Abstract

This research project will aim to discover whether the introduction of a bedtime routine including book reading is beneficial to children's sleep quality and therefore overall health. A review of other research on the subject will be explored in depth to provide a good understanding of the field. Participants will be chosen via purposive sampling from three mother and baby groups within the South Wales area. Sample sizes will be thirty parents per setting. The study will collect data using a mixed methods approach of questionnaires to establish the use of bedtime routines and what they consist of and semi-structured interviews to discuss routines and benefits in more detail. The researcher will implement triangulation to ensure the validity of the results. Following the research, findings will be analysed to prove or disprove the hypothesis. Ethical concerns will be highlighted throughout and guidelines from BERA (2018) and UWTSD (2022) will be followed. The research will be transparent, and consent will be gained before commencement having first provided information pertaining to the nature of the study and the specifics of participation along with the participant's right to withdraw at any time. Participants will be provided with a guarantee that the data collected will be stored safely and in accordance with the Data Protection and GDPR to assure their confidentiality.

Literature Review

The rationale for this research project is to explore whether the introduction of a bedtime routine including book reading is beneficial to the quality of children's sleep and therefore their overall health. A bedtime routine is defined as a consistent and repetitive set of actions that are conducted each night before sleep. Generally relaxing in nature, they prepare the child for sleep by helping them to wind down (Sleep Foundation, 2023). Excellent bedtime routines have been shown to be associated with improved quality of sleep and this, in turn, has been related to good physical health, behaviour, and cognition skills (Câmara-Costa *et al*., 2021). Fiese *et al.* (2021) state that bedtime routines contribute to healthy sleep habits and that including cuddling and book reading impact sleep patterns positively within the first two years of life.

Fiese *et al.* (2021) discuss the importance of establishing sleep patterns within the first two years of life and state that this is beneficial to children's physical and mental health. Established bedtime routines within the family structure provide predictability and order which can positively impact a range of health outcomes, including reduced risk of obesity, improved lung functioning in children with asthma, and reduced risk of life-long health conditions such as diabetes and cancer (Kitsaris, 2020). In addition to this, children with established routines are provided with a sense of security which is associated with good parenting and stable emotional investment. Kitsaris *et al.* (2021b) state that optimal bedtime routines should be consistent throughout the week and should include hygiene practices and book-sharing activities. Kitsaris *et al.* (2021a) agree with this and add that bedtime routine activities can encompass a diverse range of interactive and non-interactive activities which can be proactive and prosocial and can provide positive parent-child interactions.

Mindell and Williamson (2018) consider the bedtime routine an investment in the health and well-being of young children and describe how the routine is not only an important factor in the promotion of healthy sleep but also improves an array of developmental outcomes including language development, literacy, behavioural regulation, attachment, and family functioning. Additionally, Brown *et al.* (2016) emphasises the specific link between reading at bedtime and positive sleep behaviours and noted a significant increase in sleep duration when bedtime stories were introduced into the bedtime routine.

Mindell and Williamson (2018) state that research already completed shows that increased commitment to general routines is associated with positive outcomes for children and shows enhanced language development and academic achievement and a higher level of social-emotional and behavioural functioning (Lane and Wright, 2007). Likewise, engagement in regular bedtime routines can be shown to reduce the effects of family stress (Mindell and Williamson, 2018), and provide essential opportunities for parent-child communication and the acquisition of skills (Kitsaras *et al.* 2021a). In contrast, Hale *et al*. (2011) found no correlation between the introduction of language-based bedtime routines and the direct effect on general health and behaviour and believe instead that other activities associated with the bedtime routines are producing the positive results.

