

Abstract

The aim of this proposal is to draw conclusions on the misdiagnosis of Attention Deficit Hyperactivity Disorder (ADHD) within the Early Years of females and in particular Carmarthenshire. Although vast research has been performed, it has fundamentally been focused on the hyperactivity subtype of the disorder, usually displayed in males. As a result, for numerous years society has only recognised this disorder to 'only affecting boys'. However, ADHD affects females differently, causing less obvious tendencies to be either missed or misdiagnosed as anxiety, depression or self-esteem issues. Previous research has discussed how environmental factors, brain function and genetic factors can affect children with ADHD, but have yet to discuss further, why inattentiveness subtypes of the disorder are missed especially in females. A survey carried out over a nine year period, concluded that ADHD diagnosis within boys in areas of low socioeconomic areas were greater than that of girls. Defined as one of Wales's most deprived areas, Carmarthenshire's reduced recognition of ADHD has become more apparent. Focused within this study, will be three reception classes within the three most deprived areas within Carmarthenshire. Research methods will include a multi-sampling process to reduce the number of participants to five pupils from each class. This will be achieved by a) completion of the Vanderbilt Assessment Scale (VAS) for both parents and teaching staff, b) interviews with teaching staff and c) non-intrusive observations. All research will be conducted in an ethical manner, in which all participants' rights will be respected and whereby written consent will be requested. Research data will be stored in accordance with the Data Protection Act 2018 and all ethical and safety procedures will be followed.

Literature Review

Within today's society, there is a higher awareness of Attention Deficit Hyperactivity Disorder (ADHD) due to the current knowledge and research, revolving fundamentally around the hyperactivity subtype of the disorder (Barkley, 2015; 2022; and Weaver et al, 2022). Koseva (2023a) discusses that this is due to the vast research into the genetic factors, environmental effects and brain functions which affect a child with ADHD, better equipping clinicians to recognise and diagnose this

disorder (Koseva 2013b). However, numerous theorists have recently addressed the fact that, due to societies and the stereotypical beliefs that ADHD only affects boys and rarely displayed in girls, can cause a dramatic difference in the diagnosis ratios of girls in contrast to that of boys (Fresson, 2018; Holland, 2021; Morin, 2022; and Safai, 2022).

With this in consideration, the rationale which will be discussed within this research proposal, will be, the reasoning of why ADHD is misdiagnosed or missed in girls within the Early Years in Wales and in particular Carmarthenshire.

Reinforced by Hire and other collaborates (2015) research and analytical outcomes of a survey between 2004 to 2013, drew conclusions that within the UK, increases in ADHD diagnosis are prevalent in areas of low socioeconomic development.

Evaluating the statistics, Hire and other contributors research, identified that during this period of nine years, 3.62% of boys were identified as having ADHD, compared with only 0.85% of girls (Hire et al, 2015; Langley et al, 2023; and Logan-Banks, 2020).

Carmarthenshire County Council (2019) states that 10% of Carmarthenshire's areas are included in the most deprived areas in Wales, the majority of which are in local surrounding areas such as, Llanelli, Amman, and Gwendraeth (Welsh Government, 2019 &, Data Cymru. 2019. and WIMD, 2019). In addition to local deprivation and a nationwide failure to distinguish the inattention subtype symptoms of ADHD, often present and displayed by girls, the reduced diagnosis among females becomes more recognisable (Carmarthenshire County Council, 2019; NHS Choice, 2021; NICE, 2019; and Safai, 2022).

In accordance with NHS Choice (2021), 70% to 80% of ADHD cases within the UK are more likely to be diagnosed under the subtype of hyperactivity and impulsiveness. This subtype displays disruptive, obvious symptoms, to whom most would associate with ADHD in boys. In comparison, to this vast number, between 20% to 30% of individuals diagnosed with ADHD, show symptoms of inattentiveness, and demonstrate difficulties with concentration and focusing on tasks. These less disruptive behaviours, which are usually demonstrated by girls, are often missed due to the individual overcompensating, or masking their symptoms (NHS UK, 2021; NICE, 2019; Mattke, 2019; and Farnsworth, 2022).

In addition to symptoms described by the NHS (2021), Parker-Gordon (2021) and Safai (2022) discuss further that girls can be affected also by 'Hyperactivity' such as restlessness, fidgeting, playing with their hair or talking too much, 'Impulsivity' and demonstrating strong uncontrollable emotions, interrupting others or speaking before thinking and even 'Executive Malfunction' whereby the individual is unable to follow directions or complex tasks that require a multi-step approach (Low, 2023; Lyon, 2022; Quinn & Madhoo, 2022; APA, 2023; Brown, 2013; Hinshaw, 2021 and Rawala, 2023).

Due to the invisibility of ADHD symptoms demonstrated by girls, (Jacobson, 2023) explains that even when hyperactivity and impulsive tendencies are present, girls' symptoms are less obvious than boys and refers to it as the 'Hidden Disorder' (Steer & Bilbow, 2021; & Oakes, 2022). In view of this fact, instead of gaining a diagnosis, girls often find criticism from, teacher, peers and additionally parents or other family members. As a consequence of the constant criticism, a girl can start showing signs of anxiety, depression, and a lack of self-esteem (Jacobson, 2023; Bass, 2023; Forgan & Richey, 2014; Petty, 2022; Young et al, 2021; and Mulraney et al 2016).

