zhang, 2014). Biophilia is a term coined by Eric Fromm that stems from the Latin root of the word "love of life" and constitutes a love of nature and all living things (Cho, 2018; Webb, 2021). Children younger than two years old are capable of displaying biophilia, but to have a true love for nature children need opportunities to be stimulated and have a curiosity to learn in natural environments (Fattorini, 2017).

PART 2: Nature's Benefits on Children's Health & Development

The second lesson of the workshop will cover *Nature's Benefits on Children's Health and Development*. Participants' Pre-Workshop Nature Survey answers for item 15 (What is your level of agreement with the following statement? "Spending time in nature is beneficial for a person's overall health, learning and development.") will be reviewed at this time. The main points of this lesson are the following:

1. Social-Emotional Development

Being immersed in nature encourages children to build deeper connections with the world around them, including connecting with others, and to learn about themselves on a deeper level (Schein, 2014). Play, especially outdoor play, enables children to develop heightened empathy, resilience, emotional regulation, and self-confidence (Bento, 2017; Harper 2020; Woolley, 2013). Nature exposure not only positively impacts children's self-confidence and self-regulation, but it helps children to learn essential skills for building interpersonal and intrapersonal relationships (i.e. relationship with one's self and relationships with others, respectively).

2. Mental Health

Being in touch with nature and nature connectedness can create positive emotional responses such as calmness, joy, creativity, and facilitate concentration which combat poor mental health outcomes related to anxiety and depression (Mental Health Foundation, n.d.). When children have more access to greenness in their neighborhoods, their symptoms for ADHD are reduced (Li,

2021). Increased exposure to natural environments contributes to a greater likelihood of less anxiety, depression, and overall stress (Coe, 2016).

3. Physical Health

The amount of physical activity that children typically experience when engaged in outdoor learning environments is a leading factor in decreasing rates of childhood obesity, fostering play, and supporting physical development (Smith, 2014). CDC guidelines and numerous studies agree that children should spend at least 60 minutes a day engaging in physical activity, but most children are not achieving this amount of movement time, let alone spending this time outdoors (Health benefits and tips, Caring for our Children, n.d.; McFarland 2014; CDC 2020). Physical movement helps children maintain the overall health of their bodies and minds, and it enables them to build fundamental motor skills (i.e., large and small bodily movements) (Aulia, 2019; Suggate, 2017).

4. Cognitive Development

Studies have shown that when children have exposure to natural environments their abilities to perform cognitive tasks are enhanced (Mygind, 2018). Outdoor time allows children to engage in cognitive play that is functional, constructive, exploratory, dramatic, and it includes games with rules (Zamani, 2016). Pretend play outdoors supports children's cognition during the sensorimotor and preoperational stages of development where children learn to understand the world through their sensory experiences, language, and symbolic thinking (Mcleod, 2020; Li, 2016). Being outdoors expands children's scientific thinking because they can make inferences, measure objects, and practice

observation (Yildirim, 2017). For example, a child making mud pies can estimate, measure, and predict the ratio of water to soil or learn how to identify and count using natural materials like pinecones (Honig, 2017).

PART 3: The Key to Supporting Children's Outdoor Play

Following the second lesson, the third lesson of the workshop will cover *The Key to Supporting Children's Outdoor Play*. Participant's Pre-Workshop Nature Survey answers for item 9 (What is your current accessibility to outdoor play spaces and natural environments?) and item 20 (What is your current level of understanding/confidence regarding engaging with your child in meaningful outdoor play?) will be reviewed at this time. Participants will be asked to think about and brainstorm answers to the question "What do you think it means to support your child's outdoor play?" Following this discussion, the main points discussed in this lesson will be:

1. Exploring Various Outdoor Play Spaces

Children's social, mental, and physical development and well-being all strongly benefit when they have access to a diverse range of outdoor play spaces (Perez-del-Pulgar, 2021). Having diversity in outdoor play spaces is a way to meet the needs of children of diverse ages, developmental stages, genders, and physical abilities (Perez-del-Pulgar, 2021). High-quality outdoor play spaces are necessary to ensuring that children have opportunities to engage freely in unstructured and structured nature-based play (Cox, 2018). Various spaces to play outdoors encourage children to engage in unstructured object play, pretend play, and physically active play (Brussoni, 2012). Outdoor play

spaces can be looked at from a geographical perspective marked by three zones: Manufactured, Natural, and Mixed. Manufactured zones include manmade structures such as swings, climbing structures, and play houses that promote gross motor development (Zamani, 2016). Natural zones provide children with open-ended natural materials such as plants, sand, trees, and wild spaces for hands-on learning and exploration (Zamani, 2016; Kras, 2021).