Egan *et al.* (2022) conducted a study that set out to prove how providing a literacy-rich environment early in a child's life significantly affected their love for reading and their aptitude for language acquisition later in life but also highlighted the importance of reading to children to promote socio-emotional development and for building relationships through positive parent-child interactions. Read *et al*. (2022) agree and discuss how the simple act of reading a book aloud to a child can provide a rich opportunity to support the early acquisition of language, vocabulary growth, and an array of oral language and pre-literacy skills. Shared book reading is beneficial to help children define unfamiliar words and understand and use complex sentence structures and this method of incidental learning improves a child's vocabulary significantly (Meyer *et al*., 1994). According to Mantei and Kervin (2018) children's early experiences of reading will lay important foundations for success and the shared experience of reading with children, especially at bedtime, encourages engagement between adult and child and has been shown to produce more conversational serve and return opportunities than throughout the rest of the day, which in turn correlates with children's vocabulary gains (Read, 2022). Torr's (2019) study concurs with this stating that a strong relationship between the quality and the frequency of shared reading within the first two years and an infant's subsequent language development and vocabulary is demonstrated.

Similarly, Kirnan, Ventresco, and Gardner (2018) stressed the importance of a good reading foundation to positive outcomes for children as they stated that 'reading skills build cumulatively over time'. Furthermore, Merga and Ledger (2018) discuss the many benefits of reading with children, stating that it is more than just a learning opportunity and provides valuable focused interaction between parent and child among other social benefits. In addition, Egan *et al.* (2022) suggested relationships to Bronfenbrenner's bioecological theory as a useful framework when exploring the relationship between reading, the home literacy environment, and the child. Hale *et al*. (2011) proposed that the regular use of language-based bedtime routines promotes longer sleep duration and that this can directly impact health outcomes.

Methodological Considerations

According to Creswell (2014), the first step in collecting any data is to identify the people and places that the research project plans to study. This research project aims to study the bedtime routines of children between the ages of six months and three years and the participants will be chosen using judgement sampling which is a type of purposive sampling. Roberts-Holmes (2018) states that purposive sampling is where the researcher chooses specific settings and children to study. With purposive sampling, the chosen participants will provide a good example of what the researcher is examining. According to Nolan, Macfarlane, and Cartmel (2013), purposive sampling does not represent the population but instead, a particular group that will be the target of the study.

Using purposive sampling the participants chosen for this study are parents of children aged between six months and three years that attend three mother and baby groups within the South Wales area. The sample size will be thirty parents from each setting. This ensures that the sample size is large enough to account for the possibility of a degree of non-response. Nolan, Macfarlane, and Cartmel (2013) suggest ensuring the sample size accounts for a loss of participants to ensure this does not compromise the data. It is expected that this form of sampling would provide maximum opportunities for comparative analysis as it includes a wide range of mothers from a variety of backgrounds.

The data collected will be from questionnaires and interviews which will be both quantitative and qualitative in nature; thus, providing a mixed methods study. Roberts-Holmes (2018) states the importance of providing a mixed methods study in ensuring the study has triangulation. Kumar (2019) states that mixed methods studies combine both qualitative and quantitative methods and produce a more comprehensive understanding of the research topic than just one approach. Combining both questionnaires and interviews enhances the research since it combines the strength of both approaches. Mixed methods can also help the researcher to understand the complex structure of family lives by allowing a range of different viewpoints. Nolan, Macfarlane, and Cartmel (2013) agree with this statement saying that mixed methods research does not have the limitations of either quantitative or qualitative approaches and says that each form of methodology has its own set of strengths and weaknesses and provides a balanced approach.

This research project plans to use questionnaires as the first method of data collection. There are several advantages of using questionnaires including that they can be conducted anonymously, they are unbiased and are also a very economical form of data collection (Walker and Solvason, 2014). Questionnaires are generally quantitative in nature using closed questions and a structured format. This project will aim to investigate how many of the participants have an established bedtime routine and what this consists of. The second part of the research project will collect data from interviews using a semi-structured format and record data in a qualitative manner. Interviews will aim to investigate how the differing bedtime routines have impacted children's health and behaviours. This study, therefore, uses a mixed methodology. According to Walker and Solvason (2014) taking only a quantitative approach would devalue the context of the study and could mean that voices and opinions do not get heard. Furthermore, mixed methods research is more practical in that individuals tend to understand their environments based on both words and numbers and it provides a more comprehensive view with different perspectives and therefore triangulates the evidence more thoroughly.

