

Exploring how Outdoor Play Supports Physical Development in the Early Years

Literature Review

This research seeks to articulate how outdoor play supports physical development within early childhood.

Outdoor Play

Zhu *et al.* (2024) suggests that outdoor play takes place across numerous environments and is often a spontaneous configuration of free play that fosters physical activity within early childhood. Zuh *et al.* builds on this by implying that children can also engage with others and develop important skills by playing outside, including social skills and communication due to the decrease in screentime. Recently, Amrik *et al.* (2024) carried out a study due to too much screen time and too little outdoor play shown in recent studies for young children. These studies represented several negative traits, one being inadequate academic performance that frequently gets worse with time. To exploit this, Danielle *et al.* (2024) discusses that nature-based outdoor play and learning environments ought to be taken into account when establishing play opportunities for the early years because in terms of life, the first few years are the most significant for development. Through these outdoor-based opportunities, children are able to enhance their language, social- emotional, perceptual, cognitive and motor skills. It allows them to experience the world around them by learning through doing and using their 5 senses, tactician, sight, hearing, olfaction and gustation. To elaborate on this, Ouvry and Furtado (2020) strongly believed in transforming playgrounds into gardens and that children should be playing outdoors regardless of the weather or season. The aim was to ensure that all the children's needs were met and there were constant windows for curiosity; by providing these firsthand experiences with the outdoors, the child can relive these involvements and build knowledge on them when they revisit them later in life. Not only can outdoor play improve a child's immune system and bone development, even so it also plays a role in forming their character. For example, Welsh Government (2022) expressed that in order to reinforce health and well-being in young children - parents, guardians and practitioners must allow children to explore various outdoor environments frequently in favour of their holistic development. To illustrate, Vygotsky (2018) stated that children's lives are defined by a multitude of factors, including their families, schools, socioeconomic status, cultures, and educational experiences because each of them contribute to the child's scaffolding, offering a range of abilities and support to promote learning and growth. However, there are often barriers for children when it comes to outdoor play due to adult supervision. Ellen *et al.* (2021) points out that over the years, there has been a decline in outdoor play due to concerns from

parents and/or caregivers regarding risk and safety precautions. As a result, children are frequently supervised during play, which reduces their chances to encounter excitement and challenge. Although this may be an issue for a child's development, Bauer (2023) claims that these outdoor risky-play activities often cause injuries counting concussion, persistent and/or irreversible damage such as disabilities. In result, safety is repeatedly a matter in regards of outdoor play, so this is an effective explanation for further research on how outdoor play supports physical development in the early years.

Physical Development

Duncombe (2019) believes that physical development is one of the key determinants of overall health and a measure of social well-being. Crumbley (2019) too agrees that physical development enhances general health and that additional advantages encompass the growth of relationships and interactions with others, the acquisition of motor skills that may be useful in activities later in life, and the development of cognitive skills that may contribute to academic success. Furthermore, Bamitale and Boluwaji (2013) implies that the lack of physical activity has become a risk due to the increase in child obesity, therefore, Bamitale and Boluwaji (2013) exaggerates that early childhood facilities require to prioritise physical exercise because a child's development from birth is heavily influenced by the intensity of their activity. While granting children the liberty of physical movement they can become curious with their surroundings as they expand their understanding and learn how to express themselves when their needs are met, and their holistic development is supported. According to Ani and Suwarjo (2020) physical development is represented through a person's physique and if a child is not experiencing physical activity a child will not be able to develop their fine and gross motor skills meaning that particular movements will be difficult for them to carry out. For example, article 24 from the unconvension of the rights of the child says that every child is entitled to a quality of life sufficient to sustain their growth and satisfy their social and physical needs UNICEF (2024). Moreover, further studies show that many children are not receiving a life that is sufficient for their physical needs. To illustrate, Duncombe and Preedy (2021) carried out a study to investigate young children's physical development levels during the term in which they began attending school, as it has been demonstrated that inadequate physical development in young children affects behavior, school preparation, and other aspects of life. The conclusions of this study were that due to the small sample size, further research is needed, although, to emphasise the causes of why toddlers and early children may fail to attain developmental targets like crawling, several possible explanations for this reduction were proposed, one being that those who care for young children are not properly educated on what is best for their physical development. Consequently, this could be an