2. Allowing Opportunities for Risky Play

During outdoor play children are going to be faced with experiences that tap into feelings of uncertainty (for both adults and children), challenge their skill levels, and require them to take risks. Early Childhood Education and Care Centers have defined risky play as play where children may encounter great heights, high speeds, dangerous tools and elements, rough-and-tumble play, and strong impacts (Sandseter, 2020). Risky play looks a little different in children one to three years old versus children four to thirteen years old due to their developmental capabilities, but nonetheless engagement in risky play helps children to increase activity levels and improve their physical development (Sandseter, 2020). Risky play often is constructed through physically active play and supports an increased sense of pride and self-confidence for children as they take on new challenges that stimulate their bodies and minds (Brussoni, 2012; Herrington, 2015; Zamani, 2016).

3. Providing Access to Nature-Based Learning

Nature and natural environments can be defined as space that has access to nature activities, natural settings (vegetation, landforms, surfaces, weather),

and natural elements/living things such as plants, water, and animals (Frumkin, 2017; Liu, 2020; Kras, 2021). Programs for young children that include nature-based elements contribute to increased mental health, self-esteem, self-efficacy, self-concept, resilience, problem-solving, academic performance, cognitive performance, mood, less psychophysiological stress, greater physical activity, and fewer behavioral challenges (Mygind, 2019). Nature-based programs heavily focus on nature-infused learning both indoors and outdoors, high-quality interactions, and developmentally appropriate practices (Larimore, 2016). Nature-based learning is keen on using child development knowledge, building children's independence, using the natural environment, and providing a safe space for children to be innovative, creative, and active learners (Yuliani, 2021).

PART 4: The Role of Parents and Caregivers on Children's Nature Exposure

After learning how participants can support their child's time spent playing outdoors, the presenter will transition to the fourth lesson of the workshop covering *The Role of Parents and Caregivers and Children's Nature Exposure*. The remaining Pre-Workshop Nature Survey item 8 (What are your current concerns with nature and outdoor play?), item 16 (How much time do you spend outside a day on average?), item 17 (How much time do you spend outside a day when you are with your child on average?) and item 18 (How much time do you think children should be spending outside a day?) will be reviewed. After these questions are reviewed, the main points discussed in this lesson will be:

1. Spending Time Outdoors with Your Child

Research has shown that parental knowledge of nature, sense of self, and cultural experiences affect the amount of time children spend outdoors (Fattorini, 2017). Parental attitudes and beliefs are one of the leading factors that limit children's time spent playing outdoors (Ahmetoglu, 2019; Cevher-Kalburan, 2015). Time is also a big reason why many parents are not involved in outdoor play with their children. Parents, especially mothers, find it hard to balance their work and home lives, resulting in less time spent outside with their children (Boxberger, 2019). While many parents wish they spent more time outdoors with their children, some have constant fears of the outdoor world (Witten, 2013).

2. Being an Active Outdoor Play Partner

Interacting with children through play in meaningful ways is one of the best ways to build a strong parent-child relationship (Smith, 2015). Play is the primary means for children to interact with others, boost development, and learn vital skills such as turn taking and the regulation of big emotions (LaForret, 2016; Ritblatt, 2019). Parents play a huge role in children's play outdoors by facilitating, creating, and directing the types of activities children engage in, how they utilize materials, and the level of support they have during play (Ooi, 2020). When children are provided with explicit communication and hands-on sensory learning experiences, they are more likely to create long-lasting knowledge (Stolpe, 2012). Scaffolding, which is an experiential learning tool, can be used by parents to create further engagement and enjoyment during outdoor play (Ritblatt, 2019).

3. Creating Hands-on Nature Activities

The remainder of the workshop will focus on the third point in this lesson: *Creating Hand-on Nature Activities*. This portion of the workshop is an interactive hands-on learning experience to show participants various ways to engage in play with their child(ren). Play is the primary means for children to interact with others, boost development, and learn vital skills such as turn taking and the regulation of big emotions (LaForret, 2016; Ritblatt, 2019). Parents play a huge role in children's play outdoors by facilitating, creating, and directing the types of activities children engage in, how they utilize materials, and the level of support that they have during play (Ooi, 2020). Materials and instructions for this portion will be provided by the presenter. Each participant will have the opportunity to engage with six interactive outdoor hands-on learning activities focused on development in the following areas: Cognitive, Physical, Creative Arts, Sensory Play, Language and Literacy, and Social and Emotional. Activities will be set up adjacent to the workshop itself.

Closing

After all workshop content is covered the presenter will review the goals of the experience and address any questions, comments and/or concerns. Participants will also be asked to complete the Post-Workshop Survey.