As explained by Atkinson (2021), the roles of play-workers, teachers, and teaching assistance within the Early Years, is vital to enable diagnosis, to monitor and support individuals with ADHD behaviours or tendencies within the setting (Atkinson, 2021). Despite the importance of this role, Greenway & Rees- Edwards (2021) discovered that many teaching assistance in Wales, highlighted, that due to poor knowledge of ADHD, a lack of training, experience and support within the setting caused 'negativity towards' individuals with ADHD. Although, the Welsh Government has acknowledged the need for an ADHD support document for parents and educational staff, by releasing the document 'Support for children and young people with attention deficit hyperactivity disorder (ADHD) in educational settings' in 2019 (Welsh Government, 2019; & Greenway & Rees-Edwards, 2021). Greenway & Rees-Edwards (2021) research has proven that more focus must be attributed to providing training and support for all members of teaching and support staff in regard to providing care and support for individuals with ADHD. Without this additional training and support, Atkinson's (2021) beliefs of the importance of Early Years Practitioners, ability to provide early diagnosis of ADHD symptoms and providing early referrals are highly unlikely (Greenway & Rees-Edwards, 2021; & Atkinson, 2021).

Methodological Considerations

Methodology enables researchers to identify and select a process in which a phenomenon can be explored. Permitting analytical data to be critically evaluated to provide reliability and validity in a research study. There are two types of methodology or paradigms, these are qualitative and quantitative (Boddy, 2016.; Bolshaw & Josephidou, 2019.; and Mukherji & Albon, 2018). Qualitative paradigms and phenomenology provide in-depth and rich in detail data, which can provide beneficial within educational or health research projects. Qualitative research permits a researcher to collect, analyse and interpret data on characteristics, behaviours and additional human interactions demonstrated. A non-quantitative or method, whereby data retrieval includes interviews, observations, and open-ended questionnaires. These methods enable a participant to provide detail rich information, and first-hand experiences, providing data that can impact on the research context on the studied phenomena (Bhandari, 2023., Newby, 2014., and Faria & Almeida, 2017). Meanwhile, quantitative paradigms, include such methods as closed questionnaires, experiments, and observations where numbers are recorded. Usually associated with applied sciences, quantitative methods require numerical data retrieval through which theories can be evaluated, it is therefore a form of a deduction method (Bandari, 2022b., Bolshaw & Josephidou, 2019., and Robert-Holmes). Researchers can also benefit from a mixed method approach. By combining both quantitative and qualitative paradigms, it allows researchers to validate their data results, by using a triangulation approach. Triangulation increases the validity, credibility and can overcome fundamental biases of the research findings, which can arise from a single method (Bolshaw & Josephildou, 2019., Noble & Heale, 2019., and Coombes-McCalla et al, 2023). Furthermore, triangulation can reduce phenomena such as the halo effect, in which researcher's opinions or feelings of an individuals or circumstance can influence positive or negative tendencies or impressions (Alacha & Lefler, 2021.; Marucci et al, 2020.; and Whitten, 2022)c. As a consequence, previous judgments, can affect the overall outcome of the study, caused by cognitive bias (Coe et al, 2021., Newby, 2014., and Pohl, 2022.). Turner (2020) & Newby (2014) discusses that due to the extreme difficulty in studying the entire population, it is important to acquire a sample of the generalized population when conducting research, providing a manageable means of collecting data (Gabrieli et al, 2021). As

a consequence, by employing sampling techniques, subset of interest can be determined, which can fulfil an accurate in-depth analysis, which results in less time, money and resources being required (Coombes-McCalla, 2023; Nolan et al, 2013; and Roberts-Holmes, 2018). To enable valid conclusions to be made from the results of this research project, careful consideration has been made in the sample selection process, to ensure that the group of participants reflects the group as a whole (Walker & Solvason, 2014; Andrade, 2020; and Coe et al, 2021). For this reason, the sample selection processes will include a multi- sampling technique, through which non-probability and purposive sampling will occur (Nikolopoulou, 2022.; and Palinkas et al, 2015). Although non-probability sampling has many advantages, it is however susceptible of sample bias, this can be due to the inferences made concerning the population which can influence the outcome by providing weaker and limited results (Walker & Solvason, 2014.; Nolan et al, 2013.; and Coombes-McCalla et al, 2023). This multi sample process, allows researchers opportunities to reduce the group sizes through every stage of the process, enabling a focus group to be created (Bhandari, 2019.; and Mukherji & Albon, 2018). This multi sample process, allows researchers opportunities to reduce the group sizes through every stage of the process, enabling a focus group to be created (Bhandari, 2019.; and Newby, 2014).

All participants will be chosen non-randomly and deliberately to provide a selection sample that enables qualitative research to be conducted (Bhandari, 2019.; Walker & Solvason, 2014.; and Roberts-Holmes, 2018). Coombes-McCalla et al (2023) believe that due to this selective sampling process, researchers have the ability to attain not only in-depth information, but also a greater insight of the participants. The research participants chosen through purposeful sampling, for whom the research project will be focused upon will be, four- to five-year-old girls, within Reception classes, of three schools in the Llanelli catchment area. Each individual school will be selected from Bigyn 4, Swiss Valley 1 and Dafen 1 districts of Llanelli, selected upon their position withing the Welsh Index of Multiple Deprivation (WIMD) deprivation scale (Data Cymru, 2019.; Logan-Banks, 2020.; and Carmarthenshire County Council, 2019). Sampling individuals within these areas, enables a diverse selection process within the contrasting deprivation areas. In line with the suggestions by Cohen, Manion and Morrison (2018), each sample will comprise of five children, this will enable the researcher to gain opportunities for in depth research and understanding, without

being overwhelmed by excessive numbers of participants (Coe et al, 2021.; Mukherji & Albon, 2018.; and Newby, 2014). Regardless, an insufficient number of participants can also restrict the extrapolation of the results (Coombes-McCalla et al, 2023.; Nolan et al, 2013.; and Walker & Solvason, 2014). The aforementioned, research sample will include both the parents and reception class teaching staff, enabling the researcher to use the multi sampling method to establish an appropriate focus group of individuals (Bolshaw & Josephidou, 2019.; Mukherji & Albon, 2018.; and Roberts-Holmes, 2018).