issue when carrying out research because these barriers are likely to make it difficult to receive consent from those parents who are not fully knowledgeable on the advantages of the importance outdoor play and physical development has for a young child. However, Foundation Stage Forum (2018) state that Susan Isaacs would strongly disagree with this, Isaacs theory consisted of not just ensuring that the environment was child centered and supported them physically and socially, she also thought that adults who worked with young children were just as much a part of the setting as the materials and the surroundings. Eyre (2022) demonstrated another barrier for physical development within children which showed that children living in deprived areas had a lower physical activity level than children living in fortunate areas. The reasons for this being an absence of understanding, a lack of resources in their immediate surroundings, and worries about security in the area. Due to these barriers and gaps within research related to physical development in the early years, more research is required to provide further details.

To conclude, Ouvry and Furtado (2020) imply that before children can grasp and utilize a pencil, their arm and hand muscles must be developed, directed, and maintained. Giving children the opportunity to participate in natural outdoor activities like climbing, pushing, and pulling, will help them develop their motor skills and enhance their muscles. Nevertheless, additional research is needed to demonstrate the value of outdoor play for physical development, as UK policy is increasingly focused on encouraging children to read and write as early as feasible.

Methodological Considerations

Research

According to Newsome (2015) research is a methodical process of study intended to obtain, examine, and interpret data. It is one of many distinct approaches to knowledge or understanding, including inspiration and vision. There are several reasons why research is carried out, such as to comprehend, characterise, anticipate or manage an educational challenge. For instance, many students will make use of the library and the internet to research and expand on their prior knowledge. Ajayi (2017) points out that there are different types of research, qualitative and quantitative, which will be discussed further throughout methodological considerations. However, Ajayi (2017) expands on this where he discusses that there is a process of collecting this data, these processes include, primary research and secondary research. Primary research involves gathering data directly from the source and secondary research is gathering data that has previously been published.

Paradigms – Qualitative/Quantitative

As indicated by Kivunja and Kuyini (2017), a paradigm is process, representation or technique for carrying out research. Two examples of paradigms are qualitative and quantitative data.

Qualitative data is data that aims to comprehend and characterise information (Flick, 2018). For example, Srour (2021) said that qualitative data often consists of in-depth information rather than statistical information that provides a clear conclusion. As stated by Gibbs (2018), it is often referred to as an aim to use a variety of approaches to the outside world and provide an internal explanation of social dynamics. According to Gibbs (2018), types of methods that use qualitative data are focus groups and interviews due to their collection of rich data. To build on this, where discussing that the need for qualitative research is growing, Hennink *et al.* (2020) defines qualitative research as a strategy that lets you use research techniques to look closely at people's experiences. Much like Gibbs (2018), Hennink *et al.* implies that the research methods that use qualitative data are focus groups and interviews, as well as content analysis, visual methods, observations and bibliographies. These types of methods provide the researchers with information regarding why the participants may be responding in a certain way, whether it be challenges, behavior or clarification. Mwita (2022) conducted a study to investigate the benefits and limitations of carrying out research using qualitative data. The results suggested that qualitative data is beneficial for adaptability, comprehensive and precise information, the utilisation of various data collection techniques, and the reduction of missing data. Other advantages included, the method was discovered to incorporate a human element, and it was good value for money. However, the limitations were that the methodology makes it difficult to replicate results, the results could be manipulated by the researcher, it requires complicated data analysis, restricts anonymity, and has a poor generalisability. Furthermore, Adhabi and Anozie (2017) looked at the advantages and disadvantages of interviews, some of the strengths were, large amounts of data can be collected, the participants are likely to feel comfortable and have a good understanding and the researcher can explore different aspects thoroughly. Although, the weaknesses were that they are expensive to carry out, very time consuming due to the large amounts of data and there may be results that include interviewer bias.