APPENDIX A
WORKSHOP FLYER

Need for Nature

Parent Education Workshop

Want to learn about the importance
of nature and how to support your
child's outdoor play?

Scan the QR code or click the link to sign up!

Limited Space Available
Sign-up by Wednesday May 18th!!

https://csusb.az1.qualtrics.com/jfe/form/SV_da54KEOCfOEQWq



Enjoy hands on learning activities, free
snacks & a learning booklet to take home 😊

Participants will complete a short Pre & Post workshop Survey

Thursday May 19th

10:00 AM- 1:15 PM

Infant Toddler Lab School

Hosted By Emma Herzog

cocorockpaper

APPENDIX B
PRE-WORKHSOP SURVEY

1. What is your gender?

- ☐ Male
- ☐ Female
- ☐ Non-Binary/Third Gener
- ☐ Prefer not to say

2. What is your race/ethnicity?

Mark all that apply

- ☐ Asian/Pacific Islander
- ☐ Black/African American
- ☐ Hispanic/Latinx
- ☐ White/Caucasian
- ☐ Native American/American Indian
- ☐ Other _____

3. What is your current level of education?

- ☐ Less than a High School Diploma
- ☐ High School Diploma
- ☐ Some College
- ☐ Associates Degree
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Other _____

4. What is your employment status?

Mark all that apply

- Unemployed
- Part Time
- Full Time
- Student

5. How many children do you have?

6. How old is/are your child(ren)?

7. What is your current comfort level on being around nature and in natural environments?

Please indicate using the following scale



8. What are your current concerns with nature and outdoor play?

9. What is your current accessibility to outdoor play spaces and natural environments?

- Not accessible
- Somewhat accessible
- Accessible
- Very accessible

10. Rank order your emotional responses to the image, where 1 is the emotion you feel the most and 5 is the emotion you feel the least.

- Distress/Fear
- Neutral
- Joy/Happiness
- Stress Reducing



- Disturbed

11. Rank order your emotional responses to the image, where 1 is the emotion you feel the most and 5 is the emotion you feel the least.

- Distress/Fear
- Neutral
- Joy/Happiness
- Stress Reducing
- Disturbed



12. Rank order your emotional responses to the image, where 1 is the emotion you feel the most and 5 is the emotion you feel the least.

- Distress/Fear
- Neutral
- Joy/Happiness
- Stress Reducing
- Disturbed



13. Rank order your emotional responses to the image, where 1 is the emotion you feel the most and 5 is the emotion you feel the least.

- Distress/Fear
- Neutral
- Joy/Happiness
- Stress Reducing
- Disturbed



14. Rank order your emotional responses to the image above, where 1 is the emotion you feel the most and 5 is the emotion you feel the least.

- Distress/Fear

- Neutral
- Joy/Happiness
- Stress Reducing
- Disturbed



15. What is your level of agreement with the following statement? “Spending time in nature is beneficial for a person’s overall health, learning and development”

Please indicate using the following scale



16. How much time do you spend outside (on average) per day?

- Less than 30 minutes
- 30 minutes
- 31-60 minutes
- 61-90 minutes
- More than 90 minutes

17. How much time do you spend outside with your child per day (on average)?

- Less than 30 minutes
- 30 minutes
- 31-60 minutes
- 61-90 minutes
- More than 90 minutes

18. How much time do you think children should be spending outside a day?

- Less than 30 minutes
- 30 minutes
- 31-60 minutes
- 61-90 minutes
- More than 90 minutes

19. When you are outside with your child what kinds of activities do you participate in?

20. What is your current level of understanding/confidence regarding using meaningful outdoor play?

- Not Knowledgeable/Confident
- Somewhat Knowledgeable/Confident
- Knowledgeable/Confident
- Very Knowledgeable/Confident

APPENDIX C
POST WORKSHOP SURVEY AND EVALUATION

1. What are your current concerns with outdoor play and being in nature?
2. What is your current level of understanding/confidence regarding using meaningful outdoor play?
 - Not Knowledgeable/Confident
 - Somewhat Knowledgeable/Confident
 - Knowledgeable/Confident
 - Very Knowledgeable/Confident
3. What is your overall satisfaction with the information provided to you today?
 - Not Satisfied
 - Somewhat Satisfied
 - Satisfied
 - Very Satisfied
4. How likely are you to apply the knowledge you learned today at home?
 - Highly Unlikely
 - Unlikely
 - Somewhat Likely
 - Likely
 - Very Likely
5. How likely are you to recommended what you learned today to others?
 - Highly Unlikely
 - Unlikely
 - Somewhat Likely

- Likely
- Very Likely

6. What was at least one thing you learned today that was new knowledge?
7. What was your most favorite activity that you did today and why?
8. What was your least favorite activity that you did today and why?
9. What would change about the workshop?
10. Do you have any recommendations or other feedback for the presenter?

