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Gender Differences and ASD: Exploring Professionals' Perspectives

Edwards, Bethany Anne

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# **Gender Differences and ASD: Exploring Professionals' Perspectives**

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**September 2018**

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*This dissertation is submitted in part fulfilment of the  
requirement for the degree of MRes Childhood and  
Youth at Bangor University*

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Signed  (Candidate)

Date 28th September 2018

## STATEMENT 1

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Other sources are acknowledged by footnotes giving explicit references. A bibliography is appended.

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## ACKNOWLEDGMENTS

I would like to extend my upmost gratitude to all of my family, friends, and the staff at Bangor University, as without these, I would have been unable to complete my studies.

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*‘Shoot for the moon. Even if you miss you’ll land among the stars’ – Les Brown*

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*‘Sing and make music from your heart to the Lord always giving thanks to God the father for everything, in the name of our Lord Jesus Christ’*

*Ephesians 5: 19-20*

## ABSTRACT

*The diagnosis of ASD has increased over the last fifteen years, with many scholars providing possible explanations for this (Elsabbagh et al., 2012; Russell et al., 2015). Specifically, this study contributes to the body of research investigating the awareness that the identification of ASD in females may be later than that in males, as well as the awareness that misdiagnosis or missed diagnosis is more likely in females (Dworzynski et al., 2012; Loomes et al., 2017; Van Wijngaarden-Cremers et al., 2014).*

*This study focused upon the perceptions and understandings of ASD within a specific population sample. Furthermore, the exploratory nature of study facilitated the collection of both quantitative and qualitative data, as well as enabling comparisons to prior literature in the field to be made.*

*Methodologically, this study enlisted a mixed method approach, made up of three methods; questionnaires, interviews and a case study based task. These methods were used in two base locations, with the inclusion criteria being standardised and practices mirrored in both locations. Through these methods, data was gathered, coded, and analysed, to enable conclusions to be made. Ethical issues, for example confidentiality and informed consent, were considered throughout the completion of the project, with ethical approval from the university ethics board being obtained prior to collecting data. Questionnaires were collected from staff currently employed within a school, for example, a class teacher. In comparison, interviews and the case study based activity were collected from specific professionals involved with ASD, for example, speech and language therapists.*

*A total of 29 questionnaires were collected, all of which were completed through the medium of English. Additionally, a total of nine responses were obtained for the case study based activity, as well as two participants who completed the interview. No participants who completed the questionnaire stated that they had a diagnosis of ASD. This marker was not ascertained within the other two methods.*

*Overall, three key themes were identified upon analysis of results gathered from all three methods used. The first theme considers participant's understanding and awareness of the diagnosis rates of ASD, which overall presented an understanding that males were more frequently diagnosed, with the awareness that females can be diagnosed in a smaller proportion of participants. Secondly, current developments in the field were mentioned and discussed by some participants, although, it is likely that inaccurate responses and statements were a result of various factors, including a lack of awareness in current developments and societal assumptions and misconceptions. Finally, the awareness and acknowledgement that gender may have an effect within the field of ASD lacked frequent understanding, specifically within the questionnaire respondents.*

*This study obtained findings that contribute to wider research, with some findings supporting previous research, as well as some that challenge or differ from previous study. Irrespective of this, this study demonstrates that understandings of ASD, and the possible relationship with gender, remain variable. Regardless of if or how this study is expanded,*

*increasing the reliability and validity of diagnoses should remain at the centre of the objectives and aims of study.*

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# **CHAPTER 1: INTRODUCTION**

## **1.1 Rationale**

The rationale and motivation for the completion of this study are heavily grounded in concepts explored in previous literature. As a result of the complexity of the multi-disciplinary topics studied, aims focused upon gathering data to explore professional's perspectives, as opposed to having hypotheses to be tested and measured. Throughout this study, the themes of Gender and ASD were considered in relation to children and young people, with this focusing upon legal definitions of a child being anyone up to eighteen years of age.

Support for this study comes from Sipes *et al.*, (2011), who state that in spite of the increasing prevalence of considerations of gender in research, it has not yet been the primary consideration. There is a vast amount of documented support for the benefits of professional training and methods enlisted to raise awareness of ASD, as well that which demonstrates the importance of professional understanding, knowledge and awareness in facilitating and increasing positive outcomes for children and young people (Callahan *et al.*, 2008; Humphrey & Symes, 2011). As a result, an exploration of and focus upon professionals' perspectives was considered the most appropriate and effective method to fulfil the aims of the study and contribute to wider ongoing research. Additionally, as a result of the wider acceptance and inclusion of all individuals within mainstream settings, an awareness and understanding of ASD, and the possible effects of gender, is considered imperative for a much wider group of professionals (Emam & Farrell, 2009).

## **1.2 Brief study aims**

For the purposes of this study a mixed method approach was enlisted, which produced a variety of qualitative and quantitative data. The use of this method was influenced by both the complexities of the topic, as well as the exploratory nature of this specific study. Data

collected enabled conclusions to be drawn, specifically with regards to the implications of the research, as well as where more research may be beneficial. Additionally, the aim of comparing this study to prior research was an inherent consideration when designing the research questions and methodological approach.

This study was classified as a field study, as it gathered information from various settings to consider whether current and ongoing developments in understandings of ASD and gender, had extended to professionals in contact with children and young people. Preliminary planning of the study focused upon choosing the methods and approaches that would aid the researcher in establishing the nature and extent of the gap between understandings, knowledge and awareness in literature and real life settings.

The inclusion of professionals across a variety of sectors, for example educational, social and healthcare, is a result of the various practitioners involved with facilitating support for individuals in different settings. The ideas and concepts considered in this study are deeply embedded within an incredibly complex topic, which has generated a variety of findings in literature. However, irrespective of the variation between findings from individual studies, the underlying development from previously static concepts is clear, and ever-growing.

Broadly, this research aimed to contribute to that striving to reduce the missed diagnosis and misdiagnosis of females with ASD, with the hope that this will further increase positive outcomes and experiences.

### **1.3 Summary of each chapter**

This thesis is formed of four main chapters, including; a literature review, methodology, results, and discussion chapters.

- The literature review explores previous literature and explorations of key themes and considerations within broader topic areas. Additionally, this chapter evaluates some of this research, as well as situating it within a wider field and discipline.
- The methodology chapter explores the three measures selected, including their ability to fulfil the aims of the study, and a justification for their use. Within this chapter, discussions also cite the ethical considerations inherent within this study, as well those featured in the field of research more broadly when including human participants.
- The results chapter displays findings from all three methods used in this study. This is done, for example, through the use of graphs and exemplar quotes of comments made by participants. Additionally, qualitative data obtained is discussed in relation to the key themes identified through data coding.
- The discussion chapter identifies the themes which emerged from the comparison of all three measures, as well as considerations of the findings of each individual method. Furthermore, this chapter identifies; the limitations of the study, possible implications of the findings, and areas which may require further research.

## **1.4 Definition of key concepts**

### **1.4.1 Gender**

Gender has a variety of descriptions, and as discussions of gender and sex will be central within this paper, a clear definition is considered appropriate. Biological characteristics are considered to define sex, whereas gender focuses upon the psychological and social behaviours displayed, which are subsequently categorised as being feminine or masculine (Kehily, 2013; Woolfolk *et al.*, 2013). Gender differences have been considered and displayed in many



previous studies across a vast array of disciplines, and they also continue to be focal in current and ongoing research (Hyde, 2007).

#### **1.4.2 Autism Spectrum Disorders (ASD)**

Autistic Spectrum Disorders (ASDs) are a group of developmental disorders, identified as a result of the presentation of a variety of indicators and symptoms. These can occur on various levels of the continuum, from those which are mild, to those which are more severe (Lauritsen, 2013). The term ASD is considered to be a diagnosis which encompasses several previously individual diagnoses, for example Asperger's Syndrome and Childhood Disintegrative Disorder (Lauritsen, 2013).

Jaarsna and Welin (2012) describe ASD as a neurological difference which is not detached, but an extension of the developmental and skill sets which are present in all individuals. This, along with the understanding that 'no two people are alike' with a diagnosis of ASD (Tincani *et al.*, 2011: 81), supports the need for further research and exploration of gender and ASD to reinforce the individuality of childhood experiences (Miyake & Friedman, 2012).

### **1.5 Introduction to previous research**

#### **1.5.1 Diagnosis rates**

The increase in diagnoses of ASD in the last fifteen years has been displayed in both literature and society more generally, as well as the concurrent increase in understandings and awareness of its nature and possible effects (Elsabbagh *et al.*, 2012). Russell *et al.*, (2015) discuss this, and suggest various explanations, including the developments in diagnostic criteria and assessment tools, and the improved methods of identification and diagnosis.

More recently, an increasing interest has been present in the identification of females with ASD, specifically in the understanding that diagnoses may have been missed or have occurred later, in comparison to males (Dworzynski *et al.*, 2012; Loomes *et al.*, 2017; Van Wijngaarden-Cremers *et al.*, 2014). Studies investigating the age of diagnosis in males and females have generally yielded findings which do not consider gender to be a factor (Mussey *et al.*, 2017). Additionally, studies completed with two samples, ten years apart, replicated this conclusion (Brett *et al.*, 2016; Russell *et al.*, 2015). However, many of these studies included small samples, and predominantly comprised of individuals who had a diagnosis of ASD. Thus, whilst these findings may support the lack of differences in the clinical samples studied, it is not appropriate to use these findings to fully dismiss the influence of gender.

Importantly, samples in these studies focused upon individuals whose difficulties had been identified and appropriately diagnosed prior to participation. This may be a result of the greater severity of symptoms and greater parental concern about the behaviours and difficulties presented by individuals who received an early diagnosis (Brett *et al.*, 2016; Daniels & Mandell, 2014).

### **1.5.2 The prevalence of ASD**

The prevalence of ASD is widely discussed and challenged by many scholars (Campbell *et al.*, 2011; Tierney *et al.*, 2016). Carpenter *et al.*, (2016) propose that the differences between scholarly citations of the prevalence is a result of the influence of time, definition and methodology. This considered, there is a general agreement in literature that the ratio of ASD in males to females is approximately 4:1 (Rutherford *et al.*, 2016; Taylor *et al.*, 2013).

Interestingly, when considering the effect of time and increased knowledge, differences have been found when comparing incidence based on different criteria (Maenner *et al.*, 2014).

In an assigned population of participants, applying the DSM IV criteria (APA, 2000) resulted in slightly more individuals being identified as having an ASD, compared with the application of DSM V (APA, 2013) to the sample group (Maenner *et al.*, 2014).

Additionally, diagnostic practices have been demonstrated to be influential in the increase of diagnoses of ASD (King & Bearman, 2009). As with any statistical reports on the prevalence of disability and medical conditions, assumptions that individuals will declare difficulties and that appropriate identifications by clinicians are being made, results in the possibility that the prevalence may not be as cited, and thus inaccurate (Pinborough-Zimmerman *et al.*, 2012).

## **1.6 What does current literature conclude?**

Eagle *et al.*, (2010) cite that even within the singular diagnosis of ASD, there are a vast range of abilities and presentations which can be witnessed. In spite of the great amount of research, and the acceleration of consideration in literature over the last ten years, there appears a lack of clarity around the clinical borders and etiology of ASD (Fein & Helt, 2017). Rutter (2014) cites this as ‘odd’ due to the enormity of interest given to the topic in literature, as well as the large amount of data that has been collected over time.

Much research has considered the correlations to and relationships with other diagnoses, for example, intellectual disabilities (Bishop *et al.*, 2006). Furthermore, an increased focus upon the trajectories of such difficulties during development, and overlaps with a variety of other factors which may affect presentation and challenges associated with ASD, have been witnessed (Richler *et al.*, 2010; Bishop *et al.*, 2007).

Studies which measured the presence of ASD traits in the general population have identified that these characteristics were more prevalent in males compared to females (Posserud *et al.*, 2006; Allison *et al.*, 2008; Williams *et al.*, 2008). It has been suggested that

this is one of the influences upon the perceived bias towards the male phenotype and presentation of ASD (Goldman, 2013).

It has also been suggested that the primary obstacle for researchers attempting to conceptualise ASD is the high levels of variability of the symptoms and cognition of those with ASD (Boucher, 2012; Georgiades *et al.*, 2013; Howlin *et al.*, 2004; Kjelgard & Tager-Flusberg, 2001). This is considered to be increasingly challenging when considering the potential additional influence of gender upon conceptualisations (Rommelse *et al.*, 2015; Waterhouse *et al.*, 2016). Though a variety of explanations for ASD have been cited and investigated, biological theories are considered to only feature in a small and very specific group of those with genetic abnormalities, and as such, alternative explanations, such as behaviour, have been sought (Abrahams & Geschwind, 2008).

The importance of a greater understanding of gender differences and ASD is a result of the well documented implications for individuals in adulthood, for example, social exclusion and isolation (Baldwin & Costley, 2016; Bargiela *et al.*, 2016; Haney, 2016). However, with the current focus among researchers on childhood presentation, there is the chance that adults and adolescents will be neglected among research, and as such, symptomology and gender differences within these groups will continue to lack clarity and investigation (Moseley *et al.*, 2018). In the limited literature which does exist, the overall noted theme focuses upon the difficulty in obtaining a diagnosis and accessing support, with some evidence that these difficulties feature more frequently in female populations (Lehnhardt *et al.*, 2016; Bargiela *et al.*, 2016; Baldwin & Costley, 2016).

## **1.7 Further research considerations**

The advised further considerations within future research suggest examining disability ‘as an axis of human difference that is as fundamental as anthropology’s usual suspects, such

as society and culture, race and class, and gender' (Ginsberg & Rapp, 2013, cited in McKearney & Zoanni, 2018: 1). This links closely to studies of the role of culture in the field of ASD, in which, culture was identified as being able to influence the manifestation of symptoms (Matson *et al.*, 2011; Matson *et al.*, 2017), as well as impacting upon their interpretation and evaluation by parents and professionals alike (Ennis-Cole *et al.*, 2013).

However, the avoidance of disability considerations within research is not a new phenomenon, they have been deliberated over the past forty years. Specifically, Edgerton (1970) collected vast amounts of empirical data and concluded that there was no straight forward or linear answer to explain the many questions surrounding disability.

The importance of exploring a wide range of professional's perspectives, as done within this study, is as a result of the connections between school based and externally based professionals (Smith *et al.*, 2010). Furthermore, the relationship between these two groups, for example teachers and researchers, is important, as current best practice and interventions are rooted in lengthy research and evaluation (Smith *et al.*, 2010). This by no means excludes those outside of this inclusion criteria to be affected or to have experienced ASD, specifically due to recent publicity surrounding the diagnosis of ASD which focused upon the individuality and lack of lineation between individuals with a diagnosis, along with the experiences of their families (Schieve *et al.*, 2007).

Many arguments supporting the increased amount of research in this area stem from the understanding and awareness that an early and valid diagnosis of ASD is correlated to significant improvements in both symptoms and functioning (Zwaigenbaum *et al.*, 2015). This idea and consideration is further cited as important due to the lifelong nature of ASD, both developmentally in the early years, and subsequent manifestations and implications throughout an individual's life (Lord & Spence, 2006).

## CHAPTER 2: REVIEW OF BACKGROUND LITERATURE

*'The field of autism spectrum disorders (ASDs) is expanding at an exponential rate. New topics for study are forming and journals are emerging rapidly to handle the ever-increasing volume of publications...Due to the relatively high incidence of the condition and the complex and heterogeneous nature of this symptom presentation, research in the field has expanded dramatically in recent years with respect to the number of published studies on the topic and the various specialty journals dedicated to presenting research on ASD.'* (Matson & LoVullo, 2009: 252-253).

### 2.1 Definitions of ASD and diagnostic criteria

#### 2.1.1 Definitions of ASD

According to the Diagnostic and Statistical Manual (DSM), ASDs are defined and measured against three key areas, which are collectively known as the triad of impairment (APA, 2013). However, this is considered to be a vastly simplified explanation which neglects the complexities and differences within individuals presenting with an ASD, specifically the features beyond the core triad of impairments, for example, cognitive, motor and sensory domains (Volkmar *et al.*, 2005).

An Autism diagnosis is characterised by agreed behavioural symptoms, as opposed to biomarkers which have been validated, for example, in cases of Parkinson's and diabetes (Walsh *et al.*, 2011). It is also commonly discussed that individuals with the core deficits of ASD also may experience comorbid diagnoses, predominantly in the field of psychopathology (Bakken *et al.*, 2010; LoVullo & Matson, 2009).

ASD is defined as a neurodevelopmental disorder which is present from early life (Ozonoff *et al.*, 2008) although, it is frequently documented that appropriate diagnoses are

often made considerably later than the onset of the disorder (Barbaro & Dissanayake, 2009; Yirmiya & Charman, 2010). Detecting and therefore referring individuals for an ASD assessment is challenging, and it is made increasingly difficult to identify at an early age due to a lack of specific, standardised signs and symptoms (Rogers, 2009). However, new developments in valid and reliable measurement tools have been seen to improve assessments, as well as enabling assessment of younger children (Matson *et al.*, 2009; Thorson & Matson, 2012).

### **2.1.2 Diagnostic criteria**

The Diagnostic criteria used to diagnose ASD is considered by many to be heavily based on male presentation, as a direct result of the overwhelming prevalence of males in statistical data and studies considered when designing such criteria (Lai *et al.*, 2013). More specifically, behavioural demonstrations of core difficulties and their interpretation, alongside the diagnostic criteria, will be based on previous male presentations, therefore, females may not conform to these behaviours and manifestations and thus, go undetected (Baron-Cohen *et al.*, 2011).

## **2.2 Diagnostic Statistical Manual (DSM): its development and changing classification of ASD**

### **2.2.1 Triad of impairments**

The triad of impairments which is frequently referenced in literature, was altered in the fifth edition of the DSM (APA, 2000, 2013; Wing *et al.*, 2011). This edition combined the previous triads for social communication and social interaction, to form what is referenced as criterion A, with the triad of restricted and repetitive interests as criterion B (APA, 2013). The changing diagnostic criteria has been subject to much scrutiny, however, there is a lack of

agreement as to whether this may be an influencing factor in the increased prevalence rates of ASD (King & Bearman, 2009).

### **2.2.2 Evolution of diagnostic criteria and assessment tools**

Since the initial description of Autism in 1943 by Kanner, the diagnostic criteria, standardised assessment practices, and the views and understandings of Autism by practitioners and society, have changed and evolved considerably (Fombone, 2001; Wing & Potter, 2002). One of the most notable changes in the latest DSM V (APA, 2013) criteria is the use of a single diagnosis of ASD, rather than individually diagnosing from any of the five diagnoses available in previous editions (Ozonoff, 2012). This change has not come without concern, though Lord and Jones (2012) suggest this may prevent individuals receiving multiple diagnoses as a result of the biases and variation of knowledge of clinicians.

One of the frequently referenced reasons for this new singular diagnosis is the many shared characteristics and lack of significant distinctions of the five referenced in previous editions, with it further being added that this change would ‘recognize the essential shared features of the autism spectrum’ (Happe, 2011: 541; Witwer & Lecavalier, 2008). Furthermore, the revisions of the initial criteria have been seen to represent the growing research into autism through both a developmental and scientific perspective (Verhoeff, 2013).

However, what has remained consistent is that all editions have aimed to increase the accuracy of criteria, with research identifying a lack of consistency in the labels and diagnoses given, for example, in America (Lord *et al.*, 2011), and in Australia (Williams *et al.*, 2008).

## **2.3 Situating the diagnosis of ASD**

Within the field of ASD, there are several inter-related links with educational study, for example, funding being heavily reliant upon particular diagnoses, so much so, that primary



diagnoses have been changed in order to access funding and support (Coo *et al.*, 2008; Hansen *et al.*, 2015; King & Bearman, 2009; Polyak *et al.*, 2015).

### **2.3.1 Recent updates**

Following the fifth edition of the DSM in 2013, the awareness of the potential that females are under diagnosed has increased, as well as an understanding and suggestion that further research from current population samples is highly desirable, if not essential (May *et al.*, 2018). When comparing the samples in relation to gender, obtaining balanced samples remains problematic, and has been suggested to be highly influenced by the predominance of males when using the diagnostic measurement tools (Kirkovski *et al.*, 2013). This has also been extended to be influenced by both females and males ability to camouflage, and as such, providing additional barriers to obtaining a diagnosis within the constraints and resources available to practitioners (Foggo & Webster, 2017; Hull *et al.*, 2017; Tierney *et al.*, 2016; Bargiela *et al.*, 2016; Baldwin & Costley, 2016). In addition, the self-report nature of many instruments enlisted in ASD assessments brings its own controversies, specifically in the validity of such results when evaluating and analysing gender differences (Lai *et al.*, 2011).

## **2.4 Diagnosis and screening instruments**

### **2.4.1 Screening instruments, their strengths and limitations**

The use of screening instruments and diagnostic criteria have been questioned among scholars, specifically due to their basis on males presenting with the traditional phenotype, which further reinforces the importance of studies such as this (Andersson *et al.*, 2013; Haney, 2016). As a result of this, many scholars have suggested that the main recommendation of research and development in this field is to develop specific gender-based assessment instruments which can detect the subtle difficulties previously identified in female samples

(Baldwin & Costley, 2016; Baron Cohen *et al.*, 2009; Posserud *et al.*, 2008; Williams *et al.*, 2008).

Various factors have been cited as being instrumental in improving the efficiency of diagnosing ASD, for example, increased awareness, training for practitioners, and additional collaboration between services (Caronna, 2003). This is considered to support the aims of this study, specifically in its exploratory nature to see whether developments in research have transcended to professionals with regular contact with children. Certain social influences, for example socioeconomic status, are considered to increase the likelihood of an individual receiving a diagnosis of ASD, with an increase in awareness and understanding among professionals and the general community alike demonstrating some of the advances in research (Mandell & Palmer, 2005; Skellern *et al.*, 2005).

In addition, the factual inaccuracies about the causes of ASD and the stigma associated with receiving a diagnosis are increasingly being challenged, as well as being reduced (Volkmar *et al.*, 2004; Wing & Potter, 2002). Whilst masking difficulties can be beneficial, it also is considered to negatively impact achieving a valid and reliable diagnosis of ASD, which may be further enhanced by the lack of awareness of typical female presentation of ASD and frequent reference to the gender stereotypes in among society (Moseley *et al.*, 2018).

#### **2.4.2 Importance of early identification and diagnosis**

Scholars are in agreement that an early diagnosis of ASD and subsequent intervention provides the best outcomes for an individual (Charman & Baird, 2002; Nissenbaum *et al.*, 2002). However, there have been a number of proposals for why diagnoses are happening later, and taking longer. One of the predominant explanations is the variability of ASD among different individuals, based on markers such as gender (Kabot *et al.*, 2003).

This factor is intensified by the limited specialised training which is available for practitioners to aid the recognition of subtle and less conventional symptoms (Ho & Smith, 2001; Selfe, 2002). The methods used in a diagnosis have also been cited as a further reason for delay, specifically their heavy focus on parental recall and interpretations (Kope *et al.*, 2001).

#### **2.4.3 Data gathering for ASD assessments**

Difficulties in a variety of areas contribute to a diagnosis of ASD and data is gathered from several sources, including parents or primary caregivers (Baird *et al.*, 2003). Research has identified that parental rating and reporting of perceived difficulties differs between males and females (Wille *et al.*, 2008). This difference mainly focuses on the lower rates of impairment reported for girls, and when rating impairment, parents predominantly focus on external behaviours, compared with the individuals being assessed focusing on emotional difficulties (Wille *et al.*, 2008). This may be explained as gender expectations of females frequently place inter personal and social skills as important, therefore for referral and diagnosis of ASD, significant symptoms and externalising behaviours, such as a lack of reciprocity, must be displayed (Bauminger *et al.*, 2010; Constantino & Charman, 2012).

#### **2.4.4 Standardised ASD assessment tools and the need for them to be age appropriate**

Using age appropriate resources should be a consideration to minimise invalid and unreliable conclusions, though elimination of this factor entirely is unlikely, as the use of common categories, for example in restricted interests, cannot account for the full variation of interests which may be presented (Caldwell-Harris & Jordan, 2014; Morrison *et al.*, 2018). In examining circumscribed interest images, the inclusion or exclusion of stimuli was based upon previous research of individuals with a diagnosis of ASD, therefore further consideration would be beneficial, as predominantly male samples used previously may limit the generalisability

when considering females (South *et al.*, 2005). The importance of ensuring a balance of genders in participatory studies is supported by indications that interests may differ between genders (Harrop *et al.*, 2017; Hiller *et al.*, 2016; Sutherland *et al.*, 2017).