On the other hand, quantitative research is information in the form of numbers and/or can be easily converted into a numeric format (Quinlan, 2023). Ahmad *et al.* (2019) adds to this, quantitative research is also research that uses the approaches of the natural world to generate concrete facts, it uses statistical and mathematical techniques to determine a cause-and-effect link among two variables and because the research can be carefully and accurately measured, it is also known as empirical research,

finally, Ahmad *et al.* (2019) also states that quantitative research facilitates the researcher's ability to analyse findings when creating graphs and tables. Goertzen (2017) implies that quantitative research is too beneficial for answering questions such as, how? and who? Goertzen (2017) then goes on to provide us with the strengths and weaknesses of quantitative research. Some of these strengths include; results can be generalised to a certain group of people, results are representative of a population and data sets are substantial, it makes it possible to exchange and duplicate research and methodologies, either immediately or over time and lastly, quantitative research provides data that reveal patterns and tendencies. Moreover, the weaknesses of quantitative research include; they fail to shed light on the reasons behind people's thoughts, emotions, or behaviors, reaching certain groups, especially those that are less fortunate or at risk, may be challenging and because data must be gathered over extended periods of time, studies can be time-consuming. The reasons behind these strengths and weaknesses are that quantitative research is unbiased and formal, so it takes place through systematic observations, closed- ended questionnaires, experimental designs and so on (Mohajan, 2020). For example, Czerniawska and Szydlo (2024) conducted a study which looked at opinions on social issues and the economic system. To do this Czerniawska and Szydlo (2024) used quantitative research. The reason for this being that Czerniawska and Szydlo (2024) believed that quantitative research offers accurate and quantifiable facts to support views and conjectures. Due to it being standardized, research can be repeated, which is essential for confirming findings and assuring validity.

Triangulation

Moreover, many researchers may use triangulation when carrying out research. Noble and Heale (2019) suggest that triangulation is an approach used to improve the validity and credibility of research findings, or, to put it simply, how reliable a study is and how well it represents or assesses the ideas under inquiry. Triangulation is a way of researching that uses methods, theories and observers at the same time to provide rich explanations and avoid bias. It is a way of researching that involves both qualitative and quantitative data, this is called a mixed methods approach. Bans-Akutey and Tiimub (2021) portrays that due to use of numerical data and rich language being used (a range of methods), it offers the researcher a greater understanding of findings and the accuracy of the study can be confirmed. An example of where triangulation may be used is in education so that practitioners and researchers can evaluate teaching strategies or learning objectives by combining methods to obtain a thorough understanding of the efficacy of education.

The Study

For the purpose of this study, the researcher is going to use qualitative research to study whether outdoor play supports physical development in the early years. The researcher is going to use qualitative research because as reported by Nixon and Odoyo (2020), although qualitative research can be time consuming and expensive, if the participants are chosen carefully, there is an avoidance of researcher bias. The methods can be modified to obtain comprehensive and perceptive data on a particular topic, it simply requires a small number of people to offer pertinent and helpful ideas, and it is appropriate for investigating different study areas.

Interview

The type of qualitative research that the researcher will use are open-ended interviews. As stated by Queirós *et al.* (2017) open-ended interviews are a type of clear, unstructured, and intimate discussion. The researcher will commonly ask a general question and then allow the responder to talk freely about the subject all while ensuring that the participant feels comfortable. This type of research generates detailed information and provides the chance to pose follow-up queries to support earlier responses and create links between themes. However, since the researcher will be interviewing adults and young children, the researcher will need to consider what questions are appropriate to use when and with whom.

Sample Size

A study's sample size should be considered before it is put forward, a sample that is too little is unethical and scientifically incorrect and one that is too big is meaningless (Andrade, 2020). However, Mocănașu (2020) expressed that determining the size is a reflection because the researchers use a variety of criteria to determine whether their own research sample is appropriate. Bekele and Ago (2022) carried out a study to determine how many interviews are applicable for a study, Bekele and Ago (2022) concluded that this all depends on a variety of factors including, the characteristics of the chosen group and subject, the study's breadth, the standard of the data, the form of research design and question, the resources and time available, and the researcher's skill in qualitative research. In result, the researcher has chosen to interview 8 children ages 5-7 and 2 adults (practitioners). In this case, the researcher can gather a range of answers and perspectives from different ages.