As a consequence of the research question and the complexity of the issue, McCombes (2020) suggests that an appropriate approach which provides an adaptable and in-depth understanding of an issue in a real-life context, should be a longitudinal case study (Thomas, 2022; and Bolshaw & Josephidou. 2019). Enabling a phenomenon to be explored in depth within a naturalistic environment and providing opportunities to use both qualitative and quantitative research methods. In the view of repeatedly observing the same group of individuals, to collect data and without influencing the outcomes (Mukherji & Albon, 2018; Newby, 2014; and Coombes-McCalla et al, 2023). To enable consistent results, the proposed time period for this study would be one year, however this study has the ability to be implemented over a three-year period, enabling the researcher a richer insight into this phenomenon. This time period provides opportunities for the researcher to familiarise themselves with all participants and enabling conducive evidence to be collected throughout the participants development process. The evidence collected can provide a pivotal role when seeking prognosis for ADHD especially among girls (Young, et al, 2020.; Bolshaw & Josephidou, 2019.; and Coombes-McCalla et al, 2023). Over this period of time, all participants, and the researcher to form a rapport, where they can develop an environment, where they can all demonstrate their normal behaviours within a safe environment. As a consequence of this environment, it can alleviate or overcoming, the possibility of the Hawthorne effect from developing, in which an individual's behaviour can change due to the knowledge that they are being observed (Mukherji & Albon, 2019; and Newby, 2014).

The paradigms used within this proposal for data retrieval, will include a mixture of qualitative and quantitative methods (Waring & Day Ashley, 2021.; and Rehman & Alharthi. 2016). All research methods will be performed in an ethical manner, this will

be explored further within the next section. The preliminary quantitative stage of this proposal will be to conduct a questionnaire with parents, which will be taken in the form of the Vanderbilt Assessment Scale (VAS) for parents (NICHQ, 2021), these will be provided to the girls within each class to take home. Questionnaires provide opportunity for researchers to use closed or open-ended questions. Patten (2017) states that closed questions are only able to provide a 'snapshot' into the phenomena, but they provide researchers with a starting point. When used in conjunction with a rate scale or choices and the ability to expand on given answers, participants can provide richer details in their answers (Bolshaw & Josephidou, 2019.; Walker & Solvason, 2014.; and Robert-Holmes, 2018). Although, questionnaires provide a cost-effective means of obtaining the relevant information from a wider number of participants, they can however be problematic. In the view of the fact that the respondents' may have limited ability to understand the questions, their honesty and accuracy in which they answer, and if the questionnaire is returned to the researcher (Coe et al, 2021.; Newby, 2014.; and Coombes-McCalla et al, 2023).

The data received for the outcomes of the assessment scales will be analysed and used in producing the first sample group of ten girls from each setting. The outcomes will then be discussed with teaching staff in an interview setting, whereby the VAS for teachers will be used to reduce the sample group further. Although time-consuming and the possibility of a lack of availability or convenience to staff, conducting these interviews enable researchers to gain further in-depth understanding of the participants, providing qualitative data (NICHQ, 2021., Bolshaw & Josephidou, 2019., and Roberts-Holmes, 2018). These final focus groups will then be observed within a naturalistic environment, through which researchers will use both the VAS for teachers and taking meticulous notes. Observations will be conducted in two blocks of seven and six weeks across the academic year at each setting, allowing the researcher to achieve highly accurate outcomes, where the phenomena can be observed in a simple real-life setting (Cherry, 2022). By adopting, Bruner (1966) Bronfenbrenner (1979) Vygotsky (1962) and Bandura (1977) Social and Behavioural Theories, into practice, researcher can observe participants interactions with their peers and staff within the setting (Gray & MacBlain, 2021). Providing an insight, of the child's social connections, and relationships within their microsystem, in

accordance with personal, social and emotion development within the new curriculum for Wales (Gray & MacBlain, 2021), particular method, over the proposed time scale, provides opportunities for the researcher to observe behaviours in a non-intrusive way. Despite these advantages, observations can be expensive, time consuming and can sometimes limit overall exposure to the participants emotions, feelings, and opinions (Coe et al, 2021., Coombes-McCalla et al, 2023., and Roberts-Holmes, 2018).

Ethical Considerations

Real-life phenomena research must always be conducted in an ethical manner, by adhering to key ethical principles, obligations, professional frameworks, and codes of standard (UWTSD, 2022). Whilst conducting this research project, it is important that ethical principles are adhered too (WHO, 2023).

When designing ethical research, the researcher must act ethically in their decision making, and follow the relevant codes, policies, and laws, by which the researcher must take accountability and responsibility for their part within the study. These considerations, support best practice by underpinning integrity within the research environment (UWTSD, 2022). Researchers must be prepared to explain or justify their research and explain why or what the reasonings are for the undertaking of the study (Resnik, 2020). Transparency and processes that are robust and fair, ensures that if allegations such as misconduct arise, supporting ethical evidence is present (UWTSD, 2022).

BERA (2018) states that researchers should respect all participants undertaking the research project, ensuring that each individual is treated with respect, dignity, and fairness. Research should be free from prejudice regarding age, ethnicity, gender, class, disability, and other significant differences (BERA, 2018). The importance of this ethical code of practice, enables the protection of children, vulnerable young people and vulnerable adults who participate with in the research project. These ethical considerations, protect individual's rights and concern any moral issues that may occur when conducting the research project in a legitimate manner. (UWTSD, 2022., Wyse et al, 2017., and Alderson & Morrow, 2020). When children are the participants, the child's best interests, wellbeing, and rights, should be the primary consideration. Justifications between the balance of the child's rights and needs, and

the needs of the researcher must be assessed (NSPCC, 2023). Opportunities should be provided in which the child can express their views on the situation that may affect them, and to minimise the child's risk of harm (UNCRC, 2022).