Survey created by Emma Herzog

APPENDIX D
WORKSHOP AGENDA

10:00 AM-10:30 AM	<u>Introductions & Ice-Breaker Activity</u> • Name • Why did you want to participate in today's workshop? • What is your favorite memory related to nature and spending time outdoors?
10:30 AM-12:00 PM	<u>Lecture Presentation</u> • Importance of Nature in Early Childhood • Developmental Benefits of Nature • Parental Influence on Nature Exposure • Nature as a Learning Tool • Positive Interactions and Guidance Outdoors • Promoting Outdoor Play and Active Learning
12:00 PM-12:45 PM	Hands on Learning Activities & Break time
12:45 PM- 1:15 PM	Wrap-Up, Post-Survey, & Questions

APPENDIX E
WORKSHOP BOOKLET



Contents

- Introduction
- The Importance of Nature in Early Childhood
 1. Reducing the Risk for Nature -Deficit Disorder
 2. Supporting the Theory of Biophilia
- Nature's Benefits on Children's Health & Development
 1. Social-Emotional Development
 2. Mental Health
 3. Physical Health
 4. Cognitive Development
- The Key to Supporting Children's Outdoor Play
 1. Exploring Various Outdoor Play Spaces
 2. Allowing Opportunities for Risky Play
 3. Providing Access to Nature -Based Learning
- The Role of Parents & Caregivers to Children's Nature Exposure
 1. Spending Time Outdoors with Your Child
 2. Being an Active Outdoor Play Partner
 3. Creating Hands-on Nature Activities



Introduction

For as long as I can remember, I have always wanted to be a teacher and mentor of some kind. To be a person who inspires others to learn. Working in the field of child development, I have found a true love for wanting to make an impact in the world. By educating others and helping them to grow I am growing myself. The wonderful thing about growth is that it is never ending.

The cycle of a person's life is like that of nature. We all come from nature, nature is within us, and all around us. I hope that this learning guide can be useful to you, and you find something new to learn. Always remember to be kind and that you can find beauty in everything in life. The beauty of nature is that it is all around us, sometimes you just need to dig a little to uncover it.

What is one of your favorite memories being in nature as a child?

To this day I hold very fond memories with my family growing up that make me smile when I think about being in nature and playing outdoors. One memory I will share with you today is the summers I spent camping with my family every year. We would travel around the states exploring the outdoors for nearly two weeks. We would cook and sing songs by the campfire, hike through National Parks, explore new places outdoors and simply enjoy each other's company.

If it were not for my parents and these experiences, I would surely neglect so many unseen beauties about the natural world. I genuinely hold a connection to nature, being in natural environments and spending time outdoors. This connection I feel towards nature is known as Biophilia, a term coined by Eric Fromm that stems from the Latin root of the word "Love of Life" and constitutes a love of nature and all living things. With a love for nature that stems from my childhood, I want to inspire and create meaningful experiences for my children in the future, and yours as well.

(Cho, 2018; Webb, 2021)



The Importance of Nature in Early Childhood

Nature is one of the best experiences and environments for children's learning, growth and overall healthy development.

Major areas of human development, including, spiritual existence, social-emotional health, cognition, mental health, and physical well-being all become a concern when nature exposure is lacking.

(Beyer, 2015; Loebach, 2020)



Did you know?

Four out of five
Americans live in
neighborhoods that
limit contact with
nature

On average 90% of a
person's day is spent
indoors

American children
spend less than 30
minutes a day engaging
in unstructured play
outdoors

(Franklin, 2017; Health benefits and tips n.d; Mygind, 2021; Schein, 2014; Sharma -Brymer, 2016)

Reducing the Risk for Nature-Deficit Disorder

- In his book, *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder*, Richard Louv discusses why children need nature and further explores the pressing issue that children are losing their bond with nature and therefore a deficit is created.
- When children are deprived of time spent outdoors, they are at a higher risk for
 1. Increased childhood obesity
 2. Lack of social skills
 3. Attention-deficit disorder
 4. Mental health challenges
- One key element that Louv touches on is the importance of parents and their role in encouraging and providing more unstructured outdoor play time for children.