Bartram (2019, p20) discusses the merits and limitations of questionnaires and states that questionnaires allow researchers to collect substantial amounts of data in short periods of time. Questionnaires can be useful when the aim of the research is to give an impression of how much groups agree or disagree on a topic. They are ideal when the researcher can be confident that the response rate will be high, and they work well when used with interviews which allow the data to be furnished with more detail. Kumar (2019) suggests that online questionnaires are extremely useful, highlighting the fact that they are quicker and cheaper than other methods.

According to Bartram (2019, p22), an important ethical consideration here is the anonymity and confidentiality that questionnaires provide. Well-designed questionnaires highlight this feature to guarantee a higher response rate and encourage honest responses. Nolan, McFarlane, and Cartmel (2013) suggest that questionnaires have the strongest results when answers to the questions give measurable variables. The questionnaire will contain closed questions which have a restricted choice of responses, but participants will be able to expand on their feelings in the later interview section of the study.

Bartram (2019, p21) states that although questionnaires are well suited to collecting large amounts of data, the data collected is at a surface level. It must be considered that the chosen subjects could have literacy challenges or lack confidence. In addition to this despite their ease and anonymity questionnaires are notorious for low levels of completion as the anonymity of the design allows respondents to opt-out (Kumar, 2019). Further limitations relate to the fundamental issues of design and construction and the types of questions involved. Questionnaires can be populated with open, closed, scaled, multiple choice, sentence structured, or a mixed selection of questions and this sometimes-confusing mixture of formats can deter completion. Question phrasing can also sometimes be difficult to get right, questions can be leading, ambiguous, or even offensive and this can provide limitations in comprehension in addition to ethical concerns (Roberts-Holmes, 2018).

Kumar (2019) suggests that a major constraint to online questionnaires is that not everyone has access to the internet or mobile phones, therefore limiting some population groups from the data produced. In addition, the population with access to these resources may have quite different characteristics in comparison to the general population so they may not provide an accurate representation of the group.

Winwood (2019, p.31) suggests that using interviews enables participants to discuss their interpretations and to describe their experiences. Interviews are an accessible form of data collection and provide a suitable method to explore the issues raised in other techniques in greater depth therefore building on the research. This research project will collect data by conducting semi-structured interviews. Walker and Solvason (2014) recognise that each person interviewed will have their voice and opinion heard and that the researcher must ensure that these are reported impartially.

According to Bartram (2019, p.32), semi-structured interviews provide the opportunity for further discussion between the interviewer and interviewee. Points can be revisited, and supplementary questions can be asked. However, this degree of flexibility can sometimes raise questions about the honesty of responses. By using a less formal technique than structured interviews it can help towards the development of rapport which can be useful when addressing more difficult topics and can therefore lead to richer data.

One method that was not included in this research project was Observations. According to Rozsahegyi (2019, p.42), observations are one of the most used data collection methods, however, Walker and Solvason (2014) state that they are not a simple method of collecting data and this needs to be carefully considered both in terms of procedure and ethics. The researcher must balance the advantages of observations with potential ethical concerns raised. Nolan, Macfarlane, and Cartmel (2013) describe the different forms of observation techniques as Naturalistic – where the participant is observed in their natural environment, formal – where the observation is more structured and systematic for example test conditions and participant – where the observer is a part of the environment being studied. Each form of observation has its merits and limitations, but observation allows a direct opportunity to draw out the perceptions and opinions of the research participants and affords a unique insight into a true reflection of everyday life.

Nolan, Macfarlane, and Cartmel (2013) state that time is a particular limitation when considering observations as part of a research project. Sometimes boundaries can be blurred or overlap, and each can have its own specific methodological and ethical concerns. The main advantage is the opportunity provided to represent events as they happen in a narrative format using everyday language (Bell and Waters, 2018). However, a major limitation could be because of the diverse ways of data being collected it may give rise to opportunities to doubt the credibility and trustworthiness of the researcher and produce researcher bias (Bell and Waters, 2018).