Bhandari (2022) discusses further, that due to these ethical principles, participants have the freedom to participate without being coerced or pressured into doing so. Participants should be made aware that they have the ability to withdraw from the study at any time, without any obligation to continue. This voluntary participation is protected by UNCRC (2022) and also international law, whereby exceptional care should be taken not to pressure any vulnerable individuals into participating or when they may find difficulty withdrawing from the research project (ERIC, 2022., Kodish & Nelson, 2019., and Nolan et al, 2013). With accordance to these principals, participants of the study will be made aware that they can withdraw from the study at any time and are not obligated to provide a reason for their decision.

Researchers should not provide incentives to potential participants, as doing so could exploit individuals into agreeing to participate in something that they would not usually agree to do. These incentives could be interpreted as a bribe and cause bias results in the overall outcome of the study (Newby, 2014., and Robert-Holmes, 2018) When recruiting participants, informed consent must be obtained, participants must be made aware of the relevant information about the study, including the risks, benefits, length of study and contact details of researcher's supervisor (Wyse et al, 2017., and Alderson & Morrow, 2020) Parents or guardians of the participants will be provided will full disclosure of the study details. The researchers' details will be made available, if they wish to discuss information further or have any queries during the study process. Reassurance will be given that all data received will be kept confidential, and that their information can be withdrawn at any time by either contacting the researcher or the researcher's supervisor (Newby, 2014., and Robert-Holmes, 2018) Researchers should be transparent and avoid deceiving participants by discussing all information required for the study, including methods, and research assumptions (Wyse et al, 2017., and Kodish & Nelson, 2019). When participants have limited English capability, participants must be given access to alternative study materials, an interpreter or information interpreted into their first language (Alderson & Morrow, 2020., and Nolan et al, 2013). Prior preparation will overcome this issue, the researcher will request from individual schools' information of language

representation. Thereby enabling the researcher to provide adequate study materials if needed. When consent is required from individuals that are vulnerable or children, permission must be given by their parents or guardians. Although children are unable to provide informed consent, assent to participate from the child should be requested. (Nisarga, et al. 2022., Robert-Holmes, 2018., and Resnik, 2020). Within this study, permission will be requested for the parents or guardians of the children, furthermore, assent will be acquired from the child.

Considerations by the researcher must be considered, in regard to all sources exploitations or harm that can affect the participants within the study. Psychological harm can occur when research questions are sensitive or can trigger negative emotional reactions, such as anxiety or shame, in addition, social harm can occur when the research may lead to social or public embarrassment, giving rise to stigma. (Wyse et al, 2017., and Alderson & Morrow, 2020). Study procedures resulting in pain and injury can cause individuals physical harm and finally, when sensitive data is reported or there is a breach of privacy occurs this can lead to legal harm (Kodish & Nelson, 2019., and Nolan et al, 2013). Maximising the benefits, researchers must aim to provide valuable worthwhile research that outweighs risk of harm. However, the researcher must apply implementation of specific protections to minimise all risk of harm or discomfort to the participant and themselves (Early Education, 2021., and Robert-Holmes, 2018). Throughout this study, the safety and well-being of the children will be paramount, risk assessments will be used for the duration of the study, to assess the child's safety and well-being. If at any time, the risk assessments provide evidence that the child is in harm, the participant will either be withdrawn immediately, or the study will be terminated. It is paramount that participants rights of privacy are protected. It is the responsibility of the researcher to protect participants personal data for as long as the individual's data is required (Resnik, 2020., and Barrow et al, 2017). Permission to disclose personal data should not be disclosed or used further unless subsequent permissions have been acquired. Nevertheless, researchers have a duty of care towards their study participants, in which confidential information can be disclosed when required by the law or in instances where there safeguarding issues (UK Government, 2004.; Ofcom, 2021., and Gov Wales, 2023). Although researchers cannot guarantee anonymity for data collection, researchers can utilize methods such as data pseudonymisation. This

alternative method, by which individuals' information is replaced by either fake or identifying information such as a participants identification number. Despite the fact that participants information is separated from the study data, they can still be associated with each participant (IT Governance, 2020., Kodish & Nelson, 2019., and Robert-Holmes, 2018). Participants within this study will be recognized by a three-digit number, which will be provided to each participant's parent or guardian at the start of the study.

All participants have the right to request and see any data, evidence or records that have been collected during the study, under the Data Protection Act 2018. Research participants are entitled to have access to or update any incorrect personal data information at any time. This act provides individuals, opportunities to request that any of their personal data to be erased or have the ability to restrict or stop usage (Data Protection Act. 2018). The Data Protection Act 2018 also states that it is every one's responsibility to follow the 'data protection principals' to ensure that personal data is used lawfully, fairly, and transparently. Data should only be used for the specified purpose in an adequate manner and only stored for as long as necessary. (GOV UK, 2018., Newby, 2014., and Alderson & Morrow, 2020). All details should be kept up to date and managed appropriately to prevent unauthorised access, damage, destruction, or loss. All paper documentation should be kept in a secure locked draw, where only the researcher has access, and any digital data or images should be stored on a password protected device. All data should be disposed of in a secure manner and no copies should be made available (Nolan et al, 2013., and Resnik, 2020). Study evidence and data will be securely logged on a password protected I-Pad, whereby the only person able to gain access will be the researcher. When not in use, the I-Pad will be locked within a secure cupboard. All paper research will be scanned onto the I-Pad and the paper source will be destroyed in a secure manner stated by the Date Protection Act 2018. No information will be duplicated, and all data will be destroyed three years after publication. Shamoo and Resnik (2022) discusses that researchers should be honest, objective and have integrity. They should strive to provide honest data results, act with sincerity, and avoid bias, fabrication, and misleading representation of data (Shamoo and Resnik, 2022). Wilkinson et al (2016) reinforces this fact by discussing that data should follow the four foundational principles of FIND. Findability, Accessibility,

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Interoperability, and Reusability (FIND) enables researcher to navigate obstacles, maximizing the value gained through the study. Applying the principles through the entire study, enabling transparency, reproducibility, and reusability capabilities (Wilkinson et al , 2016). Ethical considerations are necessary to maintain the reputation of conduct of the university and its sponsors, also minimising any potential negligent accusations against the university (UWTSD, 2022). It is also paramount in protecting the participants rights and well-being, with minimal mental and physical discomfort, whilst ensuring the research procedure protect the participant for danger and harm (UWTSD, 2022).