(Bingham, 2009; Driessnack 2009; Louv 2008)



Supporting the Theory of Biophilia

- Biophilia is
 - Positive emotional connections within natural environments
 - Genuine feelings of connection with nature
- Children younger than two years old can experience biophilia
- Children need opportunities to be stimulated in natural environments by parents and caregivers so they can explore and deepen their curiosity to learn
- Nature and natural environments include nature activities, natural settings (vegetation, landforms, surfaces, weather) and natural elements (plants, water, and animals)

(Frumkin , 2017; Liu, 2020; Kras , 2021; Zhang, 2014; Olivos-Jara , 2020; Fattorini , 2017)



Nature's Benefits on Children's Health & Development

A person's health can be defined by their mental, physical and social-emotional well-being, and includes the benefits of nature exposure.

A growing body of research examines how children's social-emotional, mental, physical and cognitive development are all heightened when they interact with nature and spend more time outdoors.

(Li, 2021; Mygind, 2021; Schein, 2014; Sharma -Brymer , 2016)



Spending Time Outdoors Supports Children's



**SOCIAL-EMOTIONAL
DEVELOPMENT**



MENTAL HEALTH



PHYSICAL HEALTH



**COGNITIVE
DEVELOPMENT**

Social-Emotional Development

Increases & Promotes

1. Connections with the world
2. Heightened Empathy
3. Resilience
4. Emotional Regulation
5. Self-Confidence
6. Building Interpersonal (With Others) Relationships
7. Building Intrapersonal (With Self) Relationships
8. Cooperative Play
9. Communication Skills
10. Problem-Solving Skills
11. Conflict Resolution

(Bento, 2017; Harper 2020; Mirrahimi, 2011; Schein, 2014; Woolley, 2013)



Mental Health

Reduces & Decreases

1. ADHD symptoms
2. Anxiety
3. Depression
4. Overall stress levels

Increases & Encourages

1. Emotions related to calmness, joy, and creativity
2. Concentration which combats poor mental health

(Coe, 2016; Richardson, M., n.d; Li, 2021)



Physical Health

Decreases

1. Childhood Obesity
 - 20% of children are struggling with obesity and being overweight by the time they have reached their 6th birthday
2. Sedentary behaviors
3. Screen Time

Increases

1. Cardiovascular Fitness
2. Muscular Fitness
3. Physical Activity
4. Gross Motor Skills
 - Hopping, climbing and jumping
5. Fine Motor Skills
 - Throwing, dribbling, kicking, and manipulation of objects

(Casey, 2015; CDC, 2017; Health benefits and tips, n.d.; McFarland 2014; National Resource Center, n.d.; Nel, 2017; Lim, 2017; Smith, 2014; Suggate, 2017; Tortella, 2015; Zamani, 2016)



Cognitive Development

Increases & Encourages

1. Cognitive performance
 - Due to lower distractions and better air quality outdoors
2. Scientific Thinking
 - Making inferences, measuring objects and practicing observation
3. Mathematics
4. Language Acquisition
5. Focused Play and Activities
 - Effortful Attention

(Bento, 2017; ; Ulset, 2017; Yildirim, 2017)



The Key to Supporting Children's Outdoor Play

Why is OUTDOOR PLAY important for young children?

1. Essential component to learning and overall development
2. Primary means for building relationships and interacting with others
3. Opportunity to build vital skills such as turn taking and the regulation of big emotions

(Cevher-Kalburan, 2015; LaForret, 2016; Ritblatt, 2019)



Important Elements of Outdoor Play Environments



Various Outdoor Spaces



Opportunities for Risky Play



Nature-Based Learning

Exploring Various Outdoor Play Spaces

1. High-quality outdoor play spaces are necessary in ensuring that children have opportunities to engage freely in unstructured and structured nature-based play
2. Various spaces to play outdoors encourage children to engage in unstructured object play, pretend play, and physically active play
3. Children's social, mental, and physical development and well-being all strongly benefit when they have access to a diverse range of outdoor play spaces

(Brussoni, 2012; Cox, 2018; Pérez-del-Pulgar, 2021)

Outdoor Play Zones

- **Natural zones** provide children with open ended natural materials such as plants, sand, trees and wild spaces for hands on learning and exploration
- **Manufactured Zones** include manmade structures such as swings, climbing structures, and play-houses that promote gross motor development
- **Mixed Zones (Natural & Manufactured)** outdoor environments that motivate children to further explore the natural elements outside, create dramatic play and enhance their constructive thought process

(Kras, 2021; Zamani, 2016)



Allowing Opportunities for Risky Play

Risky Play is play where children may encounter...

- Great heights
- High speeds
- Dangerous tools and elements
- Rough-and-tumble play
- High impacts
- Falling
- Get bruised and cut
- Exposure to various weather conditions

Risky play supports children's...