#### **2.4.5 Gender differences in the ADI- R:**

Various literature exists which has investigated and compared characteristics of autism in males and females using the Autism Diagnostic Interview- Revised (ADI-R). The ADI-R uses discussions with an individual's parents, focussed on a list of specific, standardised behaviours, to aid clinician's ratings of these on a set scale (Constantino *et al.*, 2003). Carter *et al.*, (2007) controlled the age and nonverbal IQ of participants with ASD, and did not find any significant differences when using the ADI-R. Again, using the ADI-R in a sample of participants with ASD, no gender differences were found when focusing upon the scores for restricted and repetitive behaviour (Szatmari *et al.*, 2006).

However, as with qualitative research more generally, limitations exist due to the possibility of interviewer bias (Carrington, 2014). This bias may be more pertinent in this instance, as interpretations of parent's comments and inferences from discussions may be affected by external factors, and subsequently, these may affect the reliability and validity of the ratings and report (Tadevosyan-Leyfer *et al.*, 2003). Furthermore, Goldman (2013: 676) summarises the consideration of gender and states that findings will be 'influenced by the child's expected behaviours in accordance with the prominent socialization gender attribute'.

### **2.5 Areas considered during assessment and diagnosis**

#### **2.5.1 Social interaction**

Social interaction can be viewed in relation to the behaviours an individual displays and the understanding and explanations they possess. This is important when considering gender, as Wilkinson (2008) states that girls with ASD have a greater understanding and awareness of

social interactions, along with a higher appreciation of the desirability of successful social interactions. This could be considered to link to the externalising behaviours commonly associated with ASD, and research which suggests that female's difficulty in obtaining a diagnosis is as a result of the reduced amount of these behaviours displayed in comparison to males (Kreiser & White, 2014).

### **2.5.2 Restricted and/or repetitive behaviours and interests**

Rivet and Matson (2011: 960) discuss the specific element of the triad described as 'restricted interests and/or repetitive behaviour(s)'. This is regarded both by scholars and clinicians alike to be a significant and primary indicator of ASD (Brim *et al.*, 2009).

Discussions of restricted interests remain central to the area of gender and ASD due to the recognition of consistent differences between genders to appear in this area (Hiller *et al.*, 2015). This is extended by Mandy *et al.*, (2012), who suggests that this is the only difference in core symptomology associated with ASD, with the difference being that more males with a diagnosis present with a restricted interest or interests than females. The gender differences in within this area of ASD have been replicated in samples of two year old neuro-typical individuals, as their findings identified greater repetition of behaviours and fixations on specific interests (Leekam *et al.*, 2007).

Specific or restricted interest are an important consideration when assessing an individual for ASD, and as in other areas, differences have been identified in males and females (Attwood, 2012; Supekar & Menon, 2015). Baron-Cohen *et al.*, (2009) describe that links between exceptional abilities in areas such as music and languages have been recognised, therefore reinforcing the need for thorough and careful consideration when disseminating between ability and special interests.

Interpretation and application of diagnostic criteria in males and females has been examined and suggested as an additional consideration and possible influence on the differences in diagnosis rates (Lai *et al.*, 2014). When considering restricted and repetitive behaviours and interests, it has been suggested that clinicians may be influenced by the nature of activity compared to gendered expectations, as opposed to whether the behaviours constitute a clinically significant impairment (Shefcyk, 2015).

### **2.5.3 Social communication**

Social conventions surrounding communication and attitude in those with ASD or indications has been recognised as an area where there may be gender differences (Kirkovski *et al.*, 2013). This is of particular interest when considering autism in girls, as literature identifies that socially desirable behaviours are more frequently noted in females (Lai *et al.*, 2015). In turn, this may result in the dismissal or minimisation of presented difficulties when in diagnostic settings and when undergoing assessments (Ormond *et al.*, 2017).

Challenges for all individuals with ASD exist, however, as females have been shown to use greater effort resulting in greater ability, clinicians should be mindful that females still encounter challenges in social environments which may be different to those experienced by males and neuro-typical females (Knickmeyer *et al.*, 2008).

## **2.6 Broad Autism Phenotype (BAP)**

The citing of ‘The Broad Autism Phenotype’ (BAP) has given further factors to be considered when assessing for ASD, and whether they are an extension of the threshold which is inherent among the general population, or whether difficulties and presentations meet the criteria to receive a diagnosis (Morrison *et al.*, 2018). Constantino and Todd (2003) further explain BAP to be mild and not at the level or intensity to warrant a diagnosis. The exploration of this has predominantly focused upon the social features and difficulties, for example;

decreased social skills and social cognitive ability (Ingersoll, 2010; Sasson *et al.*, 2013), increased levels of loneliness (Faso *et al.*, 2016), and decreased satisfaction in social relationships and friendships (Wainer *et al.*, 2013).

The lack of similar investigation into non-social aspects, for example, the repetitive and restrictive interests which form a considerable portion of the autism assessment tools focus, as well as sensory difficulties (Esbensen *et al.*, 2009). Interestingly, the lack of research in this area corresponds to an area where the gender differences in ASD presentation have been studied. Research such as Klin *et al.*, (2007) state that characteristics indicative of repetitive and restrictive interests were present in around 88% of individuals who had received a diagnosis of ASD.

As previously discussed both within this paper and in wider literature, differentiating between strong interests which are consistent with typical childhood, and those which may be indicative of an ASD is difficult (DeLoache *et al.*, 2007; Turner-Brown *et al.*, 2011). Various explanations of the differences have been cited, many focusing on the content and function of the activity or interest rather than simply using the activity alone to determine whether a classification of it being a restricted interest is appropriate (Anthony *et al.*, 2013).

The prevalence of BAP and its associated features are existent in the general population (Robinson *et al.*, 2011), though higher numbers of diagnoses and identification occurs in individuals with a relative with ASD, with first-degree relationships having the highest recorded levels (Sung *et al.*, 2005). Additionally, Bernier *et al.*, (2012) identify that in families where there is a higher prevalence of ASD are more likely to have increased BAP. Assessment for BAP, like ASD, involves the use of various standardised instruments, for example the Broad Autism Phenotype Questionnaire (BAPQ) (Hurley *et al.*, 2007). This tool enlists various subscales, whose content reflects the triad of impairments (Sasson *et al.*, 2013).

Through measuring various behaviours following the presentation of stimuli, gender differences have been identified when considering BAP (Harrop *et al.*, 2017; Mandy *et al.*, 2012). Furthermore, these differences focus on female's greater interest in stimuli which was socially oriented and which fit gender norms and perceptions, compared to the male participants' higher interests in construction and scientific material (Wilson *et al.*, 2016).

## **2.7 Previous research investigating the relationship of gender and ASD**

Currently, two consistent findings of the factors of sex and ASD have been identified (Mandy *et al.*, 2012). The first considers the prevalence of individuals' diagnoses with ASD, using sex as the marker, and secondly the intelligence of individuals presenting with ASD, again using sex as the marker. It is commonly understood that ASDs more commonly occur in males than females, which across the spectrum, has been calculated to be approximately four to one (Baird *et al.*, 2006). However, as ASD is a spectrum disorder, it is important to elicit considerations of prevalence in various samples, an example being that higher functioning individuals are eight or nine to one when comparing males and females (Mandy *et al.*, 2011).

On average, females who have been clinically identified or diagnoses with ASD have a lower intelligence than males who also have ASD (Skuse *et al.*, 2009). Therefore, it has been debated and concluded that when conducting studies into sex differences in ASD, intelligence should be monitored for its effects and considered as a confounding variable (Volkmar *et al.*, 1993).

Whilst understandings of ASD have progressed, difficulties have been identified in the identification and diagnosis in females, more specifically those without a coexisting cognitive deficit (Shattuck *et al.*, 2009). Another consideration is that the studies reporting comorbidities with other diagnoses are predominantly focused in clinical settings and specialist schools, which has implications for those outside of these settings, as the lack of a comorbid disorder



may delay or prevent an appropriate referral being made (Posserud *et al.*, 2016). Care should be taken when assessing individuals with comorbid or dual diagnoses, specifically cognitive impairments, as they may disguise or accentuate otherwise subtle displays and presentations of communication related behaviours (Kopp & Gillberg, 2011).

Furthermore, due to dominance of male diagnoses, observations of autism in males are the prominent source of information used in various areas, including: developing diagnostic tools, standardising clinical assessments and conducting research (Goddard *et al.*, 2014; Taylor *et al.*, 2016). The overwhelming presence of male cohorts involved in the development of assessment tools has elicited questions as to whether they are equally valid and reliable in female cohorts, though the consideration of the sensitivities of the tools when used with in identifying females remains sporadic in research (Rinehart *et al.*, 2011). Whilst discussions of gender have been inherent in scholarly literature, focus is typically on characteristics of ASD and their presentation, rather than gender being the primary focus of the research (Sipes *et al.*, 2011).

By its classification of being a spectrum disorder, diverse and vast presentations and symptomology is to be expected, though to increase accuracy of diagnoses, especially in females, valid and reliable measures which produce a holistic profile are required (Azeem *et al.*, 2016). Gould and Ashton-Smith (2011) support the need for reviewing current diagnostic processes, as they consider the current process, based on male-centric presentation of difficulties, to be instrumental in the misdiagnosis or missed diagnosis of females presenting with difficulties.

## **2.8 Presentations of ASD- does gender have an effect?**

There is, however, a developing awareness that the manifestations and presentations of autism in females may be different or more subtle (Dworzynski *et al.*, 2012). These

developments have led to scholars questioning current literature around the epidemiology, presentation and occurrence of autism (Andersson *et al.*, 2013; Cheslack-Postava & Jordan-Young, 2012; Giarelli *et al.*, 2010). More recently, researchers and clinicians consider the prevalence of autism in females to be higher than previous statistics would suggest (Rynkiewicz & Lucka, 2015; Rynkiewicz *et al.*, 2016).

As a result of the increase in awareness and support for gender differences in autism, global and cross cultural researchers continue to contribute to the advancing understandings and explanations of the unique and emerging female presentation of autism (Zwaigenbaum *et al.*, 2012). The importance of an increased awareness and understanding of ASD and gender within education, has been identified as one of a number of reasons reinforcing the need of an urgent review of the SEN elements in teacher training (Carter, 2014).

Additionally, beyond those enrolled on teacher training programmes, developing inclusion and understandings of SEN has been discussed as having a place in Continuing Professional Development (CPD) (Forlin, 2012; Florian & Rouse, 2009; Vickerman, 2007). These challenges and the need for development are not only found in England (Hodkinson, 2009; Slee, 2010), but internationally across educational communities (Engelbrecht, 2013; UNESCO, 2009).

There is no doubt that there are identifiable differences in the presentation of ASD in males and females, however, as yet, there is no definite and systematic guidance or understanding of female presentation (Lai *et al.*, 2015, cited in Ormond *et al.*, 2017). Furthermore, current understandings are heavily based upon anecdotal accounts (Willey, 2015), clinical observations (Chawarska *et al.*, 2016) and qualitative studies (Bargiela *et al.*, 2016).

One of the main discussions centres on whether behaviours which may be indicative of an ASD are more commonly associated with a certain gender, which in turn may influence interpretations. For example, Skuse *et al.*, (2004) discussed shyness and over-sensitivity, which are considered to be common characteristics of individuals with ASD. Findings cited that as societal perceptions of these characteristics tend to be attributed to females, displays and presentations of this nature in this group may be dismissed, or not considered relevant (Skuse *et al.*, 2004). Gender expectations and perceived norms inherent among society and professionals, have been identified as a significant hurdle for girls in accessing appropriate support within the mental health service (Alegria *et al.*, 2004; Derks *et al.*, 2007).

## **2.9 Other factors to consider**

### **2.9.1 Intelligence Quotient (IQ)**

Within ASD, various factors have been identified as influencing the severity of difficulties. For example, it has been cited that there is a negative correlation between the severity of ASD and related difficulties, and an individual's Intelligence Quotient (IQ) (Matson & Shoemaker, 2009). Put simply, more severe difficulties are noted in individuals with a lower IQ compared to the milder difficulties identified in those with a higher IQ (Mayes *et al.*, 2009).

### **2.9.2 Age**

Furthermore, increasing age has also been identified as being correlated to a reduction in autistic symptomology and associated difficulties (Schopler *et al.*, 2010). Longitudinal studies provide support for such correlation, as McGovern and Sigman (2005) reported improvements in various areas for individuals with ASD, including social interaction, emotion regulation and empathy. Levels of improvement were higher in individuals with High Functioning Autism in comparison to those with Low Functioning Autism, which may suggest that other variables may contribute as well as age (Mayes & Calhoun, 2011).

As with many markers, age has received limited investigation among research, specifically in the core symptoms and presentations of ASD in males and females across child development into adulthood (Kozłowski *et al.*, 2012). Additionally, there are a limited number of studies which have primarily focused upon gender related differences and have included samples of individuals beyond the early years (Sipes *et al.*, 2011).

Individuals with an existing diagnosis have been prominent in previous research, and it has been suggested that as those in this group are likely display more severe difficulties and impairments, they gain earlier attention, consultation and diagnosis (Wiggins *et al.*, 2006).

## **2.10 Camouflaging- not a new concept**

Ideas of camouflaging have increasingly been a focus of literature in recent years, however, these ideas are not new. Wing (1981) described this as one of the reasons which may account for the diagnosis disparities between males and females. In addition, she suggests that females have a greater ability to replicate the norms and behaviours which they observe, internalise and practice social rules and conventions, which in turn masks the symptoms which may initiate consideration of possible difficulties (Wing, 1981). However, limitations were identified with Wing's (1981) research, mainly regarding the sample, and its reliance on observations of older individuals who had no identified comorbid impairment (Fulton *et al.*, 2017).

### **2.10.1 Camouflaging- a concept or a skill?**

Camouflaging symptoms and difficulties through enlisting compensatory behaviours has been described as a skill better executed by females than males, and is typically established in social situations (Dworzynski *et al.*, 2012; Tierney *et al.*, 2016). The discussions of camouflaging support the importance of the environment, specifically in an individual's ability

to interact and comply with the norms associated with the environment, for example, within a school setting (Dean *et al.*, 2017).

Various explanations of the process of camouflaging have been described following clinical and research findings, though observation is most prevalent citing various methods, including play observations and social repetitions following observation (Attwood, 2007; Simone, 2010). Whilst an individual's ability to camouflage can be difficult to detect, this skill is not innate, therefore it will have been learnt over time, and the individual may not be aware of it (Attwood & Grandin, 2006).

An interesting observation made by Gould and Ashton-Smith (2011) focuses upon the female dominance in areas of social ability and communication, as they describe how this ability may enable, or increase an individual's ability to mask and conceal deficits in other areas, for example, social impairment. Further literature considers camouflaging, and describes that whilst both males and females may mask their difficulties on occasion, the female dominance was apparent in the extent and nature of the use of camouflaging in day to day life (Lai *et al.*, 2016). Through analysing social behaviours and imitation, females are considered to replay the positive or successful interactions so that their behaviours, and perceptions of themselves by others, fit social norms, which in turn provides an ability to mask and suppress any difficulties and confusion (Kopp & Gillberg, 2011).

## **2.11 Variations in diagnosis- the effects of age and gender**

Variations in diagnosis age in young children can significantly influence both the individual and their family, as well as clinicians and practitioners involved with them (Petrou *et al.*, 2018). However, in relation to differences between males and females, there are no significant differences in the number of medical or health related appointments attending during the diagnosis process, from an initial appointment up until receiving a clinical diagnosis

(Siklos & Kerns, 2007). Begeer *et al.*, (2013) also suggest that the reporting of concerns or seeking advice by an individual's primary caregiver is initiated at a similar age for both males and females.

Alternative findings suggested that initial concerns regarding developmental symptoms was earlier in females than males (Horovitz *et al.*, 2012). However, caution is required when basing conclusions on such findings, as alternative explanations could be worthy of equal consideration, namely scholarly proposals that suggest females with ASD typically have a lower IQ than male comparisons (Banach *et al.*, 2009; Bhasin & Schendel, 2007; Fombonne, 2005). As a result, it is reasonable to consider that these conclusions and findings may be observable in this sample.

## **2.12 Gender differences in other areas of development and disability**

The perceived prominence of males in ASD has also been described in other childhood neurodevelopmental diagnoses, such as Attention Deficit Hyperactivity Disorder (ADHD) (Bussing *et al.*, 2003). Whilst no standardised explanation for these differences has yet been cited and agreed, factors which may influence these differences have been identified (Ohan & Visser, 2009). These differences focus on sociological differences, such as cultural norms and expectations, as opposed to factors based on biological differences between males and females (Van-Wijngaarden-Cremers *et al.*, 2014).

Male and female developmental and social differences have been studied in many areas, including early language acquisition and development (Burman *et al.*, 2008). Females have been shown to be marginally better than males at language (Bardon-Cohen *et al.*, 2005; Bornstein *et al.*, 2004), which adds to previous research recommendations that standardised measurement tools are unable to fully account for gender differences (Wallentin, 2009).

### **2.12.1 Play and collaboration in early years**

In the early years, opportunities for children to play and interact are plentiful, both at home and in educational settings. Gender differences have been identified in this age group (three to four years of age), specifically that females more frequently engage with these behaviours and opportunities (Barbu *et al.*, 2011). This explanation is supported as a reason for the gender differences in ASD, as Baron-Cohen (2010) suggests that ASD is an extreme version of a neuro-typical profile. Explanations and understandings of ASD are centred on scholarly publications, therefore care should be given in ensuring that clinical processes and explanations represent the patterns inherent in the general population (Thompson *et al.*, 2003).

### **2.12.2 Gender differences in play and social group norms**

The gender differences in presentation of ASD have been identified in various areas, although Hiller *et al.*, (2014) discuss a male bias in the expectations of an individual's presentation, for example, theories that females will display similar solitary play behaviours as males. Discussions of play behaviours and interpersonal relationships suggest that some ASD-related behaviours can develop differently as a result of the groups individuals associate with (Tierney *et al.*, 2016). Social communication difficulties, for example, may be more apparent and consequently penalised in typically female groups where discussions and friendships are viewed as important, when compared to sports activities, for example, which are commonly associated with male based populations (Goodwin, 2006).

### **2.13 Investigations and explanations**

Investigations and explanations of the gender differences in ASD have been considered by many, with various conclusions being drawn. The DSM-V (APA, 2013: 57) cites that females 'without accompanying intellectual impairments or language delays may go unrecognised, perhaps because of subtler manifestations of social and communication difficulties'. This view has been extended by Lai and Baron-Cohen (2015), who state that

females are at an elevated risk of going undiagnosed, as well as being misdiagnosed with another condition.

### **2.13.1 Common preconceptions and assumptions**

One of the common preconceptions and assumptions regarding ASD focuses upon the links with academic attainment, which Alresheed *et al.*, (2018: 1) discusses, stating that ‘below grade-level academic performance is not a defining characteristic of ASD, but academic performance is variable and many students require explicit instruction and support to access the general education curriculum...’.

Furthermore, these findings cement the importance of understanding the possible effect of gender, as this has been suggested to limit the effect that clinicians own personal bias and expectations of the presentation of ASD have during screening and diagnostic processes (Goldman, 2013).

### **2.13.2 Mass media and reports of ASD**

Whilst media reports and publications surrounding ASD generally lack scientific support and reference (Schreck *et al.*, 2013), they still remain to be an easily accessible source of information for society and practitioners to base or further their knowledge and understanding (Miller *et al.*, 2012). Furthermore, these sources of information may affect the support individuals or their families may seek, as well as the treatment and support strategies they adopt (Zhai *et al.*, 2017). Providing consumers of mass media with information is one of the primary purposes of publication, though the portrayal of health and educational topics is considered to advance and influence the stereotyping of certain conditions and groups, for example individuals with ASD (Jones & Harwood, 2009).

Portrayal in mass media is considered to create an outline of what an individual with ASD is like, in turn, failing to portray the heterogeneity and individuality associated with a



diagnosis of ASD, for example, when considering factors such as gender (Huws & Jones, 2011). Whilst clinicians involved with the assessment and diagnosis of ASD will have had appropriate training, limiting the bias of social and environmental influences, such as mass media, remains as one of the limitations of the current diagnostic tools (Carrington *et al.*, 2014; Tadevosyan-Leyer *et al.*, 2003).

## **2.14 Importance of considering all explanations for an individual's presentation**

Important consideration should be given to ensure appropriate analysis is made in females presenting as functioning adequately, as diagnosis of an alternative condition, such as anxiety or an eating disorder, is more likely in this group (Hambrook *et al.*, 2008). Should diagnoses of such conditions have already been made, care should be taken to ensure 'diagnostic overshadowing' does not limit or alter assessments of ASD (MacNeil *et al.*, 2009; Rosen *et al.*, 2018).

Assessment tools that aid appropriate diagnoses and encompass difficulties associated with alternative disorders, for example the ASD-CC, have been identified as an important requirement due to the recognition of the diagnostic overlap between ASD and various other psychopathology (De Bruin *et al.*, 2007; Gadow *et al.*, 2004; Morgan *et al.*, 2003). However, these tools are limited, with two currently available and an alternative two for adults (Helveschou *et al.*, 2009; Matson *et al.*, 2009).

When considering the assessment of individuals, care should be given, especially around concepts of friends and friendship, as Bargiela *et al.*, (2016) state that understandings and demonstrations of such concepts are complex and as such require in depth consideration. Furthermore, difficulties surrounding friendships are likely increase for females with ASD during adolescence, enhancing the need for an appropriate diagnosis and subsequent support to be in place (Hartley & Sikora, 2009).

Gender roles and expectations, particularly in relation to an individual's behaviours and characteristics, may enable easier masking for girls, and as a consequence, they may not be identified as having ASD not have access to appropriate support (Dean *et al.*, 2016).

## **2.15 Concepts and definitions of Special Educational Needs (SEN)**

ASD fits into a wider category of Special Educational Needs (SEN), which is a concept evolved from early attempts to limit segregation and to promote integration, and is still undergoing developments and change (Hodkinson, 2009). Robinson (2017: 164) describes inclusion as 'the process through which education systems respond to diverse learners in ways that enable participation, equal opportunities, respect for difference and social justice'. This is facilitated through identifying difficulties and working on supporting individuals to facilitate positive inclusion.

The need for diagnosis is disputed and draws many opinions amongst scholars and practitioners alike, although, the need for such is supported by the way schools function, and the legal requirements they are obliged to comply with (Ko, 2015). Alternatively, Warnock and Norwich (2010) question the need for definition as a result of the difficulty in separating individual differences and the effects that they have upon assessment using standardised measurements. As a result, this consideration of separating various differences and influences, remains central in studies and discussions of ASD and gender.

### **2.15.1 Models of disability**

ASD, by its definition is a neurodevelopmental disorder assessed and diagnosed through various assessment tools (Lauritsen, 2013). As a result of there being varying levels and presentations of the disorder, unlike most medical conditions, diagnosis is more complex than simply having or not having ASD, and no single 'gold standard' measure has been identified (Matson *et al.*, 2012: 20). Therefore, both the social and medical models of disability

may be influential in the referral, diagnosis and subsequent life experiences for individuals with ASD, as well as those in their close support groups, for example their mothers (Landsman, 2005; Blum, 2015; Davis & Manago, 2016).

Models of disability are also a consideration in minimising the perceived stigma of receiving a diagnosis of ASD, similarly to mental illnesses and special educational needs (Thoits, 2011). Consideration of the pathogenesis of ASD may explain the influences of both models, as research cites that autism is made up of ‘a multifaceted interaction between genetic, neurobiological and environmental factors’ (Meshalkina *et al.*, 2017: 207).

## **2.16 Staff and practitioner training in educational establishments**

The importance of professionals in educational establishments having an awareness and knowledge of ASD is supported by literature that identifies school practices and interventions as being able to increase the positive outcomes for learners with ASD (Iovannone *et al.*, 2003; Callahan *et al.*, 2008). Additionally, Leach and Duffy (2009) suggest that training is crucial as appropriate and beneficial support strategies and approaches are not familiar those with mainstream training. The importance of research in informing practitioner training and education has been received much support (Beauchamp *et al.*, 2013; Tatto, 2013; Winch *et al.*, 2013).

Teachers and staff with close contact with individuals with ASD are strongly recommended to be knowledgeable about the disorder, as well as being aware of current developments in understanding and best practice (Jordan, 2005). Whilst previous research identified practitioners holding inaccurate beliefs about ASD (Stone & Rosenbaum, 1988), more recent and frequent studies suggest the main concern and thus focus for development is the knowledge of the disorder (Cascella & Colella, 2004; Schwartz & Drager, 2008). When considering educational practitioners knowledge and beliefs of ASD, the etiology of the

disorder was a main area of inaccuracy (Brubaker *et al.*, 2010, cited in Segall & Campbell, 2012; Schwartz & Drager, 2008).