Reference List

Alacha, H.F. and Lefler, E.K. (2021) 'Negative halo effects in parent ratings of ADHD, ODD, and CD', *Journal of Psychopathology and Behavioural Assessment*, 43(3), pp. 466–477. doi:10.1007/s10862-020-09860-1.

Alderson, P. and Morrow, V. (2020) *The ethics of research with children and young people a practical handbook*. Los Angeles: SAGE.

Andrade, C. (2020) *Sample size and its importance in research*, *SAGE Journals*. Available at: https://journals.sagepub.com/doi/pdf/10.4103/IJPSYM.IJPSYM_504_19 (Accessed: 10th May 2023).

APA (2023) *Attention-Deficit/Hyperactivity Disorder (ADHD)*, *American Psychological Association*. Available at: <https://dictionary.apa.org/attention-deficithyperactivity-disorder> (Accessed: 05th May 2023).

Atkinson, H. (2021) *Living with ADHD and the role of school staff*. Available at: <https://www.janssenwithme.co.uk/en-gb/living-with-adhd-teachers/school-staff#:~:text=Teachers%20have%20a%20key%20role,support%20of%20children%20with%20ADHD.&text=The%20teacher's%20knowledge%20about%20how,to%20the%20diagnosis%20of%20ADHD>. (Accessed: 06th May 2023).

Barkley, R. (2022) *Are there really 3 types of ADHD? ADDitude*. Available at: <https://www.additudemag.com/types-of-adhd-sluggish-cognitive-tempo-video/> (Accessed: 05th May 2023).

Barkley, R.A. (2015) *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment*. New York: Guilford.

Barrow, J., Branner, G. and Khandhar, P. (2022) *Research Ethics*, *The National Institute of Health*. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK459281/> (Accessed: 20th May 2023).

Bass, R. (2023) *The ADHD Parenting Guide for Girls: From Toddlers to Teens Discover How to Respond Appropriately to Different Behavioural Situations*. London: RBG Publishing.

Student number:- 2207832
Module Number:- ECEY5010

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Word Count:- 4351

BERA (2018) *Ethical guidelines for educational research, Fourth edition (2018)*. Available at: <https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-2018> (Accessed: 17th May 2023).

Bhandari, P. (2022) *Ethical considerations in research: Types & examples*. Available at: <https://www.scribbr.com/methodology/research-ethics/> (Accessed: 19th May 2023).

Bhandari, P. (2023) *What is qualitative research? Methods & examples*, Scribbr. Available at: <https://www.scribbr.co.uk/research-methods/introduction-to-qualitative-research/> (Accessed: 09th May 2023).

Bhardwaj, P. (2019) 'Types of sampling in research', *Journal of the Practice of Cardiovascular Sciences*, 5(3), p. 157. doi:10.4103/jpcs.jpcs_62_19.

Boddy, C.R. (2016) 'Sample size for qualitative research', *Qualitative Market Research: An International Journal*, 19(4), pp. 426–432. doi:10.1108/qmr-06-2016-0053.

Bolshaw, P. and Josephidou, J. (2019) *Introducing research in early childhood*. London: SAGE.

Brown, T.E. (2013) *A new understanding of ADHD in children and adults: Executive function impairments*. New York: Routledge.

Cherry, K. (2022) *How social learning theory works, How Social Learning Theory Works | People & Culture*. Available at: <https://www.verywellmind.com/social-learning-theory-2795074#a-few-applications-for-social-learning-theory> (Accessed: 10th May 2023).

Coe, R. Waring, M., Hedges, L.V., and Day Ashley, L. (eds.) (2021) *Research Methods & Methodologies in Education*. Los Angeles: Sage Publications Ltd.

Cohen, L., Manion, L. and Morrison, K. (2018) *Research methods in education*. London: Routledge.

Coombes-McCalla, S., Barhat, R., Hayes, J., Gregory, L., Ratchford, V., Marshall, P., Crompton, Z., Stafford, L., Davison, C. and Holmes, S. (2023) *Doing your early years research project*, Sage Publications Ltd. Available at: <https://uk.sagepub.com/en-gb/eur/doing-your-early-years-research-project/book257845> (Accessed: 14th May 2023).

Student number:- 2207832
Module Number:- ECEY5010

Module Name:- Research for Learning
Word Count:- 4351

DATA Cymru (2019) *How deprived is your area? WIMD*. Available at: <https://apps.dataunitwales.gov.uk/welshindexofmultipledeprivation/> (Accessed: 13th May 2023).

Di-Finizio, A. (2020) *The new curriculum for Wales: A worthwhile vision*, Institute of Welsh Affairs. Available at: https://www.iwa.wales/agenda/2019/05/the-new-curriculum-for-wales-a-worthwhile-vision/?gclid=EAlalQobChMI8eqZpsuG_wlVis3tCh2NAwywEAAYAyAAEgKxovD_BwE (Accessed: 21st May 2023).

Early Education (2021) *Code of ethics - early education*, The British Association for Early Childhood Education . Available at: <https://early-education.org.uk/wp-content/uploads/2021/12/Code-of-Ethics.pdf> (Accessed: 19th May 2023).

ERIC (2022) *Ethical research involving children*, Eric, child ethics, Ethical Research Involving Children. Available at: <https://childethics.com/> (Accessed: 17th May 2023).

Faria, D. and Almeida, F. (2017) *Strengths and limitations of qualitative and quantitative research methods*, European Journal of Education Studies. Available at: <https://oapub.org/edu/index.php/ejes/article/view/1017> (Accessed: 09th May 2023).