- Sense of pride
- Self-confidence
- Resilience
- Physical Development
- Social-Emotional Development

(Bento, 2017; Brussoni, 2012; Brussoni 2015; Harper 2020 Sandseter, 2020; Zamani, 2016)





Did you know?

- 30% of children lack gross motor skills such as catching, dribbling, pivoting and the use inverted supports (e.g., balance beams and ramps)
- Your parenting style impacts the opportunities of risky play you provide for your child
- Rough and tumble play between children and fathers has been shown to increase children's social and emotional regulation

(Cevher-Kalburan, 2015; Lim, 2017; Smith, 2015)

Providing Access to Nature-Based Learning

1. Nature-Based Learning is highly appropriate for young children's development given that it supports scientific thinking on how a person learns and understands the world using elements of nature
2. Children can engage in both object and pretend play when they are outdoors where there are limitless possibilities for imaginative thinking, games with fantasy, games with rules, and the creativity to try out new ideas that emerge
3. Through Nature-Based Learning children can freely choose what activities they want to engage in and how they want to play

(Aulia, 2019; Horig, 2017; Robson, 2012)

Goals for Nature-Based Learning

1. **Engaging in High Quality Interactions**
 - Being present in the moment
 - Building a strong connection
 - Creating extended learning
2. **Using Developmentally Appropriate Practices**
 - Children's Developmental & Learning
 - Children as Individuals
 - Children's Social & Cultural
3. **Exploring Natural Environments**
 - Nature Activities
 - Natural Materials/Living Things
 - Natural Settings

(Larimore, 2016; Yuliani, 2021)



Natural Materials

Leaves	Sticks	Flowers
Sand	Water	Seeds
Stones	Dirt	Pinecones
Shells	Acorns	Feathers



Fun Facts about Natural Materials

01

Natural Materials, also known as Loose Parts, provide children with opportunities to engage in play that is open-ended, unstructured, and child-led

(Gibson, 2017)

02

Activities with natural materials can provide children with advanced opportunities to learn about mathematics and science, and promote language acquisition

(Bento, 2017)

03

Loose Parts promotes children's creative thinking, physical skills such as risk-taking, independence, social and emotional skills, and overall health and wellness

(Spencer, 2019)

The Role of Parents & Caregivers to Children's Nature Exposure

As a Parent & Caregiver You...

1. Are the gateway for your child's exposure to the natural world
2. Build a strong parentchild relationship when you interact in meaningful ways with your child
3. Become a leader for your child during time spent outdoors by
 - Facilitating, Creating & Directing what types of activities your child engages in
 - Determining how your child uses natural materials
 - The level of support you offer your child during outdoor play

(Lindsey, 2019Doi, 2020; Smith, 2015)



Spending Time Outdoors with Your Child

Nature is a place where creativity and exploration are not limited, yet the freedom to learn outdoors in today's world is declining

Children are spending a limited amount of time outdoors due to parental influences and attitudes towards nature, access to green spaces, urbanization, and the rise of technology

(Ahmetoglu, 2019; Beyer, 2015)



Why are parents not spending enough time outdoors with their children?

1. Point of View
 - Parental attitudes and beliefs are one of the leading factors that limit children's time spent playing outdoors
 - Research has shown that parental knowledge of nature, sense of self and cultural experiences impact the time that children spend outdoors
2. Time
 - It can be hard to balance work and home lives
 - Less time spent engaging with your child can create feelings of guilt
3. Fear
 - Sadly, when parents hold fears about the outdoor world it causes their children to share similar fears of being outside
 - 50% of parents are fearful of stranger danger
 - 20% of parents are afraid of their children getting sick while playing outside in cold weather

(Ahmetoglu, 2019; Cevher-Kalburan, 2015; Clark, 2020; Fattorini, 2017; Tandon, 2016; Webb, 2021)

How much time do you think children from birth to 6 years old should be spending outdoors a day?

A. 1-2 times between 20-30 minutes

B. 2-3 times between 60-90 minutes

C. 1-2 times between 30-60 minutes

D. 2-3 times between 30-60 minutes

(Caring for our Children, 2019)



Did you know?

- Children should be spending time outside at least **2-3 times between 60-90 minutes** a day!
- 87% of parents agree that playtime outside is strongly important
- Yet, parents only see an ideal amount of time spent outdoors to be 30-60 minutes a day

(Jayasuriya, 2016)

Being an Active Outdoor Play Partner

Support your child by using...