The understandings and motivation of teachers in particular, has been seen to be an influence on the quality of support initiated and provided (Avramidis & Norwich, 2002; McGregor & Campbell, 2001). Though, unlike other disabilities, for example Down syndrome (Fox *et al.*, 2004), research in the area of ASD and support strategies in mainstream settings has not received equal attention within research (Humphrey & Lewis, 2008). Furthermore, as a result of developments in national and international policy (Dybvik, 2004), learners with ASD are increasingly present in mainstream settings in the UK, many of whom present with average or high intelligence (Emam & Farrell, 2009; Keen & Ward, 2004).

### **2.16.1 Outcomes for individual's with ASD and the effect of training**

Negative outcomes within educational settings for individuals with a diagnosis of ASD are referenced frequently within literature, for example, the limited interaction and co-operation with peers during free time and difficulties in building positive relationships with staff (Robertson *et al.*, 2003; Humphrey & Symes, 2011). Recommendations for ways to limit negative outcomes and increase perceptions of inclusion centres on appropriate, up to date training being provided, for teachers and staff who have contact with children, along with reference material (Rose, 2001; Simpson *et al.*, 2003). Such findings have been found in studies evaluating parent perceptions of successful outcomes for their children in mainstream settings, with it being categorised as the most important perceived influence (Jindal-Snape *et al.*, 2005).

When considering gender and ASD, the lack of knowledge among practitioners may be addressed through training, as Leblanc *et al.*, (2009) found that training has benefits in both the awareness of difficulties, and the identification of possible symptoms. Addison and Lerman

(2009) support the need for training, and also suggest that personal preparation when teaching individuals with ASD to be beneficial and important also.

ASD phenotypes have undergone change and investigation, with current evidence supporting the existence of gendered ASD phenotype, which is described as the composition of ASD traits which do not fit the conventional presentation (Bargiela *et al.*, 2016; Mandy *et al.*, 2011). Furthermore, such previous phenotypes are considered to have been constructed and rooted in previous research with male samples (Lai & Bardon-Cohen, 2015). Alternative findings fail to obtain evidence to support the presence of varying phenotypes defined by gender (Baron-Cohen *et al.*, 2006; Wakabayashi *et al.*, 2007).

## **2.17 Culture and ASD**

The age an individual receives a diagnosis remains a core topic of exploration and research, due to a lack of agreement as to which factors cause this variation (Ennis-Cole *et al.*, 2013). Cultural influence in the diagnosis in ASD has predominantly been a consideration in America, with findings that White Americans receive a diagnosis earlier than individuals from other ethnic groups (Tek & Landa, 2012). Similarly to studies considering gender, those considering ethnicity have a sample which does not represent the statistical variation in the general population, thus reliability and validity are habitually scrutinised (Begeer *et al.*, 2009).

Identifiable differences as a result of cultural markers provide are further support for the exploration of the effect of other markers on ASD, such as gender. Cultural norms and practices have also been cited as an influence in whether support is sought and with whom (Dyches *et al.*, 2004). As a consequence, it may be appropriate to consider the alternative provisions or advice parents and caregivers may seek in future studies. One thing that studies considering ethnicity and gender have in common is the preference for models of support derived from the ‘cause and cure’ model of disability (Mandell & Novak, 2005).

Cultural influence extends further as a possible consideration for parents as a result of the negative perceptions and judgements made in communities regarding various difficulties, including ASD and mental health (Collins *et al.*, 2011). Moreover, understandings of difficulties such as ASD may be limited in certain cultures and geographical locations, therefore cross-cultural comparisons of diagnosis may not be fully representative of gender effects (Harrison *et al.*, 2017). This provides further support for consideration of various influences and the complexity of determining causality this area of research (Rubenstein *et al.*, 2018).

It is worth taking note of research which found that male scores on a standardised ASD measurement tool were systematically higher than females, irrespective of cultural context (Freeth *et al.*, 2013). However, without further consideration and investigation, specifically on frequently used standardised assessment tools, it is not clear whether these findings are generalisable to all cultural and socio demographics (Harrison *et al.*, 2017).

### **2.17.1 Cultural gender roles and ASD**

Cultural and religious roles and expectations of males and females differ considerably, and Al-Salehi and Al-Hifthy (2009) discuss the later diagnosis of ASD in females as a result of the variation of gender roles in some cultures. The cultural variation in diagnosis has been discussed in depth, and various explanations have been cited. General explanations for this are centred on the difficulty in developing measurement tools which consider markers such as culture and gender, but still assess the core symptoms reliably (Soto *et al.*, 2014). Difficulties in controlling validity and reliability in cross cultural measurement tools is a limitation which has been identified across various areas, including those which include individuals considered neuro-typical (Magiati *et al.*, 2015).

Social development is influenced by gender roles, which are considered to be socially constructed and defined, with culture's contribution also recognised (Lai *et al.*, 2015). Measures of non-verbal communication, for example eye contact, may be worthy of consideration in their own right, as there are increasing discussions as to whether the gold standard labelled norm-based comparisons can appropriately account for the variation in cultural norms (Ozonoff *et al.*, 2005).

Furthermore, it has been suggested that the prevalence of westernised norms among the development of the tools used in diagnoses may only be representative of the majority, which does not account for variability, and as a result, may present cultural biases and inaccurate assessment conclusions (Freeth *et al.*, 2014). The consideration of non-verbal communications remains pertinent, due to the general understanding that eye contact can be significantly varied cross-culturally, both in its frequency, purpose and type (Knapp *et al.*, 2013; McCarthy *et al.*, 2006).

## **2.18 Summary of chapter**

The concepts and topics outlined above demonstrate the vast array of literature which has links to the topic studied in this thesis. It also aids the exploration of how the specific topic fits into the wider field of research, for example, in inclusion and education. Whilst the research has considered many issues, there continues to be questions and areas which have not yet been explored to their fullest. Methodological limitations are identified in the majority of research, however, in this specific field, these limitations demonstrate a theme of including small samples as well as focusing upon individuals whose presentation fits the typical phenotype. In sum, the multi-disciplinary and complex nature of the topic studied reinforces the need for further research as well as highlighting the non-linear explanations of ASD.

## **CHAPTER 3: METHODOLOGY OF THE RESEARCH**

### **3.1 Aims of chapter**

The main aims of this chapter are to define and justify the data collection methods enlisted within this study, as well as situating and evaluating them within the wider field of research. The methods used will be situated through the type of data they obtain, primarily focusing upon understandings of qualitative and quantitative data. Through a consideration of the methodology, discussions of both the participants and data collection measures will be prevalent, for example, the samples, the settings, as well as a brief description and validation for the chosen methods. Furthermore, attention will be given to the ethical considerations which were inherent, whilst also documenting measures which were put in place in order to eliminate or minimise potential negative consequences.

The methodology aimed to obtain both qualitative and quantitative data about experiences, knowledge and opinions of the links between gender and ASD. Through enlisting the three chosen methods, each with a clearly identified inclusion criteria, responses are considered to have provided rich and insightful data. The three methods enlisted are; interviews, questionnaires, and a case study based task.

### **3.2 Research questions**

The research questions and thus, the aims of each of the three enlisted data collection methods, all centre on the aims of the study. One of the primary aims identified in the title of this study is that it is exploratory in nature, as opposed to generating statistical conclusions. Another primary aim is to explore and consider whether developments and findings in evolving scholarly literature in the field of gender and ASD extend to, or are evident in the field based samples enlisted within this study. Through enlisting a wide selection of participants with a



variety of professions and occupations, gathering exploratory data in consideration of this study's aims is considered to be achievable.

Whilst there are several layers to the aims and questions identified in the planning of this project, the overriding theme and aim in which was the primary influence, was the consideration of the ideas and understandings within literature, in addition to whether they extent to or are present in the sample group included within this study.

### **3.3 Mixed Method Approach**

Mixed methods research is situated as an approach on a spectrum that sits between quantitative and qualitative methods, encompassing aspects of both of these approaches (Johnson *et al.*, 2007). As a result of the varying potential placement on this spectrum, the need for clear documentation, consideration and evaluation in mixed method studies is demonstrated (O-Cathain *et al.*, 2007). The uses and benefits of mixed methods approaches have been discussed, with Collins *et al.*, (2006) citing one of the benefits being an increased significance of research findings and subsequent conclusions. The multiple approaches allow for the various dimensions of the research aims to be addressed appropriately as well as producing both quantitative and qualitative data (Teddle & Tashakkori, 2009).

The use of a mixed methods design has been discussed and praised within literature, particularly in its ability to produce a full and holistic picture of the topic or themes being studied (Denscombe, 2008). Furthermore, an additional reason for the use of a mixed method approach is that a single method would be unlikely to be provide adequate and valid findings which reflect the complexities and depth of the research aims (Johnson *et al.*, 2007; Tashakkori & Creswell, 2007). A common feature in designing the methodological context for research is that it should be driven by the research aims to ensure the validity of findings, specifically when mixed methods are considered to be desirable (Sosulski & Lawrence, 2008).

As a result of the exploratory nature of this study, a mixed method design is considered to facilitate a rich in depth understandings of perceptions, as well as adhering to the measures of best practice associated with producing reliable, valid and generalisable findings (Kemper, *et al.*, 2003; Onwuegbuzie & Leech, 2007). Additionally, mixed method approaches have been indorsed for studies aiming to consider the relationship between variables as well as unpicking complex phenomena, for example, gender and ASD (Mertens, 2003).

Mixed methods have been employed in this study to encompass the collection of both qualitative and quantitative data, which Gore *et al.*, (2009) discuss, and define quantitative as involving statistical analyses, and those without this to be qualitative.

There are considered to be a variety of philosophical approaches to research, with mixed methods based approaches being considered pragmatic, which have been cited as generating robust findings applicable to various practitioners and policy makers (Biesta, 2010; Sammons, 2010). As a result of the aims of this study and its grounding in educational and healthcare fields, the choice of a mixed method approach is again reinforced.

Pragmatic considerations inherent with mixed method research, for example, whether the sequence of data collection may influence or cause bias, are suggested by Morgan (2007) to reflect epistemological and ontological concerns. These include; what knowledge is being sought, how this will be collected through the selected methods, and how will the evaluation and conclusions be drawn from the data (Morgan, 2007).

### **3.4 Sample**

As a result of the mixed method design of this study, various samples were approached using different inclusion criteria appropriate to the method. Mixed methods, and the subsequence variety in samples, have been commended, as Johnson and Turner (2003) suggest

that a single measure is limited in how well it can measure and draw conclusions from research involving complex topics.

If the sample size of the study included all participants within all locations who fulfilled the inclusion criteria, an impractical amount of data would have been obtained. Therefore, samples were identified, and expanded after an appropriate time to ensure practicalities of collection and analysis were manageable. The sample size is considered to be large and wide enough to enable reliable and valid findings to be obtained, as well as grounding generalisations with sound, scientific methodology (Crosby *et al.*, 2011). For the purposes of this study, the definition of research participants as being ‘the human participant is a living individual about whom, a researcher obtains: data through intervention or interaction with the individual...’ was employed (Chilengi, 2009: 54).

The methods employed within this study were questionnaires, interviews and a case study based task. Mixed method sampling designs are considered a suitable measure in studies such as this where a fully random sample would not be feasible, as a result of their ability to gain representative samples and generate valid findings (Sharp *et al.*, 2012). The non-random sample enlisted was identified and participants were contacted as a result of their suitability for the project, which was identified through the inclusion criteria outlined for each of the individual methods (VanderStoep & Johnson, 2008).

The inclusion criteria for all data collection methods were decided prior to recruitment as a result of the recommendation of this within research (Robinson, 2014). Careful consideration was made in ensuring that the inclusion criteria was clear, as poorly planned and designed studies have been considered to produce unreliable and invalid findings which lack applicability and generalisability to wider populations and contexts (Groves *et al.*, 2009; Tong *et al.*, 2007). Furthermore, Collins *et al.*, (2007) state that sample selection and identification

is one of the most important considerations in mixed methods research. Inclusion criteria has also been referred to as purposive sampling, which involves the selection of participants based on characteristics they possess (Giacomini *et al.*, 2000; Cote & Turgeon, 2005). Additionally, this is considered to increase the likelihood of gaining rich, insightful and appropriate data (Giacomini *et al.*, 2000; Cote & Turgeon, 2005).

### **3.4.1 Questionnaires**

The questionnaires for this study were collected from educational establishments within a ten mile radius in two base locations, one in North Wales, and the other in North West England. Participants included teachers, teaching assistants, and SENDCO's. Overall, 29 participants completed the questionnaire.

### **3.4.2 Interviews**

The interviews for this study included participants meeting the geographical inclusion criteria outlined above, as well as being currently employed in a profession which has experience in the referral, assessment, and/or diagnosis of ASD, for example, a speech and language specialist. No participants were interviewed in the North Wales sample, but two participants in the North West England sample did complete an interview.

### **3.4.3 Case study based tasks**

The sample inclusion criteria for the case study based task was identical to that of the interviews, both in the geographical stipulations as well as professional requirements. In the North Wales sample, no participants completed this task, though nine participants in the North West England base location completed the task.

## **3.5 Setting**

The settings for participation in this study varied as a result of the mixed method design. In spite of this, the geographical locations of the participants were controlled, which will be outlined in more detail below.

Due to the ease of access of possible participant locations, two easily accessible base locations were selected, one being based in North Wales, and the other in the North West of England. A radius of ten miles was decided, in order to allow for adequate numbers of responses to be obtained, whilst also ensuring the general socioeconomic status remained similar. This was considered to limit the effect of this variable on the study and subsequent conclusions.

Interviews were conducted in the participant's place of work and employment, as this was deemed to be the most convenient location for both participant and researcher. In addition, this was supported and deemed preferable in the in depth consideration completed in the risk assessment prior to commencing data collection. Prior to the interview, arrangements were made to ensure that a suitable location without interruption was available in order to facilitate the interview, as well as allowing for accurate recording to enable subsequent transcription.

The questionnaire settings were not controlled as part of the study, in as much that participants were not directed as to when and where they could complete the questionnaire. This method of completion was selected as it was considered to limit the difficulties and time constraints associated with controlled environments and field based completion (Mertler, 2002). As a result of the participant's employment in a busy school setting, online methods as employed in this study have been cited as less disruptive for participants, and as a result, may be increase response rates (Lefever *et al.*, 2006).

The case study based task enlisted the same inclusion criteria as the interviews, however participants were given the choice as to whether they completed the task electronically, or

through a paper copy returned in a blank envelope at their work location. Participants were given the option of completing the case study based activity at a time and location of convenience for them, and was not controlled or monitored.

All participants across all three methods were approached through their employer or the head teacher of the school, and as such, the researcher had no direct contact with participants, as well as no awareness or knowledge of participant's personal details, such as their name. In regards to the interview and case study based tasks, if the names of the participants were learned, they would not be recorded, and any identifiable communications were stored on an encrypted device, accessible only by the researcher.

### **3.6 Research Methods**

Research methods as a definition has been cited by many, with the overall consensus citing the definition to be the techniques, procedures and materials researchers use to collect data (O'Hara *et al.*, 2011). Whilst the concept has been subject to much debate, initial studies, specifically one by Peritz (1977), identify various research methodologies, and whilst they have been modified, they still remain prevalent in current research and understandings.

Additionally, the concept has made use of various other terms, for example, research frameworks (White & Marsh, 2006), and research designs (Luo & McKinney, 2015). For the purposes of this study, the definition of research methods will draw upon Chu's (2015) categorisation, whereby it is focused upon the methods enlisted to collect data. The understandings of techniques will also be considered, namely in the processes of collecting, transcribing, coding and evaluating data (Chu & Ke, 2017). The selection of the methods and techniques have been described as being underpinned by the research type the study was categorised as, for example, the exploratory nature of this study (Hildreth & Aytac, 2007).

### **3.7 Questionnaires**

### 3.7.1 Questionnaire design

Denscombe (2014) situates questionnaires and cites three main criteria which they must adhere to when being used in research. These are:

1. Their purpose of collecting information to be subsequently analysed should be clear in the design and planning processes (Denscombe, 2014). The aim of collecting views and opinions should be clear, as opposed to information distribution or persuasion material (Denscombe, 2014).
2. The questions asked should be standardised for all participants in order to increase the validity and reliability of the results and subsequent conclusions (Denscombe, 2014).
3. Data collection should be completed directly with participants and through clear and direct questions (Denscombe, 2014).

Within questionnaires, there are a variety of question types which can be utilised, with Doherty and Hughes (2014) documenting both open and closed questions, praising their ability to gain rich and valid data. Questionnaires are predominantly situated within quantitative understandings of methodology (Burton *et al.*, 2014). Irrespective of the type of questions and data type sought, the wider convention of providing all participants with a standardised format and questions in which they can respond, was adhered to within this study (Bell, 2014).

This study enlisted various open ended questions throughout the questionnaire, as a result of Robinson's (2007) suggestion that this enables the maximum benefit from data collection, as well as reinforcing this type of question as being a central feature in research conducted in exploratory studies such as this. The cited advantages of using questionnaires focus upon the easy collection and time efficient analysis of such a method. With this in mind, time should be and was taken to ensure the balance of closed and open ended questions, as this can influence subsequent considerations of the validity and reliability of the study and its findings (Cohen

*et al.*, 2013). These advantages are supported in the wider field of literature, irrespective of discipline, specifically in their ability to facilitate a larger sample and amount of data (Gillham, 2008; Hays & Singh, 2011). This can then be easily analysed to draw conclusions, without the impractical time constraints associated with other methods such as interviews (Gillham, 2008; Hays & Singh, 2011).

### **3.7.2 Questionnaire distribution and completion**

The questionnaires were made available both through the online survey tool, and a paper format. This was as a result of the well documented advantages of being able to deliver questionnaires through various channels and mediums, specifically in enabling ease of access and completion for participants (Jones *et al.*, 2008). Participants seeking a paper method of completion were provided with all documents on paper, an envelope to return the completed questionnaire, as well as an agreed time and location within their workplace where the researcher collected responses.

### **3.7.3 Questionnaire within this project**

Within the questionnaire, there a mixture of question types enlisted, including: eleven multiple choice, eight open ended comments, as well as ten rating based questions. These were based around the main topic areas of the questionnaire: the first being ASD, the second being gender, and the final section focusing on providing the opportunity for additional comments, views, and experiences.

1. Within the first topic, participants experiences were able to be recorded, as well as questions focusing upon their knowledge and perceptions of who can be diagnosed with ASD, how it can be diagnosed, and by whom.
2. Secondly, the main focus of the gender based section provided participants with statements about behaviours and characteristics which may be indicative of an



ASD, and asked to select whether they believed males or females to be more likely to display that behaviour.

3. The third section focused upon additional comments, containing several open ended statements as stimuli for further responses, as well as provision for any other comments.

### **3.8 Interviews**

#### **3.8.1 Interview design**

The interviews conducted within this study are considered to be qualitative in nature, which Taylor *et al.*, (2015) describe as a data collection method which draws upon participant's own words through stimuli provided, centred on their knowledge, opinions and experiences. Frequent studies document interviews as a qualitative data collection method (Turcious *et al.*, 2014; Beck & Mannuel, 2008), with Greifeneder (2014) citing their dominance in research exploring behaviour. The use of this method is grounded in the exploratory nature and aims of the study, as well as in their ability to gather data from the target population and enable comparisons with others, and the wider advances and developments in the topic area being studied (Dawson, 2009).

#### **3.8.2 Interview content in this study**

The structure of the interview is centred on the four key discussion topics, including: participant's experiences, perceptions and opinions of current processes as well as knowledge of current research, understandings of gender, and views of the possible implications or findings of this study.

Through the use of open ended questions, qualitative data was gained from participants (Hart, 2005). The use of a qualitative approach is supported by the inclusion of participants with specific roles and involvement in the referral, assessment and diagnosis of ASD. This also

mirrors understandings of interviews as being able to facilitate the exploration or investigation of a specific topic or theme, to gain rich, in depth, and insightful data (Gubrium *et al.*, 2012). An interviews ability to seek and obtain information was considered a benefit within this study as a result of the exploratory nature of the study, as well as the value placed on participant's knowledge, experiences, and opinions (Mann, 2011).

### **3.8.3 Semi-structured interview**

The selection of a semi-structured interview design was influenced by their ability to produce contextual and specific data about participant's views and opinions of gender and ASD, thus supporting and reinforcing their importance as a research tool within this study (Pope *et al.*, 2000).

Semi-structured interviews are considered to be a discussion between the researcher and the participant based upon standardised questions and stimuli, as well having as the option for variation and exploration of discussion paths when considered appropriate (Fylan, 2005). Bryman (2015) supports this definition, whilst adding that participants have the ability to choose the way they reply, and to what extent. The extent of the variation in the semi-structured interview has been considered, with a main theme being that 'the interviewer can seek clarification or elaboration on the answers given' (May, 2010: 134).

### **3.9 Case Study based task**

The case study based task is situated towards the qualitative end of data collection, as whilst there were standardised questions used, they were open ended in the responses, with participants having the ability to choose how much information they provided. The use of this method of collecting data was selected as a result of its qualitative nature to use participants understanding and knowledge applied to a specific context, in turn, contributing to and aiding the exploration of the aims of the study.

Cobb *et al.*, (2003) suggest that when selecting methods to gather data, researchers should be mindful of the theoretical intent of the study, which this qualitative activity is considered to contribute to.

### **3.9.1 Design of this method within this study**

This activity was based upon two case studies of individuals with a diagnosis of ASD, one taken from Roth *et al.*, (2010), and one from Assouline *et al.*, (2009). Each of the case studies were transcribed, and the name of the individual and gender specific pronouns were removed. Subsequently, each case study had three variations of it used, with the previously omitted details being the only differentiation. The three variations included: one female name and female pronouns, one male name and male pronouns, and finally no name and gender neutral pronouns.

Participants were randomly assigned one variation of each of the two case studies to respond to, which had standardised prompts and questions provided. The main foci of these prompts included:

1. Initial interpretation of the difficulties presented, as well as what they considered to be the most pertinent difficulty.
2. Their perception of whether any interventions, support or referral to specialist services would be needed and appropriate.
3. Whether they consider there to be indications which would lead to a diagnosis, if so, what would that be. Also, views about whether there consider there to be one main difficulty affecting the variety of symptoms.
4. Explaining if and how they would instigate support for the individual described, as well as a brief summary of their next steps.

### **3.10 Ethical issues**

### 3.10.1 The importance of ethics

The importance of the consideration of ethics when conducting research is underpinned by the legal standards and guidelines in place, as well as the academic and legal consequences should these not be fully considered and adhered to (Saunders & Lewis, 2012).

When conducting educational based research such as that cited in this paper, a consideration of BERA (2018) guidelines was inherent throughout the process as well as being at the cornerstone of decisions and methodological choices made. The core principles include:

- *‘social science is fundamental... and should be inclusive of different interests, values, funders, methods and perspectives’*
- *‘all social science should respect the privacy, autonomy, diversity, values and dignity of individuals, groups and communities’*
- *‘all social science should be conducted with integrity throughout, employing the most appropriate methods for the research purpose’*
- *‘all social science should aim to maximise benefit and minimise harm’*

(BERA, 2018: 4).

Ethical considerations and awareness have been cited to be an important consideration at both macro and micro levels (Stutchbury & Fox, 2009). Micro level considerations may include the interview schedule for individual interviews, and the macro level includes wider considerations such as ensuring sufficient data is collected to facilitate conclusions to be drawn (Stutchbury & Fox, 2009).

### 3.10.2 Ethics within research

Ethical issues are central in research, with some having the need for consideration before commencing a project, as well as the overall consensus that they all should remain a consideration throughout the entirety of the research, including when documenting, evaluating and publishing subsequent literature (Bartlett & Burton, 2009).

O’Leary (2004) state that the responsibility of ensuring ethical guidelines are followed is the researchers. Definitions of ethics are complex, though the central concern of ensuring correct and appropriate conduct features as an underlying requirement in all definitions (Israel & Hay, 2006).

Whilst ethical considerations feature in all research, when studies enlist human participation, detailed consideration and the implementation of appropriate measures is said to be more important as a result of the increased likelihood of encountering such ethical issues (Walliman, 2010).

### **3.10.3 Informed consent**

Informed consent is one of the primary considerations within ethics, which Allmark (2002) discusses and further cites three conditions which participants must fulfil prior to giving informed consent. These are:

1. ‘the consent should be given by someone competent to do so’
2. ‘the person giving the consent should be adequately informed’
3. ‘the consent is given voluntarily’ (Allmark, 2002: 13).