How the Researcher will Conduct the Study

The researcher will conduct this study by using 2 sample groups from a school setting. One sample group (A) will consist of the whole key stage 1 class and the other sample group (B) will consist of the whole key stage 2 class. The researcher is using the entire class to prevent inequality and favoritism. To illustrate, Article 31 from UNICEF (2024), points out that all children have the right to unwind, play, and engage in a variety of activities. Sample group A will experience no change in their school routine, on the other hand, sample group B will experience change. This change involves an extra 30 minutes of outdoor play 5 days a week over the period of a month. To calculate the results, the interviewer will interview the practitioners from both classes and 4 pupils from each sample group before and after the study. Some of the questions that will be included when interviewing the practitioners will be, 'How active are the pupils?' and/or 'Do the pupils ever show signs of being short of breath and tired after outdoor play?'. However, questions for the children will be simpler, such as, 'Do you feel out of breath after outdoor play?' and/or 'How fast does your heartbeat pump after hard-working activities?'. From the findings of this study, the researcher is hoping to find out whether increasing outdoor play has an impact on the children's physical development.

Ethical Considerations

Ethics in Research

British Educational Research Association (BERA) (2024) strongly believes that ethics refers to people being treated adequately, with honor and free from discrimination, all while considering their rights and differences, these include any significant attribute, such as, age, gender, sexual orientation, race, class, cultural identification, marital status, religion and impairments. As a result, in addition to the previous considerations, while carrying out research, the researcher should also take into account how socioeconomic class, neurodiversity and parental status impact all social interactions, including those that are developed throughout the study process. To add to this, BERA (2024) further implies that research awareness and attentiveness are key; for example, when appropriate, consideration should be given to the manner in which these disparities particularly impact vulnerable people and their connections with others.

Ethics in Research with Children

Furthermore, Ethical Research Involving Children (ERIC) (2024) implies that when carrying out research with children, all research, regardless of circumstance, should protect their liberties and well-being and uphold their human worth, while considering all valuable factors mentioned above. ERIC (2024) expresses that the researcher should do all they can to ensure that those children who are often disregarded, have

a voice too. For example, Bendo and Sheridan (2021) carried out research involving children. To begin with, the background context tells us that the advantages and disadvantages of using children's perspectives for study must be balanced by researchers. It goes without saying that researchers who want to involve children in care studies want to improve practices and policies for the benefit of the children. To do this, Bendo and Sheridan (2021) used several steps, these steps combined of introducing every child to the possibility, communicating with the children who requested participation which allowed the children to have a voice within the research, reviewing the primary worker's opinions about the child's involvement while taking significant aspects into account, the potential participants were interviewed in a small group setting about informed consent and finally, acquiring both child and primary worker's written consent. Throughout this process, both researchers ensured the child's safety and decreased the risk of harm. This study represents the following of article 3 of the unconvencion on the rights of the child, according to UNICEF (2024) article 3 states that when making decisions and taking actions that impact children, the child's best interests must always come first.

However, several previous studies have demonstrated extreme unethical procedures with children. One being, the little Albert experiment, the little Albert experiment was where Watson conditioned fear into a baby using the combination of fluffy animals and a loud un-settling noise. Burgemeester (2022) expresses that during this study, Watson's neglect to ethics caused a large amount of harm; to illustrate, the participants suffered both short-term and long-term harm due to discomfort and irreversible damage; Watson failed to obtain informed consent by failing to disclose the extent of the research to the participants; Albert and his mother were unable to decide whether or not to withdraw; and, lastly, there was a lack of professional competence. In result, Waston also chose not to reverse the damages he caused for both Albert and his mother. To conclude, this study is a perfect example of research that did not acknowledge ethical considerations.

Consent

BERA (2024) states that when study participants provide their consent, they are granting permission to participate. Consent should be obtained both at the start and during the course of the study. However, an ethical researcher will inform the participants that if they wish to do so, they can withdraw from the study at any given time and place. Although, BERA (2024) adds to this when saying that it is important for researchers to follow safeguarding procedures and be aware of nonverbal indicators from people who have previously agreed to participate that may have changed their mind. Therefore, the best way to avoid this is to inform the participants of everything that they may come across during the study, for example a

thorough explanation of the study, including what they will be doing, why they are being asked to participate, what will happen to the data, and where the data will be published. In result, the researcher always needs to consider the participations understanding, whether it be language barriers or cultural differences.