- Explicit Communication
- Scaffolding is a tool you can use with your child to create further engagement and enjoyment during outdoor play
- Hands-on learning experiences and exploration where they can use all their senses (sight, taste, smell, touch and sound) they can become more deeply connected with nature and are provided with an elevated sense of wonder and discovery

(Beery, 2017; Coe, 2016; Linzmayer, 2013; Ritblatt, 2019)



Creating Hands-On Nature Activities

I hope by now you have a pretty good understanding of why nature exposure during early childhood is so important for your little one.

Outdoor play not only allows your child to enhance their development but to do so with a profound sense of freedom that cannot be matched by being indoors.

Hands-On Nature Activities

- Spark your child's creativity
- Deepens your parent-child bond
- Encourages your child to learn
- Supports your child to build new skills
- Increases your child's outdoor play

(Kernan, 2010)

Ask yourself the 5 W's

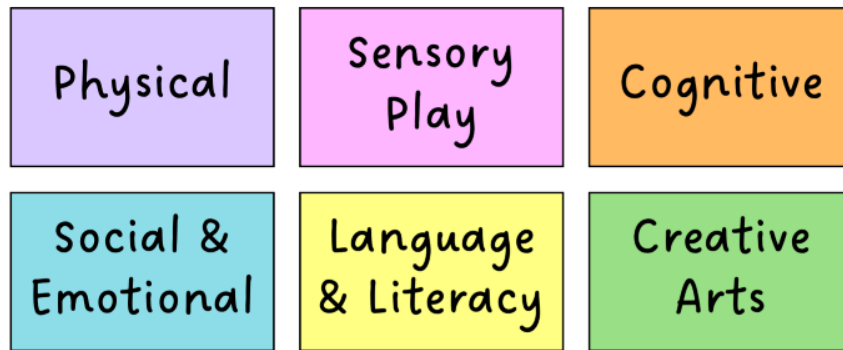
1. Who is this activity for?
2. What goals do you have for your child's learning?
3. When do you have time to be an active play partner?
4. Where outdoors is this activity going to take place?
5. Why is this important for my child?

Tips and Tricks before getting started

1. Find an outdoor location
 - Plan a day trip to the beach or local park
 - Take a walk around your neighborhood
 - Explore your own backyard
2. Check the weather
 - Dress accordingly
 - Bring items you may need (sunscreen, hats, coats, water, snacks, wipes, etc.)
 - Rain or shine outdoor time is important!
3. Prepare your materials
 - Use what you have on hand at home
 - Find cheap things at a low-cost store like Dollar Tree
 - The great thing about nature activities is that half of the materials you need are free!
4. Set aside enough time
 - This way you can enjoy the moment
 - You are an active play partner in your child's nature exploration!
5. Have Fun!! 😊



Hands On Nature-Based Activities Support Children's Development



Nature's Playground

What materials do you need?

- Nature Space to move
- Optional: Balls

What is your role?

- Remember the importance of Risky Play?
- This activity helps you to dedicate time and space for your child have unstructured free risky play outside

What is your child learning?

- Gross Motor Skills
- Running up and down a hill
- Climbing a boulder or tree
- Jumping over a log or into a puddle
- Hopping down the sidewalk
- Kicking and throwing in open spaces



Nature Gathering

What materials do you need?

- Fingers
- Optional: Tongs and Containers

What is your role?

Have your child pick up natural materials using tongs, or their fingers to build pincer grasp fine motor skills

What is your child learning?

- Fine motor skills
- Identifying nature



Sensory Water & Nature Explore

What Materials do you need?

- Natural Materials
- Water
- Container, bucket, and/or bowl to hold items
- Optional: Kitchen tools (Strainer, Potato Masher, Ice Cube Trays, Measuring Utensils, Cups, Bowls)

What is your Role?

- This activity is guaranteed to have your child occupied with endless fun and a great way to cool down during the hot days outside!

What is your child learning?

- Sensory Play
- Fine motor skills
- Scientific inquiry



Nature Sensory Bottles & Shakers

What materials do you need?

- Nature & Natural Materials
- Plastic bottle (any see-through container)
- Optional: Baby Oil, Water

What is your role?

- Fill your bottles with any materials you find outdoors. There are so many combinations that you can create with just a few items!
- The great thing about this activity is that it can be taken with you anywhere at anytime

What is your child learning?

- Regulating Emotions
- Sensory Exploration



Color Scavenger Hunt

What materials do you need?

- Nature & Natural Materials
- Optional:
 - Egg Carton, Muffin Tin, Ice Cube Tray, Paper Bag, or anything you have on hand to collect with
 - Markers, crayons and/or colored paper

What is your role?

- Help your child to explore their surroundings in your backyard, on a nature walk, at the park, or even on campus!
- This activity helps to get your bodies moving, and appreciate the beauty of the natural world

What is your child learning?