Flick (2009) cited informed consent as being a prerequisite for participants and researchers to commence with any data collection methods, thus, without it, participation should not take place. All participants were provided with an information sheet, both prior to giving consent, and throughout the duration of participation, which clearly documented the aims and objective

of the research, as well as what participation would entail (Miller & Wertheimer, 2010; Doherty & Hughes, 2014).

#### **3.10.4 Right to withdraw**

As a result of ethical guidelines, throughout the duration of participation, participants were made aware that they could withdraw at any point and were not obliged to provide a reason. This was ensured through both clear description on the information sheet, as well as throughout participation. These measures were put into place as they are cited in guidelines, as well as being considered a prerequisite of ethical, valid and reliable research (Edwards, 2005).

The importance of an ongoing consideration of consent throughout the duration of participation has been identified, with Jones and Semple (2017: 586) stating that ‘consent is not a single procedure- it is an active and ongoing process which should be sought and updated appropriately’.

#### **3.10.5 Confidentiality and anonymity**

In regards to confidentiality, detailed information was provided through the information sheet. Again, this was as a result of guidelines and frequently praised best practice when conducting research, for example, a discussion of where and how the data may be used was included (Beck, 2005; Carter *et al.*, 2008). The definitions and understandings of confidentiality are grounded in the principle that research should respect the autonomy of the individuals participating within research, in as much that no identifiable information will be disclosed without explicit consent from participants prior to its disclosure (BSA, 2017). The close relationships between confidentiality and anonymity have received much attention, with Wiles *et al.*, (2008: 417) situating anonymity as ‘one way in which confidentiality is operationalised’.

Whilst it was not required within this study, legal guidelines recognise occasions where there is a reason and need to break the confidentiality agreement previously agreed and state

ways in which this is carried out (BERA, 2011; Masson, 2004). For example, if a participant was to disclose that they had, or were about to commit a crime, this confidentiality may need to be broken in order to protect wider public safety (Gregory, 2003). In addition, it is suggested that as far as appropriate and safe to do so, researchers should discuss the need to disclose and obtain consent (Wright *et al.*, 2004).

As a result of ethical guidance, during the early planning processes, this was considered and was included on the information sheets for participants, prior to obtaining consent (DVRG, 2005; Richie & Lewis, 2003). In addition to this, participants were made aware that they would be anonymous, as well as who would have access to their data, in order to fulfil the expectations of social research and researchers (Oliver, 2003).

The complexities of ethical considerations, specifically confidentiality and anonymity, are suggested to reinforce the need for the availability of a supervisor or advisor for the researcher as a feature of good practice (Corden *et al.*, 2005). This should be outlined and explained to the participants prior to giving consent and commencing participation (Gilbert, 2001).

### **3.10.6 Protection from harm**

When considering human participants, a consideration of the potential harm should be prevalent from the initial planning stages of the project up until completion. Research may be considered to affect various aspects of participant's wellbeing, with the potential to induce physical, psychological or occupational harm (Hammersley & Traianou, 2012). Furthermore, the risk of harm may extend beyond the individual participating, for example, to their acquaintances and families (Punch, 2013).

For the purposes of this specific study, there were no perceived risks of harm from participation, as the risks were considered to be no greater than those one may encounter in

daily life, an idea supported by Ary *et al.*, (2018). As a result of the possible inclusion of individuals who are considered to be within a vulnerable group, careful consideration was given in response to literature suggesting such participants may be at a higher level of risk of harm (Gennet *et al.*, 2015; WMA, 2013).

However, the understanding of vulnerability being inherent ontologically within the human population has resulted in an increased consideration of the potential of harm within all participants, not just those identified in a vulnerable group (Fineman, 2008). The consideration of ethics, as well as the detail provided within the information sheet, are considered to be adequate measures to ensure than any major and foreseeable harm resulting from completing the study are vastly reduced.

### **3.11 Pilot studies**

#### **3.11.1 What are pilot studies and why do we need them?**

Pilot studies are considered to aid the refinement of collection methods in order to gain appropriate, valid and reliable data once the full study commences (Leon & Davis, 2011). Porta (2008) provide an overview of the definition of pilot studies through referring to them as a small scale test of the intended methods and procedures prior to them being used in a larger scale, including the study's targeted sample.

Additionally, pilot studies are considered to aid the identification of possible problems within the study, including the methodological design, participant selection as well as quality and validity of collected data (Viechtbauer *et al.*, 2015). Thabane *et al.*, (2010) support this and suggest it helps the researcher to identify and examine the practicality and feasibility of the study, both within the small scale pilot study and the larger scale comprehensive project.



Whilst enlisting this measure is not a prerequisite for problem free and reliable data, it is considered to be a preventative measure which limits difficulties which may compromise either the course or perceived value of the study (Kraemer *et al.*, 2006).

### **3.11.2 How many people should a pilot include?**

Deciding the number of participants and length of the pilot study was a great consideration, as a result of the variation of guidance in previous literature (Julious, 2005). For example, suggestions of between ten and forty participants have been cited (Hertzog, 2008; Johanson & Brooks, 2010), as well as suggestions of nine percent of the desired number of participants in the full study (Cocks & Torgerson, 2013).

### **3.11.3 Pilot studies within this project**

For this study, pilot studies were conducted for each of the methods enlisted. For the questionnaires, pilot studies sent the questionnaire to three people whom fit the inclusion criteria, along with two members of university staff. The interview and case study both enlisted two practitioners, as well as a member of university staff.

Findings from the pilot studies provided interesting information, with the main subsequent changes focusing on the clarification and comprehension of question, in order to limit confusion. Another change instigated following the pilot studies was to alter the order of some questions, as well as including an additional comment box without a prompt at the end of the questionnaire.

## **3.12 Data analysis**

For the purposes of this study, various methods of data analysis were enlisted. The primary measures of analysis was completed by the researcher through the use of various software.

In regards to the quantitative data elicited from the questionnaires, responses were inputted into a Microsoft excel document in order to aid easy analysis of each question in turn, as opposed to each participant in turn. This document was stored on an encrypted device and accessible only by the researcher.

The qualitative data obtained from all three of the data collection methods was transcribed and uploaded to NVivo. The transcription of the interviews was completed by a transcriber who had read and signed a confidentiality agreement, as well as having further details about the documents and desired method of transcription provided by the researcher. Transcriptions and recordings were stored on an encrypted device, only accessible by the researcher and transcriber upon completion of an approved confidentiality statement.

Enlisting an external service such as NVivo qualitative software to enable the analysis of qualitative data has been evaluated in depth, including both the benefits of its use and the factors researchers should be mindful of when planning the study and methodological design (Bergin, 2011). Of the many documented benefits, the improvements in the consistency in analysis of large amounts of qualitative data, and thus increasing reliability, was the primary reason for its use within this study (Weitzman, 2000).

### **3.13 Summary of methodology**

This research enlisted a mixed methodology design, including questionnaires, interviews, and a case study based task. The use of multiple data collection methods aimed to collect rich, in depth, and varied data for analysis. Information sheets were provided for all participants prior to giving informed consent. They also detailed the information and measures put in place to ensure all other ethical guidelines were adhered to, for example, the right to withdraw and debriefing.

## **CHAPTER 4: RESULTS OF THE RESEARCH**

### **4.1 Aims of the chapter**

The main aims of this chapter are to summarise and document the findings from the data collection methods enlisted within this study. Quantitative data, for example from the questionnaires, will be summarised in graphs and charts, whereas qualitative data will be summarised following its coding, with quotes being cited where appropriate. Where charts are enlisted, a summary of the question and findings will be presented above it, as well as a description of the figure below. The description below the figure will correspond to that listed within the full list provided in the introduction to this paper.

Findings for each method and question will be considered both in the context of each base location, as well as the study as a whole. Base location one is in North West England, and base location two is in North Wales. Questionnaires were completed by professionals working in school settings, for example teachers and teaching assistants, whereas the interviews and the case study based tasks were completed by specific professionals involved in the referral, assessment or diagnosis of ASD, for example, Speech and Language Therapists and paediatricians.

### **4.2 Aims of the research**

Due to the exploratory nature of this study, the results are not to prove or disprove a hypothesis, but rather to explore the awareness and knowledge of gender differences in ASD, linking these back into literature and broader concepts. It was hoped that the findings from this research, whilst relatively small scale, would provide direction and reference for further subsequent research.

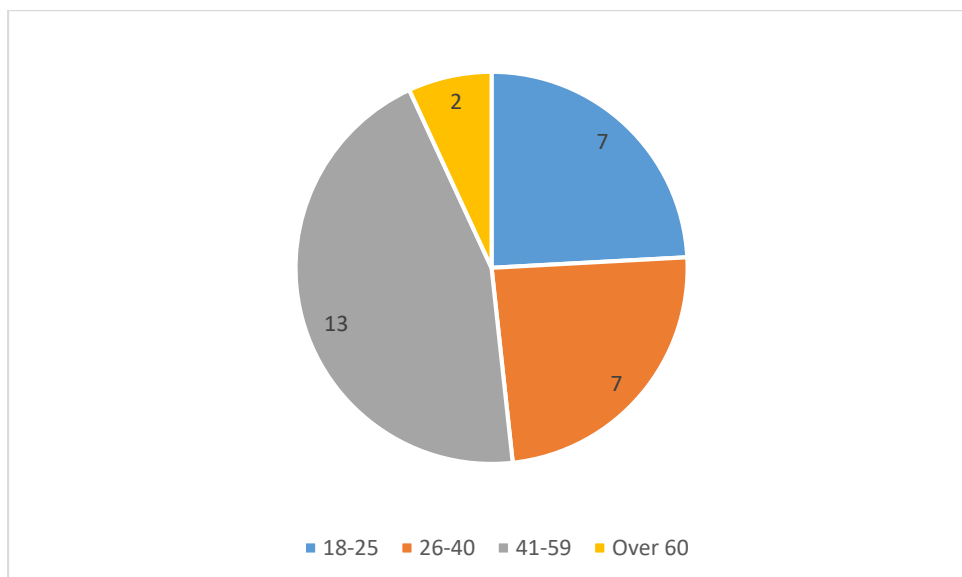
An additional aim includes that to consider; the awareness and perceptions documented in all of the data collection measures, the similarities and differences between the measures, as well as any possible explanations for this.

### 4.3 Questionnaires

#### 4.3.1 Participant demographic information and experiences

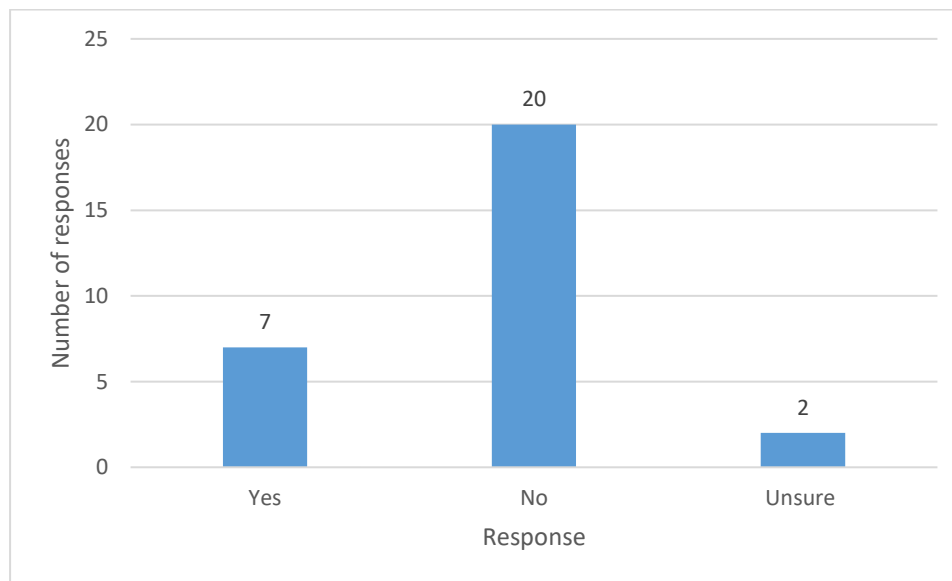
In total, 29 participants completed the questionnaire, with all of the completed questionnaires being through the medium of English.

Figure 1 shows that the ages of participants varied and included a minimum of two responses from each age group. The highest response rate was within the age band of 41-59 years of age (n=13). In comparison, the responses for both the 18-25 group and 26-40 group were the same (n=7), with the over 60 group obtaining proportionately less responses than the other cited categories (n=2).



*Figure 1: A graph to show the ages of the participants in this study*

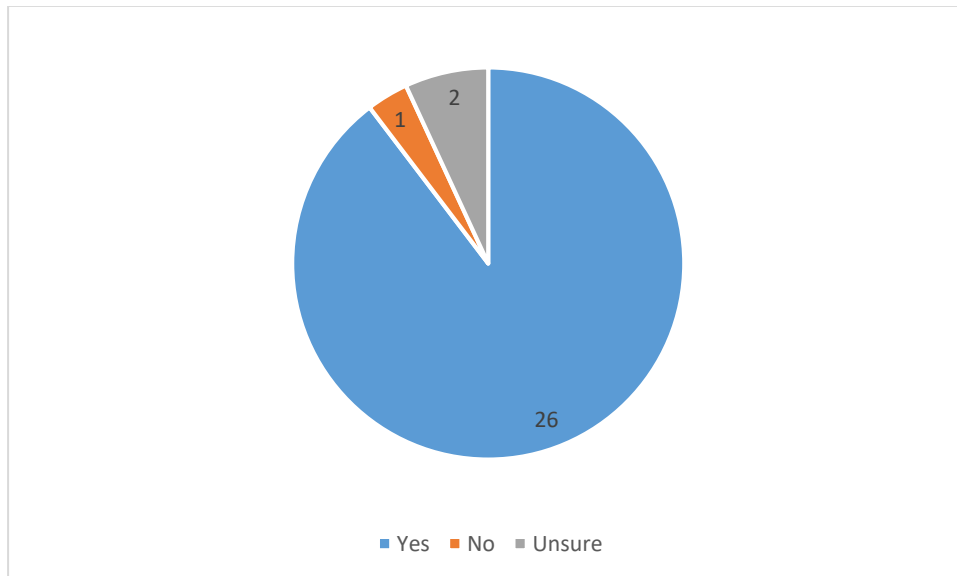
Figure 2 shows that no participants declared that they had a diagnosis of ASD. In the subsequent question, 7 participants stated that they had a close relative with ASD, compared to 20 whom stated that they did not. Therefore, this response was significant overall, with over two thirds (68.97%) selecting this option. Additionally, 2 participants from the sample studied stated that they were unsure about their response to this question.



*Figure 2: A graph to show the number of participants with a close relative with ASD.*

Figure 3 shows that the majority of participants (n=26) had experience of supporting an individual with ASD. Interestingly, one participant cited that they had no experience, in addition to two citing that they were unsure about their response to this question. This question was followed by an open ended question in which responses were coded using NVIVO qualitative software. The general themes that emerged from this question were that the majority of participants had experience which was general to their role, for example a teacher or support assistant. However, a proportion of respondents (n=13) stated that they had experience of closely supporting an individual on the spectrum, with examples given of 1:1 support and supporting close family members. An additional note was that a couple (n=3) of participants stated that they were involved on a more managerial level in supporting and facilitating the

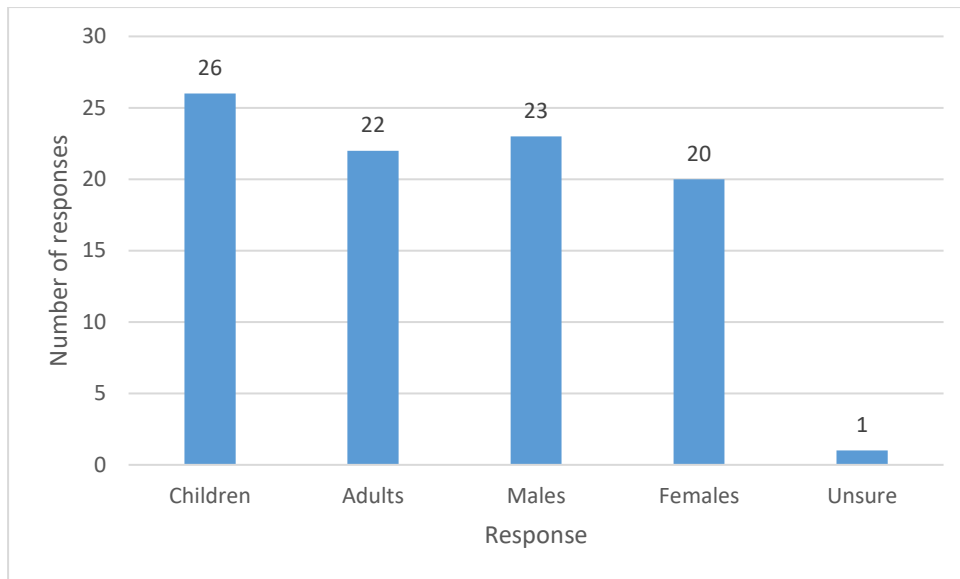
support for individuals with ASD, with examples including *'SENDCO in a secondary school'*, *'ALNCO at the school'*. In particular, one participant stated that *'Through my years as a teacher and now Headteacher I have known and taught various pupils with autism and various other special educational needs'*.



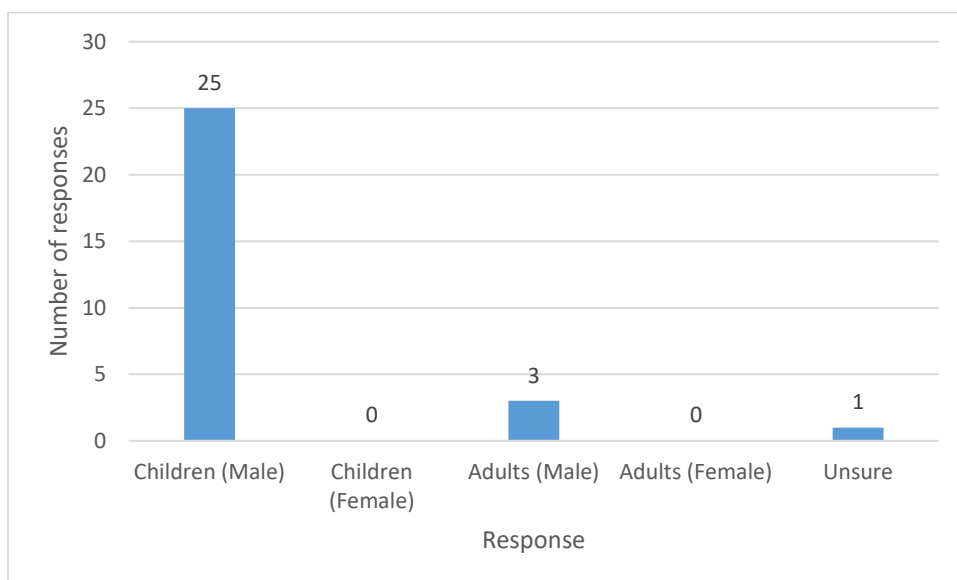
*Figure 3: A graph to show the number of participants who had experience of supporting individuals with ASD.*

#### **4.3.2 Awareness and understanding of ASD**

Question 4 focused upon participants' awareness of who could be diagnosed with ASD. This question allowed for multiple selections. The majority of participants (n=20) selected that all of the stated groups could be diagnosed with ASD. The number of participants who selected each group varied slightly, with the option of children receiving the highest selection (n=26), and the option of females being the lowest (n=20). As with previous questions, this was followed up by a question asking which of these groups are most frequently diagnosed with ASD. 26 participants selected that male children were the group most frequently diagnosed with ASD, with an additional 3 selecting adult males, and one submitting an unsure response.



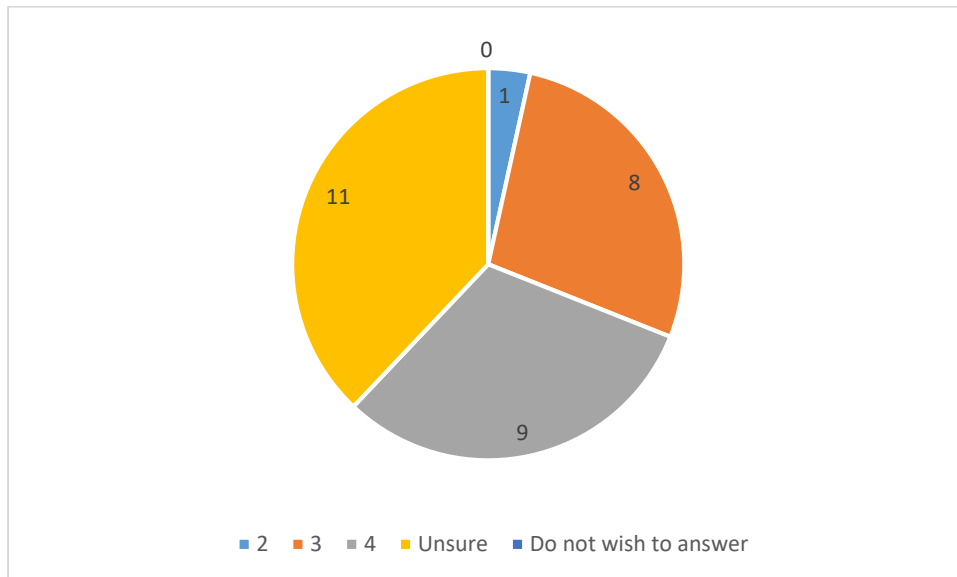
*Figure 4: A graph to show participants selection of who can be diagnosed with ASD.*



*Figure 5: A graph to how participants' selection of which group is most frequently diagnosed with ASD.*

Question 6 was a multiple choice question which focused upon participants understanding of how many areas of impairment are considered when assessing and diagnosing ASD. This question elicited a variety of responses. The largest proportion (n=11) of participants cited that they were unsure about the answer to this question, compared with 9

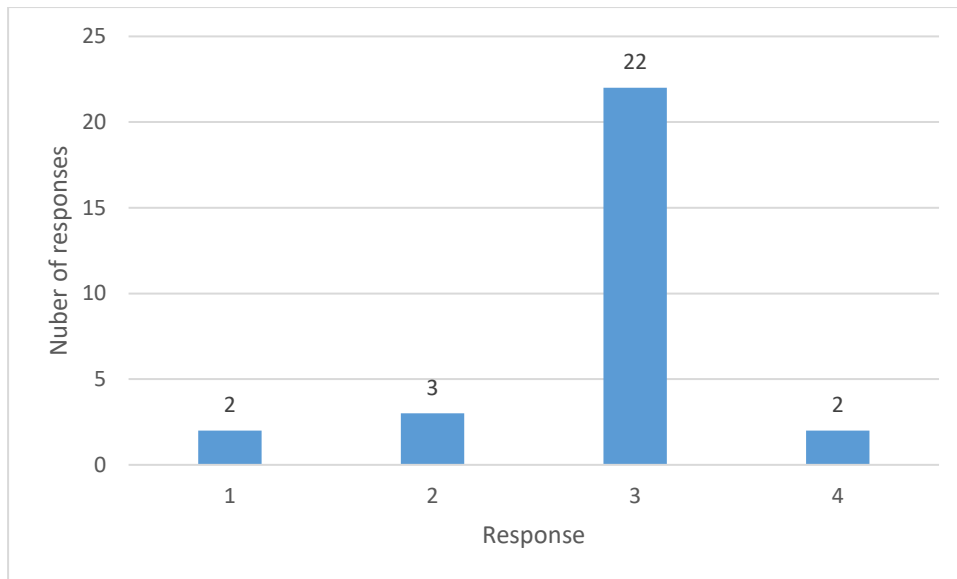
responses (31.03%) for the option of 4 areas and 8 (27.59) for the option of 3 areas. 1 participant selected that 2 areas were considered.