On the other hand, when it comes to receiving consent from children it is often difficult, therefore Arnott *et al.* (2020) believes that although the child may be happy and willing to take part in the study, consent from a legal guardian is also essential and needs to be certain. This is due to the possibility that the child may not fully comprehend the demands made of them. To conclude, when the researcher carries out the research, they will ask legal guardians for informed consent.

Confidentiality

Quarry (2020) suggests that confidentiality is the process by which information about an individual that has been provided in confidence is shared with others. From a researcher's perspective, it may be ensuring that the information collected throughout the study is kept secret or anonymous unless the participant has given consent otherwise. Quarry (2020) also maintained that a researcher should always be transparent and unambiguous. In addition, they should advise participants that any information they provide will be kept private unless they plan to share the data; in this case, they must disclose how the data will be shared. Consequently, if the researcher breaks confidentiality there will be an automatic outcome of betrayal and disrespect. Nevertheless, as reported by Surmiak (2020), confidentiality can often be difficult. This study pointed out that if researchers noticed any indications of harm, injury, or unlawful conduct, the majority of researchers would breach confidentiality.

As stated by Noiseux *et al.* (2019), to respect confidentiality for children who are capable of making decisions and acknowledge a certain level of confidentiality among children who are not, researchers must provide an ethical framework. Confidentiality is in some way similar to consent, although children are agents with interests, those who have the best interests for their children (parents/caregivers) have ethically significant requirements and choices, therefore, all while considering the child's needs, the guardians will make decisions based on confidentiality for the study.

Risk

In the words of the Department for Education (No Date), there is an obligation to protect everybody from the risk of harm within research, including the participants, the researchers and anyone else involved in the study. This is the defense against abuse and neglect of an individual's health, well-being and safety. Within research, where the researcher comes across any of these factors, their duty is to pass on this information to prevent any further risk to the participant. The Department for Education (No Date) conveys that in order to assemble research that protects participants the researcher should recognise the potential risks posed by the groups they are studying, consider how research may be connected to the possibility of harm while showing sensitivity for each individual and understand the procedures to adhere to in the event of a safeguarding concern. This preparation will likely ensure the avoidance of social, physical, psychological and legal harm (University College Dublin, 2021).

NSPCC (2024) implies that when carrying out research with children the researcher must always consider the safety and wellbeing for both the children and themselves. In summary, the researcher will take care to avoid causing psychological or emotional suffering. To avoid these risks, the researcher will acquire consent and clarify research confidentially, modify the method of collection, react to disclosures and anguish, provide details about resources of support throughout the whole study and finally, create and authorise the research strategy.

Data Storage

According to McGill (2024) data storage permits research replication, facilitates the exchange and reuse of data by others, and acts as a reference for the research team to validate results and contrast the project with others. BERA (2024) claims that for ethical research to be performed, participant data must be handled and stored appropriately. The Data Protection Act 2018 regulates how associations, companies, or the government use your personal information. Researchers that use the participants' personal information must obey rules including using the information objectly, lawfully, precisely and keeping it up to date when required. Additional key data such as, race, health and so on, must be protected further, finally, the participants should also have the right to discover what information is kept upon them, for example, they have the right to obtain personal information, request data removal, or halt or limit data processing (UK Government, 2018).

Children may not be as conscious of the rights, repercussions, and hazards associated with the processing of their personal information. Consequently, before processing children's data, the researcher will make sure they are given precise details. The researcher will also concentrate on the legal bases underlying

data protection standards for handling the personal information of children and the recently introduced accountability idea outlined in data privacy laws (UCL, 2019).

Conclusion

In conclusion, the researcher will carry out this study using a qualitative approach which provides large amounts of information, all while considering a range of methodological and ethical considerations. The researcher's expectations of this study are to find out to what extent outdoor play supports physical development within early childhood.

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