Furthermore, the researcher must be aware of the Halo effect. The Halo effect is a type of error that may be introduced into the data when the way that an observer rates an individual based on one aspect of their behaviour goes on to influence the observer's opinion on another aspect (Kumar, 2019). Similarly, when a participant is aware that they are being observed they may try change their behaviour and depending on the situation this change could increase or decrease their productivity. This change could occur for several reasons but if it occurs could be explained as the Hawthorne effect (Kumar, 2019). Rozsahegyi (2019, p47) describes the Hawthorne effect as when research participants alter their behaviour in a positive way as a response to the observation. Rozsahegyi (2019, p47) goes on to say that to reduce the Hawthorne effect the researcher may wish to strengthen their natural role within the setting by paying preliminary visits.

Within this research study, the collection of data will be validated using triangulation. Roberts-Holmes (2019) describes triangulation as the method of combining various sources of evidence and comparing the results to achieve a better understanding of the topic. It would involve the researcher collecting evidence by using a variety of different research techniques and will provide an opportunity for the researcher to check out the research from different perspectives. Triangulation is essential in ensuring the research is valid. When using triangulated methods, the researcher ensures they are listening to the perceptions of others. According to Nolan, Macfarlane, and Cartmel (2013), triangulation involves the use of many mixed data collection methods to ensure the study is reliable and valid.

Walker and Solvason (2014) discuss the importance of triangulation which is deemed to be central to the success of a research project. By using more than one method, it gives an opportunity to show how the evidence is corroborated and shows that it is more likely to be valid. Walker and Solvason (2014) state that by considering triangulation within the research project the researcher can ensure that the research is subjective in that it considers multiple perspectives, systematic, educational, inclusionary, participatory, and ethical.

This research project included the use of triangulation by using both an initial questionnaire and then expanding the research with the use of semi-structured interviews.

Ethical Considerations

According to Roberts-Holmes (2018), ethics are central to any early childhood research. Ethical issues run through every aspect of the research process, the research question, the way the data is presented as well as the way the information is fed back to the participants. For all the beneficial qualities of research, there must also be considerations for the harm that it can inadvertently cause. It is imperative

that at the onset of any research project, the researcher deliberates on possible ethical difficulties that they may face. Solvason (2017) states that research should not only be about avoiding harm but also about discovering how to make a positive difference. Miller (2012, p35) states that the protection of the researcher-participant relationship is key and goes on to say that research should be designed to protect the participant and to avoid or minimise harm to them.

It is vital in any research concerning children that children's rights are considered (Smith, 2011, p12). The United Nations Convention on the Rights of the Child (UNCRC) provides a standard for addressing rights relating to children's care and their rights regarding participation. Article 12 is significant when considering the rights concerning research because it states that children have a right to hold an opinion about issues concerning them. The implementation of article 12 means that children have the right to be consulted and to have access to information along with freedom of speech and the right to challenge decisions made on their behalf (UNICEF, 2023).

Miller and Bell (2012, p71) state that the researcher must obtain informed consent from the participants before the research is undertaken. This means that participants would voluntarily agree to participate in the study after being provided with and understanding complete disclosure of all the relevant information provided. This process builds a relationship based around trust between the researcher and participants. Trust requires the researcher to be honest, reliable, and open in all communications. When young children engage in the research process, they provide assent because they are deemed too young to provide informed consent. According to Gray and Winter (2011, p30), assent is sometimes viewed as less important but young children still should be provided with all the information necessary to decide whether they want to participate, and it must be provided in a manner suitable to the age and understanding of the child (Smith, 2011, p18). In addition to this, participants should be provided with a sheet that contains information about what is involved in the study, why their participation is necessary, and what they will be asked to do, along with a form giving formal consent to participate in the study (BERA, 2018). Roberts-Holmes (2018) agrees that when working with children it is good practice to provide an information sheet that will aim to outline the research and expectations in a child-friendly way. Consent forms and information sheets must include information

about what will happen to the data that the participants provide and how the information will be used as well as how and to whom it will be reported (Smith, 2011, p22). Researchers are required to inform participants about the sharing, retention and any possible use of the research data following publication (Gray and Winter, 2011, p30).