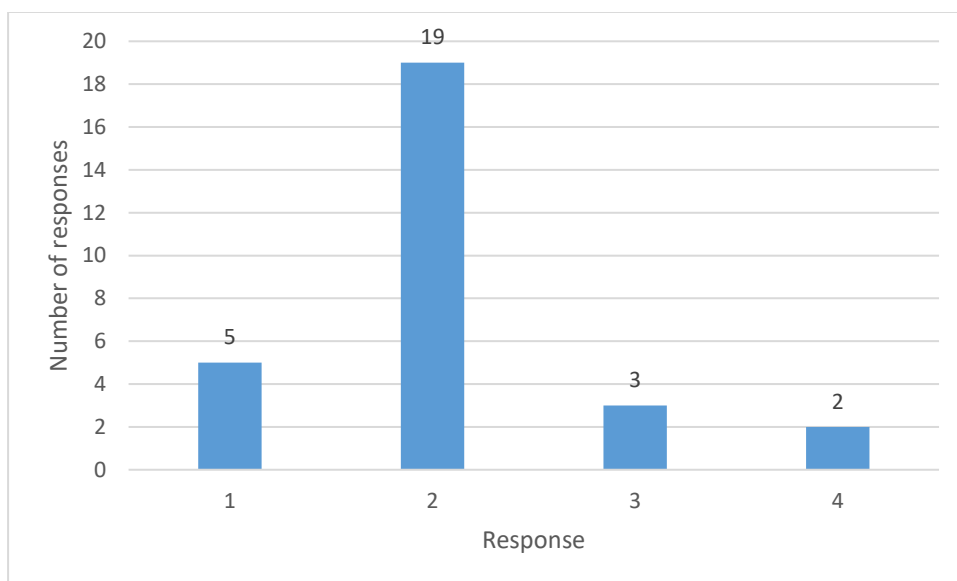
*Figure 6: A graph to show participant's responses to how many areas of impairments are considered when diagnosing ASD.*

Question 7a and 7b were multiple choice questions, where four statements were provided for participants to select from in response to a statement provided. Responses for question 7a are given below as figure 7, and those for question 7b as figure 8. Question 7a elicited a varied response, though the majority (n=22) selected statement 3 as the most appropriate response to the age in which an individual can be diagnosed with ASD. The remaining responses were distributed across the remaining 3 options. This question was completed by all participants. Similarly, question 7b elicited a general agreement among responses that statement 2 was the most appropriate to who can diagnose ASD (n=19), with the other three options all being selected at least twice. Again, for this question, all participants provided a response.





*Figure 7: A graph to show participants responses to the age when an individual can be diagnosed with ASD*



*Figure 8: A graph to show participants' responses to who can diagnose ASD.*

Question 7c provided a space for participants to provide further comments about the previous two questions. Due to the qualitative nature of this question, responses were coded using NVivo qualitative software to identify themes in responses. A large amount of data was collected through this question, with a variety of understandings and explanations given by

participants. Frequent mention throughout this section was for the recognition of the variety of professionals involved and the complexity of referring and diagnosing ASD. For example, one participant stated that *'To get a diagnosis of ASD much collaboration and multi-agency working about the service user has to be put forward...many people are involved along the way to that decision'*.

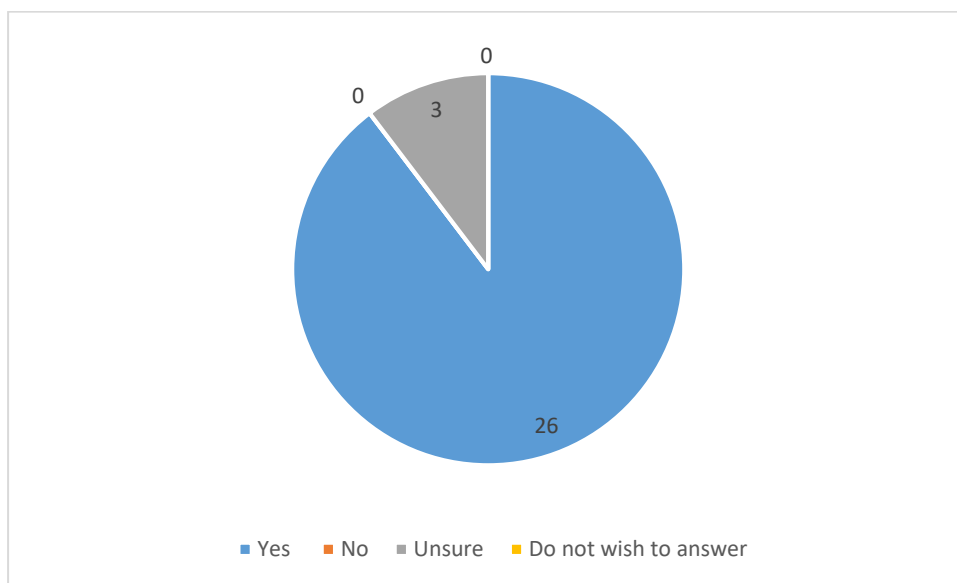
Whilst responses for this question seemingly portrayed a grasp of the topics covered, there was also the presence of confusion and uncertainty about the questions. An interesting reference which was made by a number of participants who cited their role as a class teacher was that they considered their training and related information to be *'vague'*, as well as citing *'difficulty in accessing such support in a timely manner'*. Through the use of coding and analysing the data obtained, the reference to words such as *'medical'* and *'doctor'* were frequently cited by 5 participants, which may be as a result of their stereotypes and misconceptions.

Throughout responses, the setting of scenarios and understandings were predominantly focused on educational settings and situations. This considered, several participants (n=6) discussed wider difficulties and challenges faced, for example in other establishments, including the home.

#### **4.3.3 Gender**

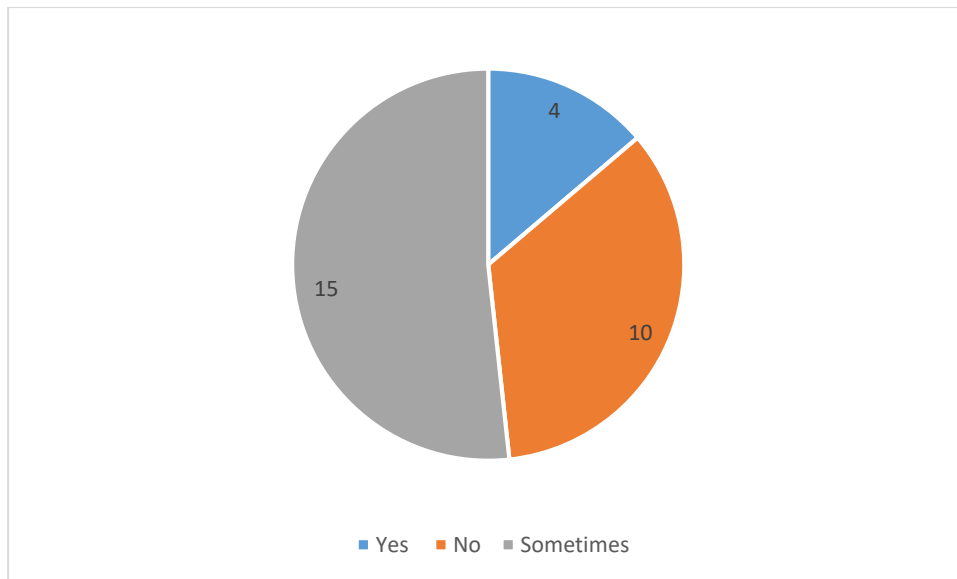
Question 8 was a further multiple choice question regarding participant's perceptions of their understandings of gender. This question asked whether they considered themselves to have an understanding of the term, with a following question providing the space for participant's to provide further information. The majority of participants (n=26) stated that they believed they had an understanding of the term, with the remaining participants (n=3) stating that they were unsure.

In responses for the subsequent open ended question, responses varied in depth and explanation, with the several references to masculine and feminine traits, as well as parallels with understandings of sex. The most frequent response (n=10) was focused simply upon gender being *‘whether you are male or female’*. Further responses focused upon the themes around the possible variation and increasing awareness that gender is not male or female. One participant cited that gender is *‘more focusing upon identification as opposed to assignment at birth, though the two are often the same’*. An additional finding throughout all responses to this question was an element of confusion and possible misunderstanding of the term gender, with reference to confusion arising more recently as a result of the additional genders or classifications an individual can identify as.



*Figure 9: A graph to show participant’s responses to whether they consider themselves to have an understanding of the term gender.*

Question 9 focused upon whether participants’ considerations of gender influenced the tasks given to or expectations of those around them. 4 participants stated that they had based their expectations of people because of their gender, compared to 10 who stated that they did not, and 15 who stated that they sometimes based their expectations on gender.

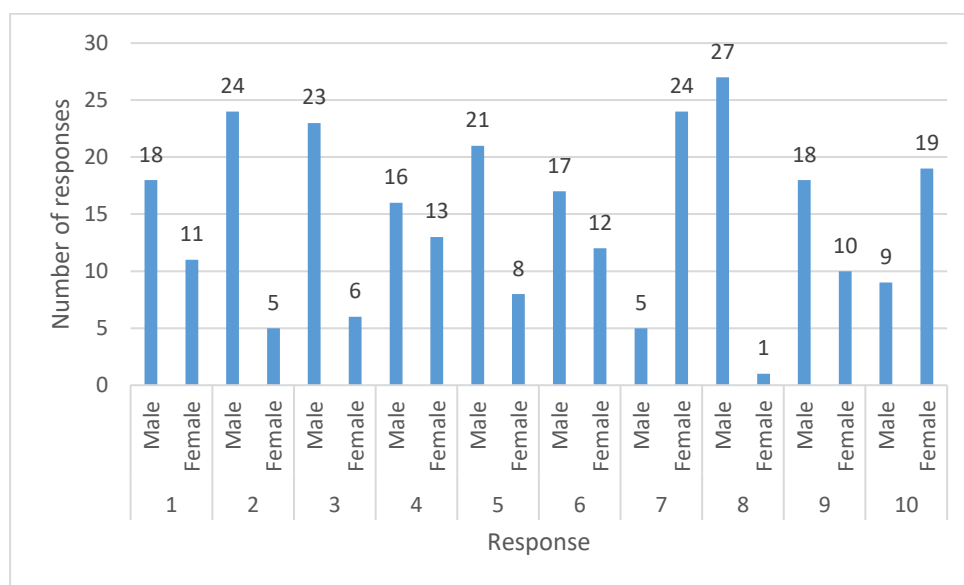


*Figure 10: A graph to show participant's belief of their expectations of people as a result of their gender.*

Question 10 provided participants with ten statements of behaviours and attributes which may be present in individuals with ASD. Participants were asked to select whether they consider the described behaviours to be most likely displayed by males or females.

Throughout this question, the proportion of responses for a certain gender varied compared to the behaviour given. Some statements (2, 3, 5, 7, 8, and 10) elicited a more significant difference between the selection of male or female responses. Statement 1 obtained a relatively balanced response, with 18 participants selecting male, compared to 11 selecting female. The second statement elicited a more identifiable difference between the selected genders, with 24 participants selecting male. Similarly, statement 3 obtained a similar predominance of the selection of the male gender, with 23 participants selecting this option. Statement 4 obtained a relatively balanced response, with 16 participants selecting male, compared to 13 selecting female. The next statement (5) mirrored the weighting of one response being selected more than another, with 21 participants selecting the male response. Statement 6 again obtained a balance response, however there was a slightly higher response

(n=17) for the male option. Interestingly, most participants (n=24) selected the female response for statement 7. The most significance difference in the responses to this question was obtained in response to statement 8, whereby 27 participants (93.10%) selected the male response to this statement. Statement 9 did not produce a statistically significant preference for gender for this statement, with 18 participants selecting the male option, compared to 10 selecting the female option. Finally, statement 10 obtained a mixed response, with the majority (n=19) of participants selecting female, compared to 10 selecting male.



*Figure 11: A graph to show participants responses to whether they consider the listed behaviours to be more displayed by males or females.*

#### **4.3.4 Additional comments**

Questions 11 and 12 were open ended questions which allowed participants space for extra comments to be made about the topics and concepts discussed within the questionnaire. This provided qualitative data for analysis, in turn, producing key themes to aid the investigation. Question 11 centred on five topic areas for participants to comment upon, though these comments were additional and as such did not elicit responses from all participants. The

responses were coded and analysed due to their qualitative nature, and resulted in various themes being identified.

#### The diagnosis of ASD and the referral process:

Comments made from participants (n=13) surrounding this prompt were typically the most lengthy, which provided a valuable insight to the views of the educational professionals and their experiences with the usually health based diagnostic process. Through the analysis, a clear underlying theme and citation was the time taken for an appropriate referral and subsequent diagnosis to be made. This considered, the degree to which participants discussed this varied, for example, one participant cited that *'it takes far too long'*, whereas another cites that the *'process is too slow and limited'*.

Another theme inherent within comments was around the collaboration among professionals in various settings which can present challenges during referral and assessment processes. One of the more unexpected findings was that participants felt pressure to meet the needs of a wide range of individual students, as well as requests made by other professionals. In addition, participants described their views that the subsequent length of time taken to initiate appropriate support negatively impacts upon the students, and their own levels of stress. One participant in particular expands on the dilemmas which may be faced; *'from my experiences it can be challenging to enable timely assessment and support, and also prior to a diagnosis being made, supporting individuals is difficult to facilitate within the setting. It can put pressure on staff, as there may be no resources to aid an individual, but also there is the expectation that they can and will be supported'*.

The final theme which was identified was the concurrent discussions regarding the implications on educational attainment and subsequent school ratings. The time referenced extended to the time for the additional support needed for individuals with ASD or other

additional needs, with some participants implying a negative view of this in its impact upon other areas which their role demands. This considered, the extremity of negativity was varied, with one participant particular citing that the diagnosis and referral *'takes a long time and we have to help them by filling in forms, we have enough to do as it is without these extra forms for one child. Surely the people doing the assessment can do that'*.

#### Behaviours associated with ASD:

16 participants responded to this prompt. As with previous discussions, the range of responses obtained from this prompt varied considerably, both in their opinion and also the examples provided to support their statements. The clear theme which was present in the majority of responses obtained (n=11) was an awareness that behaviours can vary and can differ in their severity. Several examples were given in support for these statements, though the examples given were predominantly behaviours which are centred on stereotypical depictions of individuals with ASD. For example; *'I think most people with ASD are quiet and don't have many friends', those with ASD are '...withdrawn from social interaction', behaviours include 'Repetitive behaviour, dislike change of routine, poor social skill, lack of empathy, lack of eye contact, happy to be a loner, takes things at face value, misunderstands sarcasm or common sayings...'*.

Another theme which was discovered during analysis was the reference to gender in the responses to this prompt. Some participants referred to the limited experiences they had with females with ASD, as well as others citing that *'some of the behaviours people associate with ASD are more suited to the typical male behaviours'*. The final identified theme underlying all the responses obtained was the description of perceived negative behaviours, as well as discussions of behaviours which elicit negative consequences or responses. Whilst not all participants referenced observed behaviours, such as shouting, being aggressive and

‘naughty’, there were no references to the benefits, tasks and skills that individuals with ASD have.

#### The prevalence of ASD in various groups of people:

11 participants provided information for this prompt when completing the questionnaire. This was lower than other prompts as well as being less than half of the total number of participants. This considered, responses given gave some clear themes and understandings inherent throughout responses. The first theme identified was that there was an overall perception that boys were more frequently diagnosed, though some of the participants did state that this was based upon their own experiences as opposed to information or training which they had received. The source of information was not considered, however one participant recognised that the media was an influence upon their understandings. Interestingly, one participant responded to this prompt with the single word ‘*boys*’.

Another theme which was apparent upon analysis was the additional comments around factors other than gender, for example, academic ability, ethnicity and socioeconomic status. Some participants expanded upon this by stating various hypotheses for the influence of these factors, including *‘I think autism is more found in lower class of people, maybe those without boundaries at home or those whose parents don't really care for them’*, as well as *‘...I've seen more autism in city school compared to those in more rural and affluent areas’*.

The final theme which was identified was that in responses where females were mentioned, this was accompanied by suggestions that it was unlikely and would be in females who were *‘more severe and stand out more’*. Additionally, one participant stated that their experiences of females with ASD *‘mostly had either a coexisting diagnosis (for example speech and language) or are academically behind’*. What was apparent through the responses obtained that no responses gave an estimation or prediction about the number of individuals with ASD



nor suggestions about numbers of females compared to males. Whilst not having a statistical awareness is not problematic, the explorations and explanations, specifically the assumptions which influence the prevalence, would suggest that personal opinions and understandings were the overriding basis for comments made. Consequently, there is the possibility that these unsupported and inaccurate perceptions may influence and effect the support for individuals with ASD, as well as presenting a challenge in ensuring appropriate referrals, assessments and diagnoses are made.

#### People involved in supporting individuals with ASD:

This prompt was mainly focused upon the vast and varied nature of those who are involved in supporting individuals with ASD, to which 17 participants responded and provided information. For example, one participant responded to this with: *'Parents, CAMHS, school staff, the LA, EHCP plans, SEND services, Paediatrics, speech and language therapists, occupational therapists, respite centres, action for children'*. Whilst not all participants responded to this section, those who did, identified the collaboration between professionals, and at times, those from a variety of disciplines.

An interesting finding from this prompt was that some participants felt that the availability of specific professionals was difficult, and *'they are rarely seen in schools'*, which may present difficulties if perceptions that there is *'not enough training or understanding in those working in mainstream schools'* are widespread and not just based upon an individual's opinions. As well as findings around availability of specific professionals, the discussion around reductions in staff was prominent, for example, *'I don't feel that ASD is given the support needed in schools. Funding for additional learning needs in general is subject to cuts constantly. In term of supporting those with ASD, I feel there needs to be more support staff in*

*schools and within the community, and those staff need to be given the proper training and support themselves’.*

Gender roles (yours or societal) and their impact on behaviours and expectations:

14 participants responded to this prompt, though the responses gained were typically the most lengthy of those obtained through the entire questionnaire. One of the main themes in this area was that participants considered that they naturally make assumptions and generalisations based on gender, for example, *‘Sometimes without thinking I can place some expectations on one gender without thinking about it. Though what I think is more prevalent in my experiences is not considering a behaviour to be important when shown by one gender, yet if completed by another gender, I may consider it significant’.*

A further theme apparent was the discussions about the gender roles and the possible affects upon ASD and the identification of potential difficulties. The responses given provide a consideration of the possible reasons for females not receiving a diagnosis, with an overall theme and focus on the difference in the expectations placed upon boys and girls. It was suggested that as a result of these expectations, females who appear to fit in and comply with social norms and expectations may not be identified as needing support. In addition, a small number (n=3) of participants discussed how they considered that expectations of both genders were instrumental in evaluations of the behaviours and challenges individuals were displaying.

The responses considered possible reasons for females not receiving a diagnosis, namely that the expectations of boys and girls differ, and as such, females who appear compliant and fit this will often not draw attention to themselves and their barriers. Whilst the comments outlined above present some awareness of gender roles and the possible impact they can have, inherently stereotypical and presumptuous descriptions of males and females were given by a number of participants (n=4). The underlying theme from such comments were

about the behaviours boys and girls are likely to display, with *'boys are more naughty and girls are quiet'*. Furthermore, in comments about the impact of these assumptions, one participant stated that *'more recently so much time has been spent by people trying to excuse children who are naughty and have issues'*.

Overall, the comments demonstrated an understanding by the most part, though there were still instances where stereotypes were prevalent. More information about participants' opinions of the impact of gender roles on the wellbeing and experiences of children and young people would have enabled further analysis on this specific area.

#### **4.4 Interviews**

The interviews in this study consisted of two participants from one of the base locations chosen. Participants' job roles and responsibilities varied, though their qualifications and overall title to identify their role was that of a speech and language therapist. Due to the amount of data collected from this method, transcription was undertaken, and subsequently coded using NVIVO qualitative software. As a result of the time constraints of this study, along with difficulties recruiting participants, the number of interviews conducted is lower than what was initially desired. However, in spite of this, they have provided some interesting information to compare to that of the other methods, as well as providing a basis for future research.

##### **4.4.1 Discussion 1: Participant information and experiences**

Through this discussion, a variety of comments were made, both regarding participants' job roles and what this involves in the context of ASD and assessment. Both participants cited that they were regularly involved with contributing to diagnostic assessments, with a specific example being given of the Autism Diagnostic Observation Schedule (ADOS). The participants were employed within a multi-disciplinary ASD pathway team and made frequent reference to other professionals whom they collaborated with. For example, one participant

stated that *'sometimes we'll be a part of a joint assessment team, where we will work in either a bi-par-type role with another professional...which will either be with a paediatrician or a clinical psychologist or a psychiatrist. Or we'd work in a tri-par-type team as well to come to that diagnostic decision'*. Additionally, both participants discussed the various settings where they may work through their job, which cited both clinical, educational and at times home settings. Both participants stated that the majority of their experiences had understandably been through their employment, although both discussed their personal and social experiences of ASD, specifically the perceptions of the behaviours and implications associated with this diagnosis. When asked about the characteristics of individuals whom they had contact with, both cited that *'the ages are vast...we will see small children at the age of three in a nursery, right the way through primary school, through high school, until the age of eighteen...'*.

An additional discussion within this sub category was surrounding the perceived strengths and limitations of the current referral, assessment and diagnosis for ASD, both generally and within the context of their employment. Comments obtained focusing upon the unclear pathways to access support, both for professionals as well as parents. One participant surmised a possible reason for this is *'maybe to do with people's understanding and education...'*. Additionally, in regards to professionals making referrals, there was an awareness that presentations which do not fit the typical profile may not be referred as early, as well as those with more behavioural and challenging difficulties being referred without sufficient observation and holistic consideration. Upon further reflection, both participants credited standardised measurement tools, such as ADOS, through their ability to provide structure to the assessment and limit the effect that using different assessment teams and professionals may have. This considered, they both cited possible limitations being that such tests may not be appropriate for all individuals. Specifically, one participant verbalised her belief that for some individuals, the ADOS may not detect all difficulties as well as the potential

in individuals with a more unusual, verbal presentation, to mask their difficulties so successfully that a diagnosis of ASD may be dismissed.

#### **4.4.2 Discussion 2: Gender, gender roles, and the impact on ASD**

The initial comments focused upon participant's understanding of the term gender. Whilst both cited that this was something that they were developing their knowledge about, they identified the differences between sex and gender. This was also expanded with a discussion how sometimes this can be confused among professionals and families whom they come into contact with. One participant described gender as *'being a topic which has been in the news quite a lot...lots of people are discussing gender a bit more'*. Considering the topic of gender as an influence on their professional practices, both participants cited that they did not think they did, though they felt confident that if they did, someone would mention it. Furthermore, both participants identified that retrospectively, they had witnessed other professionals making assumptions about an individual as a result of their gender. These were predominantly surrounding behavioural difficulties and presentations. One participant acknowledged that the complexities and deep rooted social norms regarding gender, may render it an influence without an individual consciously considering it when making decisions or diagnoses.

Interestingly, when focusing upon the effect gender has, comments were made by both participants similarly, in that when assessing a female, they may consider possible compensatory mechanisms, such as camouflaging, more often than with males. Comments made regarding resources which they use within assessments provoked interesting discussion, with one participant describing how they *'took all my girl stuff down...that are typically things which I thought she may be interested in'*.

#### **4.4.3 Discussion 3: Opinions of the study and considerations of its effect and importance**

One participant recognised the differences in the presentation of ASD, and stated that *'...one of the things that we have been realising, probably as a profession, is that there are lots and lots of girls who are going undiagnosed with ASD... and it's been missed'*. Statements made are clear in their views that this study, along with others in related fields, are important and have a role in academic, clinical and educational establishments. One statement made credited research by stating that *'the more research that we can get from reliable sources... can help us think about how we assess children...there is always ways to improve and be more accurate, and research could potentially help to achieve this'*. This was followed with a suggestion that research comparing the perceptions of clinical based staff and educational based staff will enable more effective and appropriate information to be shared. A specific example was given of the advice and suggestions given to other professionals following a diagnosis of ASD, as the participant considered that effective collaboration for the best outcomes and well-being of the child is one of the primary objectives.

#### **4.4.4 Discussion 4: Additional comments and suggestions**

Additional comments made by both participants included those of the subjective nature of behaviour. This was also expanded to include the perceptions of difficulties a child may be experiencing, with links made to the effect gender assumptions may have upon this, in turn effecting the next steps and strategies enlisted for that person. When asked about any additional comments, one participant stated that they would hope that *'this study may help to inform and guide the observations of professionals who aren't directly involved in the assessment of ASD, giving them more of an understanding'*.

#### **4.4.5 Overall themes**

Overall, the participants who completed interviews demonstrated a high level of awareness, which was clearly identifiable through their knowledge and examples given. Some

key themes which were clear from the data, was that such a level of awareness and knowledge was not considered the norm, as well as a suggestion that such skills were a result of an individual's desire to be an effective practitioner, rather than through mandatory development. Also, through the discussions, it was suggested that the geographical location was a considerable influence of their experiences of individuals with ASD, with specific consideration of culture and ethnicity. Participants described how they considered a holistic view of the children and young people that they work with, and enlist various other professionals concurrently in order to aim for the best possible outcome. However, a theme which links with other methods used in this study, and wider research, is that this was one of the more challenging aspects, as working with professionals based in other settings, for example those in education, proved difficult and at times conflict, disagreement and misunderstanding could occur.