- Identifying & Matching Colors
- Problem-Solving
- Communication (Listening & Expressing)
- Games with Rules
- Social Interactions



Nature I-SPY

What materials do you need?

- Nature & Natural Materials
- Optional: Container to store collections

What is your role?

- This activity is a great extension to the Color Scavenger Hunt
- Help your child learn about plants, flowers, insects, animals, landscapes and so much more just by observing and talking your environment!
- Use descriptive language to talk about amount, color, texture, pattern, type, shape and/or size!

What is your child learning?

- Compare & contrast objects
- Scientific Inquiry (Observation, Prediction, Questioning, Reasoning)
- Mathematics

Here's an example: I-SPY with my little eye something...

- Flower: Soft & Pink
- Rock: Hard & Heavy
- Stick: Pointy & Long
- Leaf: Green & Light
- Pinecone: Brown & Bumpy
- Ant: Tiny & Black
- Butterfly: Delicate & Orange



Outdoor Relax & Snack

What materials do you need?

- Books
- Favorite snacks & foods
- Optional: Blankets and/or chairs

What is your role?

- This activity is the perfect opportunity to increase bonding time between you and your child and family with minimal planning!
- Head to your favorite outdoor space to hangout for the afternoon and bring along some books & food to pass the time
- Mealtime is a great way to spark conversation, take in your surroundings, destress, and enjoy each others company

What is your child learning?

- Social skills
- Relationship Building
- Language Acquisition
- Facial Recognition
- Facial Expressions
- Self-Expression
- Emotional Regulation



Friendly Faces in Natural Places

What materials do you need?

- Outdoor Space

What is your role?

- Support your child by taking them to outdoor spaces where they can interact and play with new people
- Talk with your child about diverse people and what makes us the same and different (Ex: abilities, features, interests & cultures)

What is your child learning?

- Social-Emotional Skills
 - Pro-social behavior
 - Turn taking
 - Games with rules
 - Empathy
 - Cooperative Play
 - Self-Confidence



Nature Read Along

What materials do you need?

- Books
- Outdoor Space

What is your role?

- Want to boost your child's knowledge about the natural world? Grab a book that features nature and start reading
- You can help your child explore different types of animals, plants, insects, landscapes, and so much more!

What is your child learning?

- Identifying nature
- Language acquisition
- Descriptive language



Nature Sing Along

What materials do you need?

- Outdoor Space to move
- Optional: Musical Instruments (EX: Ribbons, Shakers), Puppets or Dolls & Blankets

What is your role?

- This activity is the perfect opportunity to use your Nature Sensory Bottles & Shakers!
- Find any songs your child enjoys that you can sing and dance to with them
- Be emotional in your facial expressions, body language and gestures to get your child interested and excited to participate
- Check out these artists:
 - Christina Diamond
 - Raffi

What is your child learning?

- Language acquisition
- Self-confidence
- Self-Expression



Painting with Nature

What materials do you need?

- Natural Materials
- Paint
- Paper

What is your role?

- Let your child freely explore the textures of various natural materials mixed with paint
- Let your child get messy! Art for your child is about the process not the final product
- Want to make nature paint brushes? Use a stick and rubber band to hold them together!

What is your child learning?

- Self-Expression
- Creative Thinking
- Sensory Exploration
- Discovery
- Fine Motor
- Experimentation
- Mindfulness



Nature Sun Catchers

What materials do you need?

- Natural Materials
- Contact Paper
- Optional: String, Popsicle Sticks, and/or Paper Plates

What is your role?

- Explore your backyard, nature walk or local park to find flowers & leaves or anything that catches your eye
- Allow your child to freely choose where they want to stick their natural materials onto a piece of contact paper
- For a neat way to hang your designs try adding popsicle sticks and string or use a paper plate that your child can decorate!

What is your child learning?

- Creative Expression
- Self-Expression
- Mindfulness
- Self-Confidence
- Experimentation
- Innovation
- Fine Motor Skills



N-A-T-U-R-E

Natural Materials for endless fun
 Adventures everywhere you go
 Teachable Moments up, down, under & around
 Unlimited Learning Opportunities
 Renewing, Relaxing & Refreshing Experiences
 Exploration of the mind, body & soul

What does NATURE mean to you?



Children are like nature

Children are like nature
Blooming like flowers of all colors beautiful and bright
Rising and falling like the sun and moon morning to night
Speaking out like wind and rain for all to hear
Moving like mountains, oceans, and lakes far and near
Children are the budding creations uprooting from the earth
Starting out as tiny seeds spreading kindness beginning at birth
Children are like nature
The outdoors is their friend
A happy place in the outdoor space regrowing never ends

Emma Herzog



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