BERA (2018) advises that researchers must recognise the participants right to withdraw from the research at any time, for any reason and that participants should be informed of this right to withdraw from the outset. Roberts-Holmes (2019) advises that informed consent is an ongoing process and that the right to withdraw must be respected throughout the research study. UWTSD (2022) agrees and advises that there should be a continued review of the involvement of participants throughout any study. Beauchamp and Haughton (2012, p158) advise the researcher's ethical obligation to report the findings of the research with scientific honesty.

According to Gray and Winter (2011, p32), confidentiality and anonymity present challenges for researchers, and in the interests of transparency participants should be briefed beforehand about the limits of confidentiality before consent is provided. Indeed, BERA (2018) states that the researcher must treat the participant's data with confidentiality and anonymity. Researchers should recognise the participant's right to privacy and should accord them their rights to confidentiality and anonymity. The participant must understand their level of privacy in depth before agreeing to proceed.

According to Kumar (2019) sharing information within a research project for purposes other than research intended is unethical. It is important to ensure that the information provided is kept anonymous. It is unethical to make reference to any respondent and their information and therefore the researcher must ensure that after the information is collected, the source cannot be identified.

Risks to Participant

The participants may feel uncomfortable being interviewed and filmed and this can impact their emotional well-being and mental health (Roberts-Holmes, 2018). In order to mitigate this risk, the participants would be assured that their right to withdraw would be respected, and they would be reassured as to the expectations of their participation (Bell and Waters, 2018; BERA, 2018).

The participants may feel worried or insecure about the interviews and may feel that the questions are aimed to judge their parenting. This will harm their mental health. To mitigate this risk the information sheet provided will explain the intentions of the study and before the interviews, the researcher will again explain that the questions are to provide information as opposed to a test of parenting styles (Roberts-Holmes, 2018)

The recordings of the interviews and digital copies of the notes could be lost or shared with people for whom they are not intended. To mitigate this risk all data would be stored safely in a locked room in the researcher's absence. Data held on computers would be stored using personal memory space, not on the cloud, which would be firewall and password-protected, and encrypted (BERA, 2018).

The researcher might act in an unprofessional manner which may cause emotional distress or harm to the participants. To mitigate this risk the researcher would ensure that they have adhered to policies and procedures set by the university to protect both the participant and researcher from such issues (UWTSD, 2022).

Risks to the Researcher

In the course of the study, researchers may witness behaviour that is not appropriate, or which breaks standards of care, or is a safeguarding issue and this may cause distress to the researcher. To mitigate this risk the researcher will advise the participants within their letters of consent that confidentiality must be breached if something arises that causes concern. As such, the researcher will then be able to approach the University for guidance and follow procedures for reporting such incidents (BERA, 2018; UWTSD, 2022).

The researcher might be negatively affected if the data they have collected becomes lost or if they do not maintain the confidentiality agreed upon when commencing the study. To mitigate this the data will be stored securely at all times, in a personal file space that is encrypted, password protected, and behind a firewall (BERA, 2018; UWTSD, 2022).

Risks to the University

The University is at risk of adverse publicity if the researcher fails to adhere to the conditions set out in the research proposal or if the researcher behaves in an

unprofessional manner. To mitigate this risk the researcher would ensure that they were acting within the guidelines provided by BERA and the University (BERA, 2018; UWTSD, 2022).

The university is at risk from negative publicity if the researcher does not maintain the agreed confidentiality and data protection of the data collected as the researcher is a student at the university. To mitigate this risk data is stored safely and securely (BERA, 2018; UWTSD, 2022).

Researchers must ensure that they have complied with the legal requirements about the use and storage of personal data as indicated in the Data Protection Act 1998 and the General Data Protection Regulation (GDPR), (BERA, 2018). Participants are entitled to know how their personal data is being stored and how it is being used and to whom it may be shown. Researchers must have the explicit permission of participants to disclose their personal information to any other parties and should also ensure that other parties have permission to access the information. They are also required to keep a record of any disclosures. Beauchamp and Haughton (2012, p157) state that confidentiality must be honoured, and field notes and other records must be stored securely as the researcher will have given these guarantees within the consent procedure.

The Data Protection Act 1998 and the GDPR also states the right of individuals to gain access to any stored personal data that which relates to them.