#### **4.5 Case study based task**

In this study, two cases were sourced from selected publications. Both of the case studies were transcribed and edited to create the variations desired. Each case study selected was edited to have a male name and male pronoun, a female name and female pronoun, and no name and gender neutral pronouns. Participants were randomly assigned cases, which aided the analysis of the qualitative data obtained by the questions asked. The data obtained was coded and subsequently analysed through the programme NVIVO. In total, this study obtained 9 responses from participants. There was a larger number of responses for case 1, as the time constraints associated with some participants' work meant that reducing participation demand would enable them to contribute in their available time, as opposed to not participating at all.

Case study	Number completed
1M	2
1F	2
1N	2
2M	1
2F	1
2N	1

Figure 12: A table to show the dispersal of case studies.

#### 4.5.1 Interpretation of difficulties

Through all the responses obtained, a wide variety of comments were made by participants, which predominantly focused upon behaviours and actions which were cited in the cases. The differences between the variations of the case assigned showed some differentiation and emerging themes, however without further participation, generalisability is limited. From the responses in this study, cases with a female name elicited comments based around social difficulties and links with *'sensitivity'* and being *'overly emotional'*. Comparatively, in those with the male name, difficulties identified focused heavily upon the specific interests the child had which were not considered to be *'normal'* or that were *'unusual and indicative of specific difficulties'*.

In regards to case studies without a name or gender specific pronoun, comments were increasingly varied and demonstrated a wider scope of interpretation. For example, one participant cited *'various displayed behaviours which may warrant further investigation, including those of a social and emotional nature'*. In comparison, a further participant stated that the difficulties *'definitely would stand out as they do not fit the normal pattern of development, specifically as the child's interests are more appropriate for adults'*.

Within the theme of interpretation of difficulties, participants were asked whether they considered the individual described to have a specific difficulty. Again, this elicited a variety



of responses, both citing specific diagnoses, as well as areas of referral and specialism. In both cases with male variations, a difficulty of ASD was cited as being a possibility, whereas in those with female variations, this was not discussed. In the female responses, various diagnoses were considered as potentially applicable, for example, '*OCD*', '*Generalised Anxiety Disorder*' and '*Social Anxiety*'. In the three responses obtained for the neutral case, discussions were longer, with only one citing a specific difficulty being '*Asperger's syndrome*'.

#### **4.5.2 Suggested support, intervention or referral**

Questioning surrounding the support and interventions which may be beneficial for the individuals given obtained a vast amount of data, with a variety of explanations given. Through responses gained for both male case studies, several comments about referral to additional services were made, specifically to those of educational psychology and CAMHS. Interventions referenced included those which would aid social skills, as well as those around communication. For example, one participants suggested that emotional management would be a good strategy for the male, specifically in considering the reasons for his emotions and distress in some situations.

Comparatively, two of the comments made regarding the female variation cited '*counselling*' as being appropriate, as well as '*reinforcing the boundaries and structures of the school day, specifically around behaviour and communication*'. Interestingly, one participant responding to the second case study identified that '*support around various aspects would be beneficial*', with the use of the documented specific interest of electronic based activity being further justification for a '*more widespread support and intervention package*'.

Finally, comments made about the neutral case studies referenced various other professionals who may advise or provide support for the individual described, for example, '*speech and language therapists*', '*play workers*', '*educational psychologists*' and

*'counsellors'*. The support described by one participant identified the need for *'support to be given both in educational establishments as well as the individuals home and additional activities'*.

#### **4.5.3 Hypothetical suggested next steps**

The next steps suggested by participants all referenced involving other professionals and services, though the type and nature of these varied. In the male case studies, reference to compiling a *'specific plan with aims and targets'* was made, as well as *'encouraging additional participation in small group work and extracurricular activities'*. The recommendations were similar irrespective to the case given, though, in order to generate reliability for this, a larger number of responses would be required.

The suggested next steps for the cases which enlisted a typically female name focused upon referrals to *'counselling'* or *'CAMHS'*. Additionally, comments were made about discussions with the parents of the child around their difficulties, and *'ways in which the behaviours and difficulties can be stopped in order to reduce disruption to learning'*.

Whilst only three responses were gained for the neutral variations of the case studies, they produced a greater amount of detail given by participants compared to the male and female variations. Suggestions were made about specific interventions which may be beneficial to the individual, as well as two participants citing the need for *'further consideration and observation in order to identify the main difficulty and focus upon this on the support initiated'*.

In summary of the findings from the case study based activity, gender was demonstrated to be a predominant and recurring theme, both directly and indirectly. Overall, when presented with a male case study, participants suggestions and interpretations focused more upon support and interventions for behavioural and typically external behaviours, whereas the for the female case studies, the focus was increasingly on emotional support and intervention. Interestingly,

the neutral case study obtained the largest amount of data and a wider number of suggestions and possible explanations for the individual's presentation. The reference to gender may not have been explicit in all responses, though, in this data, correlations and patterns have emerged. The mention of ASD was present in the male case studies, however this interpretation was not equally referenced in responses for the neutral and female case studies. This method and its findings have provided a grounding for wider research, as well as demonstrating some key underlying themes which may be applicable to the other methods enlisted in this study.

#### **4.6 Summary of results**

Whilst the methods enlisted for this study involved qualitative and quantitative elements, the overriding theme was a lack of certainty and correlation to suggest that knowledge was standardised, linear and in line with current research. In questionnaires gathered, participants generally showed a good understanding of ASD and gender when responding to the quantitative and pre designed questions. However, the open ended and qualitative responses demonstrated a less informed awareness, and significantly more stereotypical and inaccurate understandings and perceptions. As a result, evaluations based upon quantitative questions conclude that an accurate understanding was present in the majority of participants. However, evaluations encompassing findings from the whole questionnaire showed a high variation in understandings, in addition to a lack of correlation between those with similar job roles and experiences. Therefore, further discussion and investigation is required in order to evaluate the role of desirability in data collected from samples using this method.

Within the interviews, the experiences of participants were vast, and as such the awareness of gender and ASD was above what was expected prior to completion. This considered, participants themselves discussed their own awareness that their knowledge and

availability of training was likely to result in misdiagnosis or missed diagnosis. Additionally, both of the participants considered that their awareness and commitment to their professional development was a significant influence in their knowledge, and that their understandings were not representative of not only many of their colleagues, but also those in other settings across the country.

The case study based task elicited interesting findings indicative to an understanding of the variations in presentation, though due to the small sample, statistical significance for the effect of gender upon perceptions of difficulties was not available in this study. Overall, findings suggested that the variation of name and pronouns used may be a considerable factor in the interpretation of difficulties. Specifically, the perception of difficulties and the need for further consideration was more frequent in the neutral and male cases.

## **CHAPTER 5: DISCUSSION OF THE RESEARCH**

### **5.1 Aims of the chapter**

The main purpose of this chapter is to further evaluate and analyse the results presented in chapter four. Furthermore, through this, themes and conclusions which were identified in the study will be discussed, both in how they were uncovered, and possible reasons and influencing factors in their presentation. The study's methodological design along with the data obtained will be evaluated in their effectiveness and validity, as well as identifying the limitations of the current study. To conclude this chapter, consideration will be given to the possible implications of this study and its findings, along with areas which may warrant further investigation and study.

### **5.2 Discussion of the results**

#### **5.2.1 Questionnaires**

The full exploration of the findings from the questionnaires is found in in chapter four, however an outline of some of the main findings and discussions around these will be briefly outlined.

The results obtained from the questionnaires demonstrate the variability and the complexity of the topics and concepts investigated within the research. The variability extends beyond the context of the responses to include the ages and experiences of the participants, as well as the depth and willingness to expand on answers in qualitative based prompts.

None of the participants who completed the questionnaire declared that they had a diagnosis of ASD. Although, it is worth being mindful of the potentially sensitive nature of this question, which may have affected the accuracy and truth of participant's responses. Though around a quarter (n=7) of participants stated that they had a close relative with a diagnosis of ASD, the nature of this relationship and further details of the frequency of contact were not

explored. Considerations of such factors were considered to be beyond the scope of the study, both in context, and logistical considerations of time and analysis.

Some of the responses obtained during data collection for this method displayed the somewhat stereotypical perceptions and understandings of ASD and gender, along with an underlying awareness that participants' knowledge may be lacking. It has been suggested that one of the influences which contributes to such misconceptions is the mass media (Jones & Harwood, 2009). Whilst this may have influenced some of the responses given by participants in this study, it was not measured specifically, and as such cannot generate valid and significant conclusions. The perceptions and statements provided by some of the participants also drew upon wider concepts such as those of SEN and disability, as well as citing examples and personal experiences of the scenarios and topics discussed. When considering preconceptions and assumptions made about individuals with ASD, findings from the questionnaire responses mirrored some of those which had previously been identified in research. For example, comments made about the cause of ASD being a result of '*having no boundaries*' or '*because of alcohol and vaccinations*' display views which may be a result of either a medical understanding of disability, or a social model. This study mirrored findings from previous literature, in that explanations based upon the causation of ASD and eliminating it were more frequently described, indicative of a more medically based understanding (Mandell & Novak, 2005).

Through the quantitative elements included in this method, factual inaccuracies were obtained, for example, in questions regarding who can be diagnosed with ASD. This may be seen to suggest that the perceived improvement in misconceptions and inaccurate understandings cited by Volkmar *et al.*, (2004) still requires further exploration and consideration to reduce these further. Upon reflection, these findings may be considered to exemplify previous findings that understanding and awareness still requires reform and

development, specifically, how topics such as this are incorporated into teacher training (Carter, 2014).

Findings from this study somewhat replicate those by Stone & Rosenbaum (1988), in as much that factual inaccuracies were recorded. However, as a result of the limited understanding and knowledge of ASD as a diagnosis displayed by many participants, it is considered that findings from this study more closely relate and support more recent findings (Casella & Colella, 2004; Schwartz & Drager, 2008).

For example, the assumptions around academic attainment and ASD featured in responses, particularly in that identification of difficulties is more common in those considered to be struggling academically. Additionally, some participants took this further to state that a low academic ability was concurrent with a diagnosis of ASD, which demonstrates that understandings that ‘below grade-level academic performance is not a defining characteristic of ASD’ have yet to reach a proportion of the participants who responded to the questionnaire (Alresheed *et al.*, 2018: 1). Interestingly, when focusing upon participants’ awareness of gender, comments which displayed an understanding that females could receive a diagnosis of ASD, mirrored conclusions reached by Skuse *et al.*, (2009), in that females with ASD have a lower level of intelligence compared to females without a diagnosis of ASD.

Overall, conclusions from this measure would support findings that consider inaccuracies and stigma to be reducing, and more frequently challenged by society and professionals alike (Volkmar *et al.*, 2004; Wing & Potter, 2002). Nonetheless, findings from this study support the desirability of further research, training, and guidance, specifically the effect of gender.

Throughout the questionnaire, comments around the collaboration and multi-disciplinary nature of an ASD diagnosis were cited by around half of participants. The

complexities of the diagnostic process, specifically the variation and lack of single measure, supports ideas in literature that understanding the different presentations of ASD remains an important area for development in limiting misdiagnosis and missed diagnoses (Matson *et al.*, 2012). The citations gained in this measure of data collection included comments by participants focusing upon and considering the wide array of externally based professionals involved in facilitating the support for an individual with ASD. They included considerations that this additional input, along with the supplementary workload associated with this, had implications more broadly, specifically in making completing all of their job role tasks more difficult. Additionally, the additional workload associated with providing support for an individual with ASD was cited as a significant if not the most important factor resulting in stress and tension. For example, one participant stated that externally based professionals *'don't work in the real world, they don't know how busy and stretched staff and schools are already, without completing pointless tasks, observations and any other jobs they choose to send our way...'*. Additionally, there was a limited reference to the importance of alleviating difficulties experienced by children and young people, and their overall wellbeing. The importance of this is considered major, as negative outcomes for individuals with ASD are frequently cited (Robertson *et al.*, 2003; Humphrey & Symes, 2011). Furthermore, findings based upon parental perceptions consider educational staff to be the primary influence upon successful outcomes for their children in mainstream settings (Jindal-Snape *et al.*, 2005). As a result, this may raise questions around professional's who possess a negative interpretation of ASD, specifically in their ability to ensure positive outcomes for individuals who they have contact with.

### **5.2.2 Interviews**

The findings from the interviews conducted as part of this study provided ample amount of depth portraying a vast amount of knowledge and expertise by the participants. One of the



main overriding themes of the interviews conducted was that the participants' seemingly informed and accurate understanding was primarily as a result of their efforts to work towards their continual professional development, as opposed to training and guidance provided by employers or trainers. The citing of participants' motivation to develop their knowledge mirrors wider suggestions that this should be common practice for professionals, irrespective of their role in the referral, assessment and diagnostic processes (Forlin, 2012; Florian & Rouse, 2009; Vickerman, 2007). Although, due to the limited number of participants, the findings provide a specific insight into two professionals involved in a similar service, and therefore, whilst interesting, the findings are not generalisable to all populations. Nonetheless, they have provided considerable amount of qualitative data which enhances findings from the other two methods enlisted as part of this study.

The participants interviewed in this study displayed their knowledge and awareness of ASD and current developments well, and also made reference to the possibility of bias when using standardised measurement tools. The benefit of the participants' knowledge extends across various factors, with an awareness of the possible effect of gender being cited as important in reducing the bias demonstrated by assessors (Goldman, 2013). This mirrors previous research findings, as both participants described the possible influence of personal perceptions when conducting such tests, though the perceived advantages of the standardised tools appeared to restrict their considered importance of this limitation (Carrington *et al.*, 2014; Tadevosyan-Leyer *et al.*, 2003). Furthermore, through consideration of the developments of assessment tools and practices during participants' careers, links to research identifying this as a possible explanation for the increase in diagnostic rates is visible in the sample group (King & Bearman, 2009). Additionally, comments made mirrored those discussed by Elsabbagh *et al.*, (2012) in as much that both participants suggested wider perceptions of SEN and disability

as being an additional influence upon the diagnosis rates, specifically through the increasing recognition and response to behaviours and patterns which may be indicative of ASD.

Through discussion, participants' evaluations of the more common and frequent presentations of ASD did not detract from an awareness similar to that cited in Eagle *et al.*, (2010), in that presentations can be vast, and individuals can greatly differ in the abilities and difficulties they are experiencing and present with.

Through discussing participants' experiences and training, it became clear that their professional development and awareness was primarily a result of their motivations, as opposed to mandatory training. Whilst only a small sample, this may be indicative of why wider understandings are considered lacking, as Caronna (2003) suggests that training and an increased awareness is a primary factor in improving the reliability and validity of ASD assessments and diagnoses. Additionally, the lack of training which this study's participants cited, mirrors findings in literature which identified the lack of specialised training available for practitioners (Ho & Smith, 2001; Selfe, 2002).

### **5.2.3 Case study based activity**

From the responses gathered for this study, interesting findings were obtained. One of the overriding findings was the difference in the interpretation of difficulties when the names and pronouns were different. There are considered to be a number of possible explanations for the differences. Firstly, it may be suggested that the variation in the participants' understanding of ASD may be a contributing factor. Secondly, it may be explained through previously published literature. In this, findings suggest that professional's perceptions of the importance and implications of specific difficulties is of considerable influence in whether a referral to an external service is sought, as well as which specific service is deemed to be appropriate. Kabot

*et al.*, (2003) may provide an insight into these findings, as they recognise that the variability in the identification of ASD can be influenced by several variables, including gender.

Findings which suggest that emotional and social behaviours are predominantly the focus in females, supports comments made in this study regarding the possible explanation for the difficulties described (Bauminger *et al.*, 2010; Constantino & Charman, 2012). Specifically, responses which were gathered discussed possible emotional difficulties significantly more often in the female cases, as well as including a consideration that referral to counselling would be beneficial. The variations in responses to the cases may be explained in part by Hiller *et al.*, (2011), with the suggestion of a male bias in interpretations of ASD presentations, specifically as participants were made aware through the information sheet that the task contributed to a study investigating ASD. Due to the small scale of this study, as well as the lack of prompting for further information, the lack of a consideration of emotional difficulties in the male variations should be evaluated with caution. It is possible that due to the perceived effort of participation in this study, participants described one interpretation, and did not explore the full range of possible explanations and difficulties for the individuals described in the case studies. Consequently, it would be inaccurate to conclude that the sample did not have an awareness that males can have emotional difficulties. To be able to consider this further, refining the methodological context as well as the constraints of study would be necessary.

Both individuals described in the case studies given to participants were high functioning, which has subsequent considerations about their appropriateness and ability to generate accurate and reliable findings. Specifically, it is supposed that the influence of gender and its effect on the interpretations made of the individuals described may be additionally prevalent in this study. This is as a result of scholarly citations of the ratio of ASD between males and females in this group to be eight or nine to one (Mandy *et al.*, 2011).

### **5.3 Key themes identified**

Whilst each individual method enlisted within this study warranting results worthy of individual consideration, several themes were identified and considered in all three methods in different ways. The key themes identified focus around several of the aims identified in early planning stages of this paper. Specifically, these include;

1. Participants' perceptions of current diagnostic rates of ASD
2. Participants' awareness of recent academic and scholarly developments
3. The influence of gender and its effect on participants' interpretations of behaviours and difficulties displayed by children and young people.

Each theme will bring together findings from a variety of responses from all three methods, as well as comparing and evaluating these in relation to previous literature. Evidence from this study was used as an exploration of some of the issues discussed in wider national and worldwide research, in the specific geographical locations of North West England and North Wales. Through the consideration of these three themes, an overall evaluation of the study and its comparison to previous literature will be formulated.

#### **5.3.1 Participants' perception of current diagnostic rates of ASD**

Overall, through the findings gathered, an underlying description and understanding of the male prominence in ASD diagnoses was clear. Whilst no question specifically required participants to statistically suggest their understandings of the diagnostic rates, and the differences between males and females, frequent comments focused upon the significantly higher amount of experiences with males than with females. Interestingly, within the questionnaire, some responses demonstrated a lack of awareness and understanding that females could receive a diagnosis of ASD. Elsabbagh *et al's.*, (2012) findings regarding the awareness and understanding of gender and ASD, whilst interesting, were unable to evaluated

within this study as it was conducted at single time, and no comparative data was available. To establish this, a study with a longitudinal methodological design would be more appropriate, similar to those conducted, for example, by Brett *et al.*, (2016).

The differences in understanding between educational based staff and specialist practitioners was clear in this area, which is to be expected as a result of the specific role such individuals play in the referral, assessment and diagnosis of ASD. In the data obtained from the interviews, comments were made about the predominance of males whom they assessed and had contact with, as well as comments surrounding the general increased severity of observable difficulties in females who had been referred. These findings may be seen to support suggestions that further training, specifically for those within mainstream settings, is important in facilitating positive outcomes and experiences for children and young people (Iovannone *et al.*, 2003; Callahan *et al.*, 2008; Leach & Duffy, 2009). Additionally, a focus upon ASD in girls would be beneficial in raising awareness and increasing positive outcomes for individuals in this group, as this has previously been lacking. Such training may involve that specific to ASD, as well as that focused upon facilitating and promoting inclusion. Modules run through the National Autistic Society (NAS) have been increasingly praised due to their accessibility for professionals, and recently, a women and girls module has been launched (NAS, 2018).

### **5.3.2 Participants' awareness of recent academic and scholarly developments**

Whilst a discussion about scholarly developments was not included specifically within the methods, an awareness, or lack of, was demonstrated through responses to stimuli provided. Within the questionnaires, when asked about the number of areas considered in a diagnosis, variable answers were obtained. It is proposed that the selection of the '3' option was a result of the wider awareness of the 'triad of impairments', even though this has been revised in the subsequent edition of the DSM (APA, 2013). The vast range of understandings demonstrated

through this research may be predominantly a result of the ever changing and developing considerations of ASD, and the accessibility and promotion of current scientific and developmental research (Verhoeff, 2013). Additional support for this variation comes from previous research which documents that societal and professional views of autism have changed and evolved considerably since its initial citation by Kanner (Fombone, 2001; Wing & Potter, 2002).

An awareness of the criteria and guidance for a diagnosis was identified through the interviews, specifically in as much that participants had an understanding that the diagnosis was complex and the specific tests used were not standardised for all individuals. Further awareness of the importance of considering an individual's age was cited by a small proportion of participants, with discussions replicating those in previous research in that a lack of consideration may impact upon the reliability and validity of assessments and diagnoses (Caldwell-Harris & Jordan, 2014; Morrison *et al.*, 2018).

Additionally, both interview participants were aware and seemingly informed about the increase in considerations of gender in research, with one commenting about the links which have been identified with other diagnoses such as anxiety (Hambrook *et al.*, 2008). In addition, the other participant discussed their own and more general difficulties in ensuring diagnostic overshadowing does not occur, specifically in individuals who would be considered more '*high functioning*'. This again demonstrates understandings identified within research, for example those cited by MacNeil *et al.*, (2009), and Rosen *et al.*, (2018).

### **5.3.3 The influence of gender and its effect on participants' interpretations of behaviours and difficulties displayed by children and young people**

This theme was considered differently within each method, though the general interpretation of difficulties and the possible effect of gender, remains constant. The main

method which considered this theme was the case study based activity, which demonstrated that in the sample studies, gender was the most likely reason for the difference in the difficulties experienced, as well as the perceived severity of the difficulties. Comments made imply an assumption of the roles of males and females and the behaviours expected of each gender. Specifically, through both case studies, those which had a female variation elicited considerably more comments about emotional difficulties with no reference to the terms ‘ASD’, ‘autism’ or ‘neurodevelopmental condition’. In comparison, those with the male variation all referenced at least one of the terms outlined above on several occasions, as well as seemingly viewing the behaviours as more significant and at a higher level of severity. When evaluating these findings, the effect of gender roles in society more generally should be considered, specifically in their documented influence upon children and young people’s social development (Lai *et al.*, 2015).

Within the questionnaires, comments made through prompts towards the end of the questionnaire obtained responses which may be seen to show the effects of gender. Though, caution should be taken when making this conclusion, as they are a result of inference and interpretation. This considered, comments made focused upon the perception of boys being ‘naughty’, and girls ‘following instructions’ and being ‘more emotional. Further comments may be seen to reflect the gender roles and stereotypes inherent in wider society primarily, with the subsequent comments about the specific field of disability and ASD being a secondary application. Discussions featured that demonstrate assumptions of behaviours associated with certain genders remains a central area of this study area, as a result of their influence on findings and conclusions made of an individual’s presentation (Goldman, 2013).

Within the interviews, comments about gender were discussed, and both participants had a good awareness of the possibility of varying their interpretations of behaviours as a result of an individual’s gender. Reference was also made about the current diagnostic criteria, and

their belief that it may be more suited to the male phenotype and traditional presentation of ASD. Such awareness bears resemblance to that in literature, for example, that of Lai *et al.*, (2013) and Baron-Cohen *et al.*, (2011). Though, as a result of the small sample size, further investigation would be required to evaluate whether this understanding is within the wider group of professionals, or just the individuals who participated in this study.

Throughout all three methods, discussions of masking and camouflaging were given, though in the questionnaires, these discussions were inferred from the context of responses as opposed to the citation of those two words specifically. Interestingly, the links between this and gender were not explored. As such, this may be an area for consideration in training due to the increased camouflaging in females, and the subsequent influence upon assessment and diagnoses (Dean *et al.*, 2016).

## **5.4 Limitations of the study**

The limitations of the current study reflect some of those inherent within previous research as well as the challenges in various disciplines when using human participants.

### **5.4.1 Sample and participants**

One of the main limitations of the current study is the breadth and number of participants included. Whilst the number of participants and the scope for inclusion was heavily influenced by the time constraints of the study, the prevalence of participants working in school based settings was notable. Twenty nine participants completed the questionnaire, all of whom were employed in a school setting. In comparison, two participants completed an interview and nine participants completed the case study based task.

Whilst the number of participants involved with this study are not enough to consider the results to be statistically significant, they provide a small scale exploration which have provided various questions and topic areas which may be worthy of further study. Additionally,



as a result of the time constraints and logistical planning processes associated with this project, enlisting a wider geographical sample was not considered viable, and that in maintaining the small scale, the data obtained would be of better quality.

Another consideration when evaluating this study would be the lack of individuals with ASD who were involved with the project. There are several explanations for this, predominantly the small scale nature of the study. As a result, this was not a factor which could be analysed for themes or correlations with views and opinions. It may be useful when using larger samples to continue to measure this demographic marker, as well as considering the possibility that individuals may not be willing to disclose such information.

Whilst participants were recruited from two base locations, the disparity of participant numbers from each location may be perceived to be a limitation of this study. As the majority of participants responded to the questionnaire in English, it would be assumed that they were resident in one of the locations. Though, as the questionnaire did not allow for the researcher to ascertain which base location participants were from, the perceived prevalence of those from one base location remains hypothetical. The scope of the data is narrowed when using specific geographical inclusion criteria, therefore, further widespread investigation would be additionally be required in order to produce applicable and valid findings.