Farnsworth, C. (2022) *Combined type ADHD: Definition and treatment*, Medical News Today. Available at: <https://www.medicalnewstoday.com/articles/combined-type-adhd> (Accessed: 05th May 2023).

Forgan, J.W. and Richey, M.A. (2014) *Raising girls with ADHD: Secrets for parenting healthy, happy daughters*. Waco, TX: Prufrack Press.

Fresson, M., Meulemans, T., Dardenne, B., and Geuten, M. (2018) 'Overdiagnosis of ADHD in boys: Stereotype impact on neuropsychological assessment', *Applied Neuropsychology: Child*, 8(3), pp. 231–245. doi:10.1080/21622965.2018.1430576.

Gabrieli, G., Lee, A., Setoh, P., and Esposito, G. (2021) *An analysis of the generalizability and stability of the halo effect during the COVID-19 pandemic outbreak*, Frontiers. Available at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.631871/full> (Accessed: 17th May 2023).

Student number:- 2207832
Module Number:- ECEY5010

Module Name:- Research for Learning
Word Count:- 4351

GOV UK (2004) *Children Act 2004*, *Legislation.gov.uk*. Available at:
<https://www.legislation.gov.uk/ukpga/2004/31/contents> (Accessed: 21st May 2023).

GOV UK (2018) *Data Protection Act 2018*. Available at:
<https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted> (Accessed: 17th May 2023).

GOV. WALES (2023) *Relative income poverty: April 2021 to March 2022* . Available at: <https://www.gov.wales/sites/default/files/pdf-versions/2023/3/4/1679567757/relative-income-poverty-april-2021-march-2022.pdf> (Accessed: 12th May 2023).

Gray, C. and MacBlain, S. (2021) *Learning theories in childhood*. Sage Publications.

Greenway, C.W. and Rees Edwards, A. (2020) 'Knowledge and attitudes towards attention-deficit hyperactivity disorder (ADHD): A comparison of teachers and teaching assistants', *Australian Journal of Learning Difficulties*, 25(1), pp. 31–49. doi:10.1080/19404158.2019.1709875.

Hinshaw, S.P., Nguyen, P., O'Grady, S., and Rosenthal, E. (2021) 'Annual research review: Attention-deficit/hyperactivity disorder in girls and women: Underrepresentation, longitudinal processes, and Key Directions', *Journal of Child Psychology and Psychiatry*, 63(4), pp. 484–496. doi:10.1111/jcpp.13480.

Hire, A.J., Ashcroft, D., Springate, D., and Steinke, D. (2015) 'ADHD in the United Kingdom: Regional and socioeconomic variations in incidence rates amongst children and adolescents (2004-2013)', *Journal of Attention Disorders*, 22(2), pp. 134–142. doi:10.1177/1087054715613441.

Holland, K. (2021) *The history of ADHD*, *Healthline*. Available at:
<https://www.healthline.com/health/adhd/history#1902> (Accessed: 05th May 2023).

IT Governance (2020) *EU General Data Protection Regulation (GDPR): An implementation and compliance guide*. Cambridgeshire: IT Governance Publishing.

Jacobson, R. (2023) *How to help girls with ADHD*, *Child Mind Institute*. Available at:
<https://childmind.org/article/how-to-help-girls-with-adhd/> (Accessed: 06th May 2023).

Kodish, E. and Nelson, R.M. (2019) *Ethics and research with children*. 2nd edn. New York: Oxford University Press.

Student number:- 2207832
Module Number:- ECEY5010

Module Name:- Research for Learning
Word Count:- 4351

Koseva, N. (2023a) *The root cause of ADHD: Understanding the role of genetics, environment and brain function*, *The ADHD Centre*. Available at: <https://www.adhdcentre.co.uk/the-root-cause-of-adhd-understanding-the-role-of-genetics-environment-and-brain-function/> (Accessed: 25th April 2023).

Koseva, N. (2023b) *Understanding ADHD in women: Symptoms, diagnosis, and treatment options*, *The ADHD Centre*. Available at: <https://www.adhdcentre.co.uk/understanding-adhd-in-women/> (Accessed: 25th April 2023).

Langley, K., Thapar, A., Paranjothy, S., and John, A. (2023) *All Wales neurodevelopmental disorder e-cohort*, *Cardiff University*. Available at: <https://www.cardiff.ac.uk/centre-neuropsychiatric-genetics-genomics/research/current-projects/all-wales-neurodevelopmental-disorder-e-cohort> (Accessed: 05th May 2023).

Logan-Banks, P. (2020) *Attention deficit hyperactivity disorder (ADHD) in children ages one to five*, *BabyCentre UK*. Available at: <https://www.babycentre.co.uk/a25037622/attention-deficit-hyperactivity-disorder-adhd-in-children-ages-one-to-five> (Accessed: 27th April 2023).

Low, K. (2023) *ADHD symptoms in girls*, *Verywell Mind*. Available at: <https://www.verywellmind.com/adhd-in-girls-symptoms-of-adhd-in-girls-20547> (Accessed: 04th May 2023).

Lyon, J. (2023) *A British perspective on the psychological assessment of childhood AD/HD*. Available at: <https://www.healthypplace.com/adhd/articles/a-british-perspective-on-the-psychological-assessment-of-childhood-ad-hd> (Accessed: 15th May 2023).

Marucci, E., Oldenburg, B., Barrera, D. Cillessen, A., Hendrickx, M., and Veenstra, R. (2020) 'Halo and association effects: Cognitive biases in teacher atonement to peer-nominated bullies, victims, and Prosocial students', *Social Development*, 30(1), pp. 187–204. doi:10.1111/sode.12455.

Mattke, A. (2019) *Attention-deficit/hyperactivity disorder (ADHD) in children*, *Mayo Clinic*. Available at: <https://www.mayoclinic.org/diseases-conditions/adhd/symptoms-causes/syc-20350889> (Accessed: 03rd May 2023).

Student number:- 2207832
Module Number:- ECEY5010

Module Name:- Research for Learning
Word Count:- 4351

Morin, A. (2022) *8 common myths about ADHD, Understood*. Available at: <https://www.understood.org/en/articles/common-myths-about-adhd> (Accessed: 25th April 2023).

Mukherji, P. and Albon, D. (2018) *Research methods in early childhood: An introductory guide*. London: SAGE Publications Ltd.

Newby, P.T. (2014) *Research methods for education*. London: Routledge.

NHS Choice (2021) *Attention deficit hyperactivity disorder (ADHD)*. Available at: <https://www.nhs.uk/conditions/attention-deficit-hyperactivity-disorder-adhd/> (Accessed: 03rd May 2023).

NICE (2019) *Attention deficit hyperactivity disorder: Diagnosis and management: Guidance*. Available at: <https://www.nice.org.uk/guidance/ng87> (Accessed: 28th April 2023).

NICHQ (2021) *NICHQ Vanderbilt Assessment Scales*. Available at: <https://www.nichq.org/resource/nichq-vanderbilt-assessment-scales> (Accessed: 10th May 2023).

Nikolopoulou, K. (2022) *What is purposive sampling? Definition & examples*. Available at: <https://www.scribbr.co.uk/research-methods/purposive-sampling-method/> (Accessed: 12th May 2023).

Nisarga, V., Khar, P., Shelke, S., and De Sousa, A. (2022) 'Ethical issues in clinical trials that involve children with autism spectrum disorders', *Global Bioethics Enquiry Journal*, 10(1), pp. 05–10. doi:10.38020/gbe.10.1.2022.5-10.

Noble, H. and Heale, R. (2019) 'Triangulation in research, with examples', *Evidence Based Nursing*, 22(3), pp. 67–68. doi:10.1136/ebnurs-2019-103145.

Nolan, A., Macfarlane, K. and Cartmel, J. (2013) *Research in early childhood*. Los Angeles, CA: SAGE.

NSPCC (2023) *Research with children: Ethics, safety and promoting inclusion*. Available at: <https://learning.nspcc.org.uk/research-resources/briefings/research-with-children-ethics-safety-promoting-inclusion> (Accessed: 19th May 2023).

Student number:- 2207832
Module Number:- ECEY5010

Module Name:- Research for Learning
Word Count:- 4351

Oakes, K. (2022) *Why is ADHD missed in girls? BBC Future*. Available at: <https://www.bbc.com/future/article/20190530-why-is-adhd-missed-in-girls> (Accessed: 25th April 2023).

Ofcom (2021) *Annex 5: Revealing reality ethics - safeguarding policy 2021* . Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0027/217980/annex-5-revealing-reality-ethics-safeguarding-policy-2021.pdf (Accessed: 20th May 2023).

Palinkas, L.A., Horwitz, S., Green, C., Wisdom, J., Duan, N., and Hoagwood, K. (2015) *Purposeful sampling for qualitative data collection and analysis in Mixed Method Implementation Research, Administration, and policy in mental health*. Available at: <https://pubmed.ncbi.nlm.nih.gov/24193818/> (Accessed: 12th May 2023).

Parker-Gordon, J. (2021) *ADHD in girls: Symptoms, early signs, and complications, Healthline*. Available at: <https://www.healthline.com/health/adhd/adhd-in-girls> (Accessed: 25th April 2023).

Patten, M.L. (2017) *Questionnaire research A practical guide*. London: Routledge.

Petty, E. (2022) *ADHD in girls: Guide On Identification, Signs, Diagnosis, Treatment, Assistance, & Myths*. No place: Self - Published.

Pohl, R. (2022) *Cognitive illusions: Intriguing phenomena in judgement, thinking and memory*. Abingdon: Routledge.

Quinn, P.O. and Madhoo, M. (2022) *A review of attention-deficit/hyperactivity disorder in women and girls: Uncovering this hidden diagnosis, Psychiatrist.com*. Available at: <https://www.psychiatrist.com/pcc/neurodevelopmental/adhd/review-attention-deficit-hyperactivity-disorder-women/> (Accessed: 25th April 2023).

Rawala, M. (2023) *ADHD clinic for children: ADHD in children, The ADHD Centre*. Available at: <https://www.adhdcentre.co.uk/adhd-for-children/adhd-clinic-for-children/> (Accessed: 25th April 2023).

Rehman, A.A. and Alharthi, K. (2016) *An introduction to research paradigms* . Available at: <http://www.ijeionline.com/attachments/article/57/IJEI.Vol.3.No.8.05.pdf> (Accessed: 15th May 2023).

Resnik, J.D. (2020) *What is Ethics in Research & Why is it important?* , National Institute of Environmental Health Sciences. Available at:

Student number:- 2207832
Module Number:- ECEY5010

Module Name:- Research for Learning
Word Count:- 4351

<https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm#:~:text=Strive%20for%20honesty%20in%20all,research%20sponsors%2C%20or%20the%20public>. (Accessed: 19th May 2023).

Roberts-Holmes, G. (2018) *Doing your early years research project: A step-by-step guide*. Los Angeles: SAGE.

Safai, Y. (2022) *ADHD in girls: Symptoms, early warning signs, and complications*, *Medical News Today*. Available at:
<https://www.medicalnewstoday.com/articles/315009> (Accessed: 25th April 2023).

Shamoo, A.E. and Resnik, D.B. (2022) *Responsible conduct of research*. New York: Oxford University Press.

Steer, J. and Bilbow, A. (2021) *Understanding ADHD in Girls & Women*. London: Jessica Kingsley Publishers.

Thomas, L. (2022) *Longitudinal Study: Definition, approaches & examples*. Available at: <https://www.scribbr.com/methodology/longitudinal-study/> (Accessed: 13th May 2023).