#### **5.4.2 Setting and inclusion criteria**

Early in the planning process, inclusion criteria for each of the three data collection methods were established to ensure that the recruitment, collection, and analysis would be viable in the time available to the researcher. A specific example of this is the radius around the base locations used in the inclusion criteria, whereby a ten mile radius was decided. It was considered that extending this would have the potential to produce an unmanageable amount of data for the time available. Should this distance have been increased, all stages of the study

would have been increased, including recruitment, collection, transcription and analysis. Though, in future research where time constraints allow, extending the radius and thus possible number of participants recruited would contribute to increasing the generalisability and validity of the findings of this study.

Whilst the results obtained from the questionnaire displayed a generally informed and good understanding of the topic, it may be advisable in further study to collect information regarding if and what training professionals had received, again to consider whether this would enable statistically significant findings to support the presence and availability of training for practitioners. Additionally, as the completion of the questionnaires was not controlled, caution should be taken as participants may have had access to external information, and thus may not have answered solely on their knowledge. The choice to not fully control the settings and times where the questionnaires were completed was as a result of the lack of a mutual location to facilitate this, as well as considering the demand on participants to be too high, as there was no financial or direct benefit for taking part.

#### **5.4.3 Additional influences**

A further consideration when enlisting participants from a variety of locations is the demographic and socio economic factors associated with the locations, as the variation in these may be influential in the data obtained as well as the response rates. In turn, they may be considered as a variable which potentially could influence the conclusions and validity of findings. A consideration of factors such as culture is supported in literature due to the identified differences in practices, knowledge and opinions when considering perceptions of ASD, disability and difference more broadly (Collins *et al.*, 2011; Dyches *et al.*, 2004; Mandell & Novak, 2005).

A way in which these factors may be controlled and considered in further research is through ascertaining certain markers in a similar method to that used in Manago *et al.*, (2017). In this study, responses were connected to the participant's demographic profile which had been recorded, for example, markers such as age, ethnicity and relationship status (Manago *et al.*, 2017). This current study did not require participants to state their gender, which in retrospect may have been beneficial in order to facilitate considerations of this marker when drawing conclusions. This may have been especially appropriate as a result of the predominant focus upon gender in the study's aims and objectives. As a result of the lack of measurements for the marker of gender, conclusions around any possible influence was unable to be drawn. As a result, this may be one of the main ways that this study would be refined should it be completed again in the future. The importance of measuring markers such as those outlined above is supported by research which identifies the affect that cultural and social contexts can have upon experiences of disability, and the associated stigma and assumptions internalised and projected by individuals (Blum, 2015; Pescosolido *et al.*, 2008).

With the questionnaire method specifically, participant's qualifications were not ascertained or measured. Due to the variety of job roles participants may have within the sample, this may be an area to consider in future. Additionally, due to developments in teacher training, specifically that of compulsory teaching of ASD, revisiting this study's methods once this is implemented may produce an interesting comparison in a teacher sample (GOV.UK, 2016).

#### **5.4.4 Questionnaire methodological limitations**

When conducting questionnaires, limitations centre upon the difficulty in clarification should confusion arise when completing the questionnaire. In turn, this may have implications upon whether the participant continues with participation, or whether they continue and their

results may not be valid. As with any quantitative measurement when multiple choice or a selection of responses are given, there is the chance that response may have been coincidentally 'correct' rather than as a result of their knowledge and perceptions. Nonetheless, as the quantitative questions were on the most part followed by the space for additional comments and information, the influence of this upon overall conclusions is considered to be slight. A further limitation in the questionnaire method enlisted within this study is that the setting and environment where participants completed it were not controlled, and as a result, they may have used other individuals or sources to aid them in its completion.

When considering participants' right to withdraw, the programme enlisted within this study to collect responses did not allow identification of participants' responses should they wish to withdraw their data. However, ethically this did not affect this study as it was made clear to the participants prior to completion. In future, an alternative programme may be better suited for this reason, as well as limiting the possibility that the questionnaire could be completed by individuals not directly recruited and as such not matching the inclusion criteria.

#### **5.4.5 Response rates**

As a result of the low response rates for the case study based activity, conclusions from this aspect of the study were limited. This considered, themes were identified in the responses which were obtained. However, to verify and reinforce such themes, further completion by a wider variety of professionals is required. Whilst the limited sample did not detract from the informative nature of the responses, in order to produce scientifically valid and applicable findings, a greater sample and response rate would be required to generate statistically significant rather than chance conclusions.

Similarly to the case study based activity, the low rate of responses for the interviews was identified as a further limitation of this study. This method contributed in depth to the

study, as well as including those professionals outside of school settings, and as such, representing the multi-disciplinary and complex nature of ASD. With hindsight, it may have been advisable to consider phone or video interview methods in order to reduce the time taken and geographical inconvenience associated with completion of interviews. Both of the participants in this sample had the same job role, which may limit the application of findings to other professionals, such as educational psychologists. Also, as the participants were based at the same location, the knowledge and awareness which they possessed may be as a result of their employer and manager's awareness also, as opposed to conclusively generalising it to be representative of the profession as a whole.

A possible explanation for the low response rates in all three methods completed may be the lack of financial incentive or personal gain which individuals would obtain upon completion. Therefore, results obtained may not represent the variety and opposing perceptions evident in the wider field of professionals. Self-selection bias may be an inherent consideration upon evaluation of this study, as vast literature documents that certain individuals may be more willing than others to volunteer, especially when there is no incentive or direct benefit to the individual (Costigan & Cox, 2001; Robson, 2011).

In addition, as recruitment for the questionnaires was through initial contact with the Headteacher, other members of staff in that establishment may not have been made aware of the study if the Headteacher did not want to participate or did not pass on the details and information about the study. It is hypothesised that the lack of incentive in this case was a considerable factor, as the establishments targeted are busy and therefore without an incentive or benefit, it is unlikely that completion would be encouraged unless participants were willing to take part in their own time.

The use of a web based programme to collect questionnaire data may be an important consideration, as whilst the option for paper completion was stated, it may be that participants saw this as an additional inconvenience, particularly with the lack of personal gain or incentive (Denscombe, 2003). Interestingly, all responses obtained were collected through the online software. Though, upon reflection, using an alternative service may have been more appropriate to ensure that those completing the questionnaire were those whom had been targeted, and had not passed on the link or information to additional individuals who did not fit the inclusion criteria (Lefever *et al.*, 2007).

#### **5.4.6 Data analysis**

When analysing data obtained from the interviews, one programme (NVIVO qualitative software) was enlisted in order to code and identify themes in the data. In future, it may be advisable to use an additional programme, such as SPSS, to do this to improve reliability and validity of findings and conclusions. This considered, this would increase the time taken to input, code and evaluate data considerably, and therefore, would not have been possible within the time constraints of this project.

Due to the exploratory nature of the study and focus upon professionals' perceptions, data obtained may have been substantiated and enhanced through triangulation. This limitation was also identified in Humphrey and Symes (2011), in which it was suggested that further methods including observations would provide more detail on the subject being studied. In this study completed by the researcher, triangulation is considered to be appropriate as a result of the potential social desirability bias inherent in completing the study, as a result of completion being in their professional as opposed to personal capacity.

#### **5.4.7 Additional limitations**

A limitation, which is as a direct result of the aims of the project, is the influence that approaching participants through their professional capacity and employer may have upon the social desirability bias presenting during completion. Additionally, the awareness of their own role in the referral, assessment or diagnosis of ASD may have influenced responses as a result of perceptions of negative judgements should responses demonstrate a lack of awareness expected through their role.

### **5.5 Implications for practice**

The findings in this study have mirrored those found in some previous research, though overall, the findings presented with a clear pathway for further development in the training and guidance given to professionals involved with children and young people. The confusion and at times lack of an understanding of central key concepts was mainly present in educational practitioners. However, the knowledge demonstrated by the other professionals who participated may be due to their own desire to have an up to date awareness, as opposed to the need and importance of this within their current job role.

Implications for the practice of the participants involved in this study are considered to differ, depending on a number of factors and additional considerations. Through comments received about the study and its purpose, a distinction between those whose knowledge was based on training and professional experiences, and those of personal and social experiences was clear. It is likely that participants who contributed more fully with the study are more likely to consider behaviours and alternative presentations of ASD when continuing in their role. This is a positive and somewhat necessary outcome, as an increased understanding and awareness is frequently credited as limiting the personal and social bias within the referral, assessment and diagnostic processes (Goldman, 2013).

The variation in participants in this study, specifically their primary discipline, may be considered to be influential when discussing the implications of this study's findings, both personally and within professional practice. Additionally, as a result of the multi-disciplinary nature of this topic area, it is possible that implications will be wider than facilitating positive outcomes for children and young people they have regular contact with. An example may be an increased consideration of the collaborations with other professionals involved in supporting and assessing these individuals, and an appreciation for the need for the expertise of different practitioners. For example, when collaborating and working with other professionals, an awareness that opinions and perceptions may differ and have influenced their actions and understanding of an individual's behaviour may be an additional implication of this study. Furthermore, as a result of the hypothetical considerations outlined above, one consistent theme is considered to be the importance of professionals having a reliable and up to date awareness and knowledge of this topic area. Specifically, the presentations of ASD in children and young people is proposed to be an important focus within this, as the potential for bias and unreliable or invalid conclusions is considered to be enhanced when this knowledge and awareness is lacking. The concern about the depth and quality of professional's knowledge surrounding ASD and inclusion remains at the front of research (Frederickson *et al.*, 2010).

Legal requirements are a consideration when facilitating support for an individual and may be influential in a practitioner's evaluation of a child's behaviour and the subsequent next steps taken, for example, referral to a specialist service (Ko, 2015). Additionally, when considering the legal and legislative considerations in the topic area of ASD, the monitoring and guidelines extend beyond those set by the educational or healthcare establishment to include regional and national guidelines. For example, Education and Health Care Plans (EHCPs) are a nationally recognised and legally binding document, therefore, ensuring they are appropriately and accurately completed may include monitoring and scrutiny of additional



services and professionals (The Care Act, 2014; Children and Families Act, 2014; Equality Act, 2010; Health and Social Care Act, 2012; NHS Act, 2006; NHS Mandate; Working Together To Safeguard Children, 2015). Again, the importance of practitioner training is pertinent in this theme as The United Nations Convention on the Rights of Persons with Disabilities 2011 (Office for Disability Issues, 2011), and in particular Article 24, emphasised the importance of training and adherence to professional standards.

Implications of this study may be significant in both micro and macro levels, for example for a specific individual, a setting, or a professional body. Whilst the wider discussions regarding the need or importance of receiving a diagnosis continue to be highly prevalent, it is hoped that this study will improve the awareness of professionals who participated. Additionally, as a result of this study, it would be considered desirable that future evaluations are increasingly based upon current information, as opposed to socially constructed stereotypes and ideologies.

Whilst this study focused upon the perceptions and knowledge of professionals, it would be expected that this study, along with others, contributes to the wider effort and action in ensuring support for individuals is appropriate and timely. Whilst the participants included, methods and aims may differ, research in this field shares a common underlying goal of striving to improve the well-being and experiences of all individuals.

## **5.6 Areas for further research**

Through the data obtained from questionnaires, inconsistency in the awareness of how many areas are considered when assessing ASD could be considered as a crucial area for further research. Whilst the reasons for participant choices was unable to be explored due to the quantitative nature of data analysis, it may be pertinent in future research to explore this further,

potentially through a longitudinal study regarding the effects of having access to information and training.

This study enlisted professionals in both education, health and social care settings, however, it may be beneficial to extend this in future studies to a wider network of those with contact to children, for example, those with legal employment. This may aid in the wider acceptance and adjustments in society more generally for those with ASD. Additionally, as the limited sample for the interviews consisted only of speech and language therapists, future research would undoubtedly benefit from the inclusion of more participants as well as those in alternative job roles.

Whilst in this study the case study based activity was directed at specific professionals directly involved in the assessment and diagnosis of ASD, it may be worthy of study in additional samples, such as those based in education settings. This may provide a comparison to data from the quantitative and predominantly hypothetical questionnaire, as well as providing participants with a scenario which may be one which they are presented with professionally.

Qualitative data obtained through this study frequently mentioned the assessment for ASD and the tools used, specifically the time and often dispute over results. Current literature continues to cite the need for these standardised measurement tools to be reviewed, and as such, this may provide a catalyst to where this study could extend in future. The use of professionals with varying expertise provided a variety of perceptions, from those based upon experience, and others based upon professional training and accreditation. As a result, in future research, it may be worthwhile to consider the training and qualifications the participants have in order to consider whether this was another area where a correlation may be identifiable.

All participants who took part in this study were over the age of eighteen, and were employed in a setting identified by the inclusion criteria. As a result, individual's knowledge may have been as a result of previous studies and training, prior to more recent changes, for example, the changes in diagnostic categorisation from DSM IV (APA, 2000), to DSM V (APA, 2013).

Specific consideration of gender roles and expectations in a wider field would contribute further to the field, as the influence of these is wide, including educational, social, and home settings. Through the situation of ASD in a wider field of disability, consideration of both medical and social models would contribute to the themes and concepts included within this study. Including those considered to be in a vulnerable sample group, for example children and participants with a diagnosis of ASD, may provide additional insight into sociological concepts such as gender. Particularly, children being involved in research is considered to be supported by Article 13 of the UNCRC (United Nations Conventions on the Rights of the Child) (UN, 1989).

A further area and theme which arose through the qualitative elements of this study, was the lack of training and guidance given to participants, irrespective of their job role. As a result of this, future research may focus upon the presence of the training, as well as the perceived importance of it in ensuring that outcomes and support offered for children and young people is appropriate.

Through comments obtained through all methods, reference to the other professionals involved in supporting individuals were made. At times, these discussed the difficulties faced within multi-disciplinary discussions, with opinions of the others' role, purpose and effectiveness. Future research may consider the relationship between school based and externally based professionals, for example, addressing the opinions each group have about the

other. Overall, this would aim to increase the positive experiences of children and young people, as irrespective of employment title, ensuring appropriate support for an individual should be the central consideration for all professionals.

Irrespective to how or if this study is expanded or used in the field, it is recommended that the non-linear nature of the topic should remain at the centre of studies, along with an awareness that all individuals are unique.

## **5.7 Conclusion**

Overall, this chapter has considered the results and themes identified in each method enlisted within this study, as well as identifying and discussing three themes which were present within all methods. Additionally, limitations of the current study were discussed, and possible suggestions in how to limit the effect of these in future research was suggested. Such limitations were considered also on a wider scale, in comparison to difficulties and limitations of research using human participants, for example, social desirability bias. The implications of this study vary, though consideration of the main implications on various levels was the focus in this discussion. An understanding that the implications may vary between individuals corresponds to the exploratory and interpretive nature of the aims and context of study. Finally, suggestions for further research were discussed, and discussions of the links between this study and others in the field, provided additional support and justification of the need for further exploration and study.

## **CHAPTER 6: CONCLUSION**

### **6.1 Aims of the chapter**

The aims of this chapter are to draw together the findings of the study, summarise the procedural evaluations as well as possible implications for practice and future research. Additionally, this chapter will consider the findings from all three methods, and how these findings contribute to previous research, as well evaluations and analysis of the study as a whole.

### **6.2 Main themes and findings from the research**

As a result of the various measures enlisted in the study, results and conclusions provide interesting findings both within each measure and the project as a whole. They have given various perspectives to the topic studied, as well as providing questions and implications which may be taken forward in further study. These findings have been compared and considered in relation to alternative scholarly publications in chapter 5. A brief outline of the findings from each method, as well the overall themes and findings are documented below.

#### **6.2.1 Questionnaires**

From the 29 questionnaires completed, several themes were identified. One of the main themes focused upon the ambiguity and variability when asked about the number of areas considered in the assessment of ASD. When participants had the opportunity made additional comments, many demonstrated some awareness of the variability in presentation and how gender may be an influencing factor. However, there was an underlying theme that this understanding was as a result of participants' active involvement in their role and their professional development, as opposed to training and support through their employment. Half of the participants stated that they were in the 41-59 age bracket, which may bear some

influence upon findings from this group as a result of the considerable changes and revision to practice and criteria during their professional practice. This may be interesting to consider in further research as further exploration would have been beyond the scope of this study.

### **6.2.2 Interviews**

Findings from the interviews provided a great deal of rich and in depth data and information. One of the main findings was that practitioners were aware of the possible differences, though they considered that they were not fully confident in their ability to be accurate and reliable in cases where presentations were more ambiguous and away from the more typical phenotype and presentation of ASD. As a result of the relatively small sample, it would be advisable to seek further study prior to making any concrete conclusions about this, as there is the potential to be additional variables and influences which were not controlled or measured within this study.

### **6.2.3 Case study based activity**

The case study based activity elicited a large amount of data, and this depth was similar irrespective of which variation of case study was assigned. Throughout responses, themes were identified predominately as a result of the gender variation, with no significant findings identified when comparing the content of the two case studies. Overall, participants who completed a female variation of either case study cited emotional difficulties and an increased sensitivity as their overall interpretation. In comparison, those with the male variations discussed more behavioural difficulties, as well as citing ASD as a possible diagnosis. Interestingly, case studies which were of neutral variation elicited a greater depth of consideration, as well as discussions of a variety of possible underlying difficulties, with further investigation, observation and consideration being necessary.

From the data obtained from this sample, gender is most likely to be the primary influence that resulted in the differences in interpretations among participants. However, a larger sample and greater variety in the type of presentation described in the case studies is required in order to produce generalisable and reliable findings which support the significance of gender in interpretations of difficulties.

### **6.3 Areas for further investigation**

Areas for further investigation include those studies within the sample used in this study, as a result of both the small scale and small sample size and the previously identified variation in experiences of assessment and diagnosis services cited in scholarly research.

An in depth discussion regarding plausible methods of furthering the knowledge and understandings of key topics in the area of gender and ASD was given in chapter 5. Overall, these suggestions focus upon the benefit of professional knowledge in ensuring that individuals receive appropriate support and diagnosis. Irrespective of the development and exploration of topics similar to these, the holistic nature of an individual's experiences and achievements should be central.

Whilst wider considerations in research consider the effectiveness and validity of standardised measurement tools and diagnostic criteria, without a considerable increase in resources and time to complete such study, focus should remain upon specific considerations inherent with a specific group or professional body.

The benefits of further investigation may be witnessed on numerous levels, however, the implications upon the participants in this study, along with those similar, should not be dismissed as unimportant in reducing the stigma and inaccurate understandings in professionals and society alike.

Future research, irrespective of the aims and methodology, should aim to contribute to the field, both in increasing understandings and also the ability of such understandings to transfer to the professionals working with children and young people. The importance of ensuring the fluidity between research and real life and field settings is considered to be at the cornerstone of ensuring children and young people receive the best, substantiated support. As a result, reinforcing the focus upon increasing positive experiences and the likelihood of ongoing and future positive outcomes for individuals. When considering these themes and concepts, this specific study has demonstrated several key areas for development and ongoing evaluation.

#### **6.4 Conclusion of the findings**

Whilst the findings in this study vary, the depth and complexity of the topic studied is clear. One of the main conclusions from the completion of this study is that there remains to be variability in understandings of ASD which have the potential to influence the referral, assessment and diagnosis of ASD. Furthermore, this study has raised questions as to whether more training is needed, and also whether the challenges faced in the identification of ASD have additional influences beyond the scope of this investigation, for example, possible bias in standardised measurement tools. Throughout the entire process of study, it was evident that the findings would provide a valuable insight whilst also contributing to the ever growing presence within wider research.

In conclusion, whilst several limitations have been identified in this study, the importance of study as well as its interesting contribution to the field remains highly valuable and provides support for the need of further investigation. This study is considered to only begin to explore and investigate the complexities of ASD and gender, thus, further information is considered to be imperative.



## APPENDICES

### Appendix 1

#### **CBLESS Ethics Application Form**

Applicants are required to write their ethics application using this form. Please provide additional information if required. Applications should be signed, scanned and submitted (together with appropriate supporting forms) by email to:

[cblessethics@bangor.ac.uk](mailto:cblessethics@bangor.ac.uk)

Please allow between 15-20 working days to receive feedback on your application.

1	<b>Title of Research Project</b>
	Gender Differences in ASD: Exploring Professionals' Perspectives
2	<b>Details of Researchers.</b> In this section, please include the names, phone numbers, email addresses, and their job title/student status.
	Bethany Anne Edwards (500303173), 07957291991, <a href="mailto:edu4a3@bangor.ac.uk">edu4a3@bangor.ac.uk</a> , MRes Childhood and Youth Student.  Fliss Kyffin, 01248 383593, <a href="mailto:f.kyffin@bangor.ac.uk">f.kyffin@bangor.ac.uk</a> , Dissertation supervisor/Lecturer.
3	<b>Aims and Objectives of your Research (max 300 words).</b> Briefly describe your research proposal and what you seek to learn from the research. A detailed literature review is not required.
	<ul style="list-style-type: none"><li>• Consider the diagnosis of Autistic Spectrum Disorders (ASD) in girls in comparison to that of boys, through current literature and participants' perceptions.</li><li>• Gain a better understanding of ideas considered in literature and whether they extend or are relevant in this study's participant group.</li><li>• Explore the assumptions made of boys and girls omitting or displaying certain behaviors by people working with children, and the impact that this may have on assuring appropriate interventions and referrals are made.</li><li>• Consider whether there are any links to and relationships with gender stereotypes inherent in childhood, rather than singularly in the field of ASD.</li><li>• Consider the concept that girls are more likely to 'camouflage' indicators of ASD.</li><li>• Conduct an analysis of previous research in the field and consider how this may have impacted upon the key ideas outlined above.</li></ul>

4	<p><b>Recruitment and Participants.</b> What methods will use for recruitment or sampling? What are the exclusion/inclusion criteria for participation? Do you plan to conduct research with minors or vulnerable adults, and if so, what safeguards to you have in place?</p>
	<p>Participants for my study will vary as I will be using a mixed methods design, made up of: questionnaires, interviews and a case study based activity.</p> <p>The inclusion criteria for questionnaires will be various professionals who work with children in a school setting, who will be recruited through contact with the Headteacher/Head of School. Headteachers contacted will be chosen due to their location (all schools are within 10 miles of the two base locations, one base in North Wales, and the other in North West England). Participants may include: Teachers, Teaching Assistants and Inclusion/Support Assistants. There is not an exact number of participants who will be approached, though I aim to collect a minimum of 50 completed questionnaires. As response rates are typically low, I will approach a larger number of participants (through initial contact with Headteacher/Head of School).</p> <p>The inclusion criteria for interviews and the case study based activity will involve more specific professionals in education and health sectors who are involved in the referral, assessment and diagnosis of ASD in children (definition of children is individuals up to and including 18 years old). For example, Psychologists and ASD practitioners.</p> <p>In all methods used, the inclusion criteria will possibly include individuals with ASD, as inclusion will be based on other criteria such as location and job role.</p> <p>Participants will be recruited from North West England and North Wales due the location of study. Participants from North Wales will be given all the information for the study and the consent forms in a bilingual format. Questionnaires and interview questions will also be available bilingually. However, interviews and the case study task will only be carried out through the medium of English, as this is the researcher's home language.</p> <p>Interviews will be conducted in the participant's place of work. If this is not possible, university premises will be considered as a preferred alternative. Questionnaires and the case study based task will be distributed initially by email, but paper copies will be available should participants prefer that method of completion. If paper copies are sought, they will be available from participants' work locations and returned there in an envelope provided, to be collected by the researcher at an agreed time in the future.</p> <p>A full risk assessment will be completed before conducting any research which will cover in more detail considerations when working with human participants, including right to withdraw, debriefing and informed consent. It will also consider ways I will reduce possible effects of identified issues or risks.</p>

	I will recruit participants by email/phone with an information sheet about the aims of my study and the tasks which it would entail, and any potential impacts on participants (please see attached).
5	<b>Research Design</b> <p>A mixed method design will be employed in this study which will primarily made up of:</p> <ul style="list-style-type: none"> <li>• Semi-structured interviews with professionals who are involved with the referral of individuals with ASD traits and professionals involved in the diagnosis of ASD. For example, Psychologists and ASD Practitioners. Interviews will be recorded to enable accurate analysis and evaluation, and will be stored on a password protected memory stick.</li> <li>• A short fictional case study of a child presenting with various behaviors and challenges will be given to the selected participants. Participants will be given the case study and also some questions/discussion prompts. For example, what they consider to be the main difficulties, the next steps they would take in supporting the ‘child’ in the case study, and possible support strategies. There will be two case studies, with three variations of each used. These variations will be the name of the individual and the pronouns used. One variation will include a typically female name and feminine pronouns, another will include a typically male name and masculine pronouns, and the final variation will have no gender specific language or a name. The behaviours and descriptions will be standardised throughout. These will be given to participants who work with children with ASD, specifically those involved in referral, assessment and diagnosis. These will be distributed to participants electronically via email, though if participants prefer a paper copy that will be provided and further collected from participants’ work places.</li> <li>• A questionnaire focusing on perceptions of the incidence of ASD in girls and boys, and questions surrounding participants’ understanding of ASD criteria and triad of impairments. This will be given to adult participants in the study, who work in a school environment. Further recruitment details outlined in previous section.</li> </ul>
6	<b>Measures employed.</b> Describe the measures you will be using in detail. Where relevant, please include copies of measures as a separate attachment.
	<ul style="list-style-type: none"> <li>• Interview: Open ended questions in interviews focusing on participants’ experiences of ASD (especially in girls) and their understanding and beliefs about the prevalence of ASD in girls and possible reasons for this.</li> <li>• Case study: Two fictional case studies of children with possible ASD indicators and other behaviours. 3 participant groups given two case studies with: female name and pronouns, male name and pronouns or gender neutral pronouns and name.</li> <li>• Questionnaires: Open and closed questions with opportunities to add extra comments.</li> </ul>

7	<b>Estimated Start and Duration of the Study.</b>
	Start date- February 2018. Duration- 8 months.
8	<b>Potential Offense/Distress to Participants.</b> Is there a possibility that participants will become distressed or offended as a result of your research? If so, how do you plan to mitigate their distress or offense? Justify why this offense or distress is necessary for your research.
	<p>Participants will be given an information sheet covering the aims of the study and any possible harm which could come as a result of taking part. This would be provided before giving informed consent. Also, participants will be reminded of their right to withdraw at any point, even after research has been conducted. Participants will be debriefed at the end of their participation and thanked for taking part. I cannot envisage any potential harm, either emotional or physical, due to taking part in my research, however they will be free to ask questions throughout and contact details for my supervisor will be provided on the information sheets.</p> <p>There is a possibility that there may be participants with ASD or another ALN, which may make them more vulnerable. I will not be actively recruiting individuals with ASD or another ALN, however they may be approached due to their position or presence in a group identified in the inclusion criteria, for example place of work. If participants do possess these diagnoses/features, I would like to them in the study as I believe that their views are of equal importance and validity. Any professionals who fall into this group will have the capacity to decide whether to take part based on the information provided.</p>
9	<b>Informed Consent.</b> Provide the consent form(s) as an attachment. Please give a detailed justification if you are not seeking informed consent.
	Informed consent will be sought before conducting any research. As all participants will be over the age of 18, they will be able give consent and complete the form themselves.
10	<b>Payments.</b> In this section please provide names of participants, investigators, departments / institutions and the amount(s) of the payment(s)
	Not Applicable for this research project.