Turner, D.P. (2020) 'Sampling methods in research design', *Headache: The Journal of Head and Face Pain*, 60(1), pp. 8–12. doi:10.1111/head.13707.

UK Government (2004) *Children act 2004*, *Legislation.gov.uk*. Available at:
<https://www.legislation.gov.uk/ukpga/2004/31/contents> (Accessed: 20th May 2023).

UNCRC (2022) *Summary of the UN convention on the rights of the child*, *UNICEF*. Available at: https://www.unicef.org.uk/wp-content/uploads/2019/10/UNCRC_summary-1_1.pdf (Accessed: 17th May 2023).

UWTSD (2022) *Research Ethics & Integrity Code of Practice*. Available at:
<https://www.uwtssd.ac.uk/media/uwtssd-website/content-assets/documents/research/REICoP-July-2022.pdf> (Accessed: 14th May 2023).

Walker, R. and Solvason, C. (2014) *Success with your early years research project*. Los Angeles: SAGE.

Waring, M., Hedges, L.V. and Day Ashley, L. (eds.) (2021) *Research Methods & Methodologies in Education*. 3rd edn. Los Angeles: Sage Publications Ltd.

Student number:- 2207832
Module Number:- ECEY5010

Module Name:- Research for Learning
Word Count:- 4351

Weaver, E., Asher, S., Rushton, R., Grocott, L., and Hunter, K. (2022) *ADHD and Young Children's , ADHD, and Young Children's*. Available at:
<https://www.adhdfoundation.org.uk/wp-content/uploads/2022/05/ADHD-in-young-children.pdf> (Accessed: 04th May 2023).

Welsh Gov (2023) *Wales safeguarding procedures, Safeguarding Wales*. Available at: <https://www.safeguarding.wales/en/> (Accessed: 17th May 2023).

Welsh Government (2019) *Support for children and young people with attention deficit hyperactivity disorder (ADHD) in educational settings*. Available at:
<https://www.gov.wales/sites/default/files/publications/2019-01/ways-of-supporting-learners-with-attention-deficit-hyperactivity-disorder-adhd.pdf> (Accessed: 05th May 2023).

Whitten, C. (2022) *How the halo effect influences your daily life*. Available at:
<https://www.webmd.com/mental-health/what-is-halo-effect> (Accessed: 15th May 2023).

WHO (2023) *Ensuring ethical standards and procedures for research with human beings, World Health Organization*. Available at:
<https://www.who.int/activities/ensuring-ethical-standards-and-procedures-for-research-with-human-beings#:~:text=It%20is%20important%20to%20adhere,ethical%20standards%20are%20being%20upheld.> (Accessed: 19th May 2023).

Wilkinson, M.D., Dumontier, M., Aalbersberg, I. J., Appleton, G., Axton, M., Baak, A., Blomberg, N., Boiten, J.W., De Silva Santos, L.B., Bourne, P.E., Bouwman, J., Brookes, A.J., Clark, T., Crosas, M., Dillo, I., Dumon, O., Edmunds, S., Evelo, C.T., Finkers, R., Gonzalez-Beltran, A., Gray, A.J.G., Growth, P., Goble, C., Grethe, J.S., Heringa, J., 't Hoen, P.A.C, Hooft, R., Kuhn, T., Kok, R., Kok, J., Lusher, S.J., Martone, M.E., Mons, A., Packer, A.I., Persson, B., Rocca-Serra, P., Roos, M., Van Schaik, R., Sansone, S.A., Schultes, E., Sengstag, T., Slater, T., Strawn, G., Swertz, M.A., Thompson, m., Van Der Lei, J. Van Mulligen, E., Velterop, J., Waagmeester, A., Wittenburg, P., Wolstencroft, K., Zhao, J., and Mons, B. (2016) *The Fair Guiding Principles for Scientific Data Management and Stewardship, Nature News*. Available at: <https://www.nature.com/articles/sdata201618> (Accessed: 20th May 2023).

Student number:- 2207832
Module Number:- ECEY5010

Module Name:- Research for Learning
Word Count:- 4351

WIMD, Welsh Government (2019) *Welsh index of multiple deprivation (WIMD) 2019*.

Available at:

<https://wimd.gov.wales/explore?lang=en#&domain=overall&z=13&lat=51.6755&lng=-4.1515> (Accessed: 12th May 2023).

Wyse, D., Selwyn, N., Smith, E., and Suter, L. (eds.) (2017) *The BERA/SAGE handbook of educational research*. Los Angeles : Sage.

Young, S., Adamo, N., Ásgeirsdóttir, B.B., Branney, P., Beckett, M., Colley, W., Cubbin, S., Deeley, Q., Farrag, E., Gudjonsson, Q., Hill, P., , Hollingdale, J., Kilic, O., Lloyd, T., Lloyd, P., Paliokosta, E., Perecherla, S., Sedgwick, J., Skirrow, C., Tierney, K., van Rensburg, K., and Woodhouse, E. (2020) 'Females with ADHD: An expert consensus statement taking a lifespan approach providing guidance for the identification and treatment of attention-deficit/ hyperactivity disorder in girls and women', *BMC Psychiatry*, 20(1). doi:10.1186/s12888-020-02707-9.

Young, S., Asherson, P., Lloyd, T., Absoud, M., Arif, M., Colley, W. A., Cortese, S., Cubbin, S., Doyle, N., Morua, S.D., Ferreira-Lay, P., Gudjonsson, G., Ivens, V., Jarvis, C., Lewis, A., Mason, P., Newlove-Delgado, T., Pitts, M., Read, H., van Rensburg, K., Zoritch, B., and Skirrow, C. (2021) 'Failure of healthcare provision for attention-deficit/hyperactivity disorder in the United Kingdom: A consensus statement', *Frontiers in Psychiatry*, 12. doi:10.3389/fpsy.2021.649399.