**Data Storage.** Please see:

[https://www.bangor.ac.uk/library/info\\_staff/ResearchDataManagement.php.en](https://www.bangor.ac.uk/library/info_staff/ResearchDataManagement.php.en). Ideally, data should be stored on an encrypted device at the university and stored on a secure file on Bangor University's M or U drive for a minimum of 5 years.

I attach the below forms:

- Participant Information Sheet (**MANDATORY**)
- Consent Form (**MANDATORY**)
- Any other forms (e.g. letters of invitation to study participants)

I confirm that this research project will be carried out in accordance with the guidelines and the procedures determined by the College of Business, Law, Education and Social Sciences and the University's Research Ethics Policy:

<http://www.bangor.ac.uk/ar/ro/recordsmanagement/REF.php>. I understand that I am responsible for the ethical conduct of the research.

I confirm that I am aware of the requirements of the Data Protection Act and the University's Data Protection Policy, and that this research will comply with them.

The potential risks to the investigator(s) for this research project have been fully reviewed in accordance with the guidelines in the University's Fieldwork Handbook: 'Taught Fieldwork and Research Fieldwork':

<https://www.bangor.ac.uk/hss/inflink/documents/TaughtandResearchFieldworkHandbookJune2015.pdf>.

As an investigator, I understand that I am responsible for managing my safety and that of participants throughout this research. I will immediately report any adverse events that occur as a consequence of this research.

**Name of applicants:** Bethany Anne Edwards

**Signature of applicant:** \_\_\_\_\_

**Date:** 12/02/2018

## Appendix 2

COLEG BUSNES, Y GYFRAITH, ADDYSG A GWYDDORAU CYMDEITHAS  
COLLEGE OF BUSINESS, LAW, EDUCATION & SOCIAL SCIENCES

YR YSGOL ADDYSG  
SCHOOL OF EDUCATION



Cyf./Ref.: 18-09

Annwyl/ Dear Bethany Edwards

**Yng/ Re: Do societal gender roles have an impact upon the referral and diagnosis of ASD in girls**

Thank you for your recent application to the School of Education Research Ethics Committee.

The Committee has considered your application and I am now able to give permission, on behalf of the School of Education Research Ethics Committee, for the commencement of your research project with the following amendments:

"All documents must be made available in Welsh and in English. The English language documents need to be edited for minor errors and typos."

I wish you well with your research.

Yn gywir iawn/ Yours sincerely

Dr. Marguerite Hoerger  
Chair, School of Education Research Ethics Committee

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RHIF ELUSEN GOFRESTRDIG / REGISTERED CHARITY NO. 1141548

## Appendix 3

### 1. The Participant.

Risk Factor	Controls to prevent risk	Risk levels 0-5 (Very low-very high)
Participant age	<p>All participants will be over the age of 18 therefore will be able to give informed consent.</p> <p>There are no associated risks from taking part in my study for any particular age group.</p>	<p>0</p> <p>The risk of any negative effects if very low. All participants will be provided with an information sheet and will be fully debriefed after the study has taken place.</p>
Participant physical and mental health	<p>All participants will be recruited through their work place, and completion will be in the establishment where they are employed. There are deemed to be no potential risks to physical or mental health by taking part in the study.</p> <p>Details of who to contact should this occur are given on the information sheet, as well as contact details if participants have a complaint.</p>	<p>0</p> <p>The risk of any negative effects on physical and mental health is low as it is not an overly sensitive topic.</p> <p>The participants have the right to withdraw at any time during the experiment for example if they feel uncomfortable without having to provide a reason. This will be outlined on the information sheet.</p>
Pre-assessment	<p>In order to make sure there are no problems with the study, a small scale pilot was carried out involving all methods. This included three educational professionals as well as two members of university staff. This aimed to minimise any potential methodological or comprehension difficulties.</p>	<p>0</p> <p>The risks of encountering difficulties is very low as a thorough pilot study was enlisted which included all three data collection methods.</p>
Informed consent	<p>To ensure fully informed consent, an information sheet will be provided upon recruitment of participants, as well as providing a copy at the start of all data collection methods. This will be provided prior to participants completing the consent form. The information sheet documents participant's right to withdraw at any time, as well as other ethical considerations such as confidentiality. It will also briefly outline the aims of the study and what participation will entail.</p>	<p>0</p> <p>There is no risk of an issue arising through lack of informed consent, as the researcher will ensure this is sought before commencing any data collection. Also, the information sheet along with other documents have been approved by the relevant ethical committee. Participants completing the questionnaire online will give their consent</p>

		through compulsory questions prior to commencing the questionnaire.
Capacity to consent	<p>All participants will be members of an education or health related establishment and will all be over 18 years of age. Therefore, it is assumed that they have capacity to both consent and complete the data collection method. The samples for the methods enlisted may include individuals with an SEN or ALN, though they will not be excluded as I consider their opinions to be of equal importance to others. Again in this case, capacity is assumed.</p>	<p>0</p> <p>The risk of there being any issues is very low.</p> <p>All individuals approached about participation will be able to choose whether to take part. It is at their discretion as to whether they disclose any SEN or ALN.</p>
History of aggression, behavioural problems etc.	<p>All participants will be employed in an educational or health based workplace, therefore it is assumed that there are no major risks.</p> <p>Informed consent will be sought from all participants prior to completion of any methods.</p>	<p>1</p> <p>There is a very low risk of a history of difficulties and behaviours which may have negative implications. This risk cannot be deemed 0 as we have no prior knowledge about participant's behaviours and any similar history.</p>
Language used	<p>The language used will be relatively formal. Language in the Welsh sample will be provided bilingually. Translation will be completed by the University's translation unit.</p> <p>All of the participants will be over 18 so there are deemed to be no risk of harm to come to the participants as a result of the language used.</p> <p>Participants will be reminded that they have the right to ask questions and have been given the details of the researcher and the research supervisor.</p>	<p>0</p> <p>There is a very low risk of the language used causing harm to the participants as they all are assumed to have a good level of language as a result of their employment in their establishment.</p> <p>Bilingual competency will not be a risk as information in Welsh samples will be provided in both English and Welsh. Participants will have the choice of which language they respond in.</p>
Contact being made face to face	<p>There are deemed to be no apparent risks of the research being conducted face to face. In methods where this contact being necessary, an environment of the participants work location will be preferred, with university sites being an alternative should it be required.</p>	<p>0</p> <p>There is a very low risk of there being harm due to face to face contact.</p> <p>Consideration will be made about the lack of knowledge of</p>



	If this presents a significant issue for any of the participants, alternative methods, for example, telephone completion, will be considered.	participants history, specifically with behavioural or aggression implications.
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## 2. The Researcher.

<b>Risk Factor</b>	<b>Controls to prevent risk</b>	<b>Risk levels 0-5 (Very low-very high)</b>
Experience, or lack of experience	<p>The project will be overseen by a research supervisor. Who the researcher has regular contact with. Should any issues arise the supervisor is the first port of call, as well as the director of researcher and head of school.</p> <p>The project proposal, schedule and materials have all been approved by the ethical committee.</p>	<p>0</p> <p>The risk of a negative effect due to lack of experience is very low as the project supervisors are very experienced members of staff. Also, time has been taken to outline the procedures and resources used in each method as well as best practice when conducting research.</p>
Personal boundaries	<p>As the topic has been chosen by the researcher, questions will have been tailored to the research aims thus no personal boundaries will be crossed.</p> <p>The participant's history will not be known.</p> <p>Time will be taken to ensure the structure and content of communications is planned and standardised for all participants.</p>	<p>0</p> <p>The risk of harm to the researcher is very low as the topic is not considered as to risk harm.</p> <p>Should problems in this area occur, the research supervisor would be consulted as well as any other relevant university staff.</p>
Responsibilities	<p>The researcher has been present in lectures about ethics and the researcher code of best practice.</p> <p>Also, the procedures and responsibilities have been documented in detail within the ethics form, which has been approved by the committee within the university.</p>	<p>0</p> <p>The risk of harm due to a lack of understanding of ethical issues is very low.</p>
Dress and familiarity	In methods including face to face contact, a professional manor will be adopted, both in manor and dress.	0

	<p>Should participants be known to the researcher, the same practice will be adopted.</p> <p>This has been standardised prior to the completion of any data collection.</p>	<p>The risk of harm due to this factor is very low.</p> <p>Contact details for the supervisor are given to participants should they require any information or have any questions.</p> <p>Contact details are also given should they have any concerns about how the research was conducted.</p>
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### 3. The Research.

<b>Risk Factor</b>	<b>Controls to prevent risk</b>	<b>Risk levels 0-5 (Very low-very high)</b>
Personal samples	<p>The questionnaires will be completed either through an online survey tool, or on printed copies. Should printed copies be sought, an envelope will be provided and a designated collection point and time will be established in the work place of such participants. The online questionnaire requires no personal information. Participants will be given a link which takes them directly to the questionnaire, therefore the researcher will not know who has completed the questionnaire.</p> <p>The questionnaires have been granted ethical approval so therefore are not considered to cause any harm or distress.</p> <p>Interviews will be stored on an encrypted device accessible only by the researcher. Also, participants will be referred to by a number. Details of their number and contact details will be stored carefully, so that no participant's entire information will be stored on a single document.</p>	<p>0</p> <p>All relevant controls have been put in place to ensure that the risk of the personal samples causing harm is very low.</p> <p>The university ethical committee has granted approval for this project to commence.</p>

#### 4. Materials and Equipment.

<b>Risk Factor</b>	<b>Controls to prevent risk</b>	<b>Risk levels 0-5 (Very low-very high)</b>
Tools needed e.g. laptop, digital recorder	<p>All tools used to collect data and to communicate with participants will be password protected and only be accessible by the research.</p> <p>Tools used to collect and subsequently store data will be encrypted and only accessible by the researcher.</p> <p>In face to face contacts, tools will be stored away from participants, with only those needed to record in sight.</p> <p>The researcher will complete a short checklist of equipment when collecting data in a face to face setting.</p>	<p>0</p> <p>The risks have been minimised to be very low.</p> <p>Controls have been put into place to ensure that this remains to be a very low risk.</p>
Special equipment needed	<p>A Dictaphone will be used to record interviews. This will be explained to participants as well as storing the recordings on an encrypted device then deleting the original recording.</p> <p>Participants will be reminded that they will be recorded as well as this being a compulsory question on the consent form.</p>	<p>0</p> <p>There is a very low risk of harm as the relevant controls have been put into place.</p>

#### 5. The Location.

<b>Risk Factor</b>	<b>Controls to prevent risk</b>	<b>Risk levels 0-5 (Very low-very high)</b>
Location	<p>The location for the interviews will be in participants work location or university settings. Therefore, they will have their own risk assessments in place.</p> <p>Preference will be made for interviews to be completed in participants work location, however if this is not appropriate or convenient, university premises will be the preferred alternative.</p>	<p>0</p> <p>The risk level will be very low as the location for the interview will be known to the participant.</p> <p>The location will have its own risk assessment and the researcher has been made aware of the importance of ensuring their safety when conducting 'field' research.</p>

Will the location be accessible by other people	<p>The sites will be accessible by others.</p> <p>A sign will be put on the entrance to the room to inform that there is a recording taking place.</p> <p>The will be separate from any other activities being completed in the setting.</p>	<p>0</p> <p>The perceived risk is very low as the relevant strategies have been put in place to prevent any problems occurring.</p>
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#### 6. Travel Arrangements.

<b>Risk Factor</b>	<b>Controls to prevent risk</b>	<b>Risk levels 0-5 (Very low-very high)</b>
Mode of transport	<p>Preference for data collection of interviews is that the participants work location will be used.</p> <p>The researcher is responsible for their safety when travelling to and from such locations.</p>	<p>0</p> <p>The risk levels are very low as there is unlikely to be participants travelling to complete research.</p>

#### 7. Emergency Arrangements.

<b>Risk Factor</b>	<b>Controls to prevent risk</b>	<b>Risk levels 0-5 (Very low-very high)</b>
Duty of care	<p>To prevent any perceived risk from this factor, the researcher has a supervisor whom they can contact at any time throughout the research process should they require any of assistance.</p> <p>Debriefing will take place after any participation, and participants will be given the opportunity to ask questions both before, during and after the research has been conducted.</p> <p>The researcher is aware of confidentiality as well as possible occurrences when this may be breached, for example, if a participant was a risk or harm to themselves or others.</p>	<p>0</p> <p>The risk levels are very low due to the researcher having regular contact with a supervisor who oversees the research.</p> <p>Ethical approval for the research as well as proposed methods of collection has been approved by the university's ethical committee.</p>

## Appendix 4

**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher and institutional affiliation:** Bethany Anne Edwards, Bangor University.

Please be reminded that all your responses will be kept securely and that you have the right to withdraw your data at any point. Further details are given on the Information sheet.

Throughout this questionnaire, Autism Spectrum Disorders will be referred to by the acronym 'ASD'.

Please click 'next' to start the questionnaire.

### QUESTIONNAIRE

Question 1: How old are you? (Please circle)

18-25          26-40          41-59          Over 60          Do not wish to disclose

Question 2:

a) Do you have a diagnosis of an Autism Spectrum Disorder (ASD)?

Yes          No          Unsure          Do not wish to answer

b) Do you have a close relative with a diagnosis of ASD?

Yes          No          Unsure          Do not wish to answer

Question 3a: Do you have any experience of supporting an individual with ASD? (Please circle)

Yes          No          Unsure          Do not wish to answer

Question 3b: If you answered yes or unsure to Question 3, please provide more information below.

Question 4: To your knowledge, who can be diagnosed with ASD? (Please select all that apply)

Children          Adults          Males          Females          Unsure

Question 5: To your knowledge, which group of people are more frequently diagnosed with ASD? (Please circle)

Children (Male)          Children (Female)          Adults (Male)          Adults (Female)          Unsure

Question 6: To your knowledge, how many areas of impairment do clinicians consider when assessing someone for ASD? (According to DSM-5, 2013) (Please circle)

2                      3                      4                      Unsure                      Do not wish to answer

Question 7a: Which statement below best describes your understanding of the age that an individual can be diagnosed with ASD? (Please circle)

1. To receive a diagnosis of ASD, the person has to be under 18 years of age.
2. Only boys can be diagnosed with ASD after the age of 18.
3. Anyone can receive a diagnosis of ASD at any age.
4. ASD can be diagnosed after the age of 18 if the individual has another diagnosis of a Special Educational Need.

Question 7b: Which statement below best describes your understanding of the diagnosis of ASD? (Please circle):

1. ASD can be diagnosed by referral by anyone working with children.
2. ASD can be diagnosed by various professionals using activities and criteria appropriate to the age of the individual being assessed.
3. ASD can be diagnosed by any qualified doctor.
4. Anyone working in the healthcare or educational sector can diagnose ASD.

Question 7c: Please can you give some more information about your responses to questions 7a & 7b below?

### **Gender and ASD**

*This section of the questionnaire will focus on concepts of gender, and possible relationships with ASD.*

Question 8a: Do you consider yourself have an understanding of the term 'gender'? (Please circle)

Yes                      No                      Unsure                      Do not wish to answer

Question 8b: If you responded to Question 8a either yes or unsure, please can you provide a short explanation below?

Question 9: Do you think your expectations of people are based on their gender? (Please circle)

Yes                      No                      Sometimes                      Do not wish to answer

Question 10: Below are 10 statements describing certain behaviours which are commonly associated with children / young people with ASD in schools. For each statement please

select who you believe to be more likely to demonstrate the given behaviour. (**Key: M- Male, F- Female**):

1. Walking out of the classroom because it is too noisy
2. Interrupting the teacher whilst they are talking
3. Not completing or participating in a group homework task
4. Not participating in group games during play and free time
5. Not making eye contact with peers
6. Performing certain activities in a set routine or pattern
7. Completing activities when instructed to do so
8. Unable to adapt to changes
9. Not participating in group discussions
10. Following instructions precisely

Question 11: Please free to add any other comments about the topics given below:

- The diagnosis of ASD and the referral process
- Behaviours associated with ASD
- The prevalence of ASD in various groups of people
- People involved in supporting individuals with ASD
- Gender roles (yours or societal) and their impact on behaviour and expectations
- Other

Question 12: If you have any other comments about previous questions or comments about related issues, please make use of the space below for additional comments.

**Thank you for taking the time to complete this questionnaire.**

## Appendix 5

**Teitl y project ymchwil:** Gwahaniaethau gender mewn Anhwylder Sbectrwm Awtistiaeth: Archwilio safbwyntiau gweithwyr proffesiynol

**Enw'r ymchwilydd a'r sefydliad cysylltiedig:** Bethany Anne Edwards, Prifysgol Bangor.

Cofiwch y cedwir eich holl atebion yn ddiogel ac mae gennych hawl i dynnu'ch data yn ôl ar unrhyw adeg. Mae rhagor o fanylion ar y daflen wybodaeth.

Trwy gydol yr holiadur hwn, cyfeirir at Anhwylderau Sbectrwm Awtistiaeth yn ôl yr acronym Saesneg 'ASD'.

Cliciwch 'nesa' i ddechrau'r holiadur.

### HOLIADUR

Cwestiwn 1: Faint yw eich oed chi? (Rhowch gylch)

18-25                  26-40                  41-59                  Dros 60                  Ddim eisiau datgelu

Cwestiwn 2:

a) A oes gennych ddiagnosis o Anhwylder Sbectrwm Awtistiaeth (ASD)?

Oes                  Nac oes                  Ansicr                  Dydw i ddim eisiau ateb

b) A oes gennych berthynas agos sydd â diagnosis o ASD?

Oes                  Nac oes                  Ansicr                  Dydw i ddim eisiau ateb

Cwestiwn 3a: A oes gennych brofiad o gefnogi unigolyn gydag ASD? (Rhowch gylch)

Oes                  Nac oes                  Ansicr                  Dydw i ddim eisiau ateb

Cwestiwn 3b: Os gwnaethoch ateb 'oes' neu 'ansicr' i gwestiwn 3, rhowch ragor o fanylion isod os gwelwch yn dda.

Cwestiwn 4: Yn ôl yr hyn a wyddoch chi, pwy all gael diagnosis o ASD? (Dewiswch bob un sy'n berthnasol)

Plant                  Oedolion                  Gwrywod                  Menywod                  Ansicr

Cwestiwn 5: Yn ôl yr hyn a wyddoch chi, pa grŵp o bobl sy'n gael diagnosis o ASD yn fwyaf aml? (Rhowch gylch)

Plant (gwrywod)                  Plant (benywod)                  Oedolion (gwrywod)                  Oedolion (benywod)

Ddim yn siŵr



Cwestiwn 6: Yn ôl yr hyn a wyddoch chi, sawl maes amhariad bydd clinigwyr yn eu hystyried wrth asesu rhywun am ASD? (Yn ôl DSM-5, 2013) (Rhowch gylch)

2      3      4      Ansicr      Dydw i ddim eisiau ateb

Cwestiwn 7a: Pa un o'r datganiadau isod sy'n disgrifio orau eich dealltwriaeth o'r oed y gall unigolyn gael diagnosis o ASD? (Rhowch gylch)

1. I gael diagnosis o ASD, mae'n rhaid i'r unigolyn fod o dan 18 oed.
2. Dim ond bechgyn gall cael diagnosis o ASD ar ôl cyrraedd 18 oed.
3. Gall unrhyw un gael diagnosis o ASD ar unrhyw oed.
4. Gellir cael diagnosis o ASD ar ôl cyrraedd 18 oed os oes gan yr unigolyn ddiagnosis arall o angen addysgol arbennig.

Cwestiwn 7b: Pa un o'r datganiadau isod sy'n disgrifio orau eich dealltwriaeth o ddiagnosis o ASD? (Rhowch gylch):

1. Gellir cael diagnosis o ASD trwy gyfeirio gan unrhyw un sy'n gweithio gyda phlant.
2. Gellir cael diagnosis o ASD gan wahanol weithwyr proffesiynol yn defnyddio gweithgareddau a meini prawf sy'n briodol i oed yr unigolyn sy'n cael ei asesu.
3. Gellir cael diagnosis o ASD gan unrhyw feddyg cymwysedig.
4. Gall unrhyw un sy'n gweithio yn y sector gofal iechyd neu addysg roi diagnosis o ASD.

Cwestiwn 7c: Allwch chi roi rhagor o wybodaeth am eich atebion i gwestiynau 7a a 7b isod?

### **Gender ac ASD**

*Mae'r adran hon o'r holiadur yn canolbwyntio ar gysyniadau o gender, a chysylltiadau posibl gydag ASD.*

Cwestiwn 8a: Ydych chi'n ystyried bod gennych chi ddealltwriaeth o'r term 'gender'? (Rhowch gylch)

Oes      Nac oes      Ansicr      Dydw i ddim eisiau ateb

Cwestiwn 8b: Os ateboch chi 'oes' neu 'ansicr' i gwestiwn 8a, rhowch eglurhad byr isod os gwelwch yn dda.

Cwestiwn 9: A ydych yn credu bod eich disgwyliadau o bobl yn seiliedig ar eu gender? (Rhowch gylch)

Ydw      Nac ydw      Weithiau      Dydw i ddim eisiau ateb

Cwestiwn 10: Mae 10 o ddatganiadau isod sy'n disgrifio rhai mathau o ymddygiad y cysylltir yn aml gyda phlant/pobl ifanc gydag ASD mewn ysgolion. Ar gyfer pob datganiad, dewiswch pwy rydych chi'n credu sydd fwyaf tebygol o ddangos ymddygiad penodol. **(Allwedd: M - Gwryw, F- Benyw):**

1. Cerdded allan o'r ystafell ddosbarth oherwydd ei bod hi'n rhy swnllyd
2. Torri ar draws yr athro pan fydd yn siarad
3. Ddim yn cwblhau neu ddim yn cymryd rhan mewn tasg gwaith cartref mewn grŵp
4. Ddim yn cymryd rhan mewn gemau grŵp yn ystod amser chwarae ac amser rhydd
5. Ddim yn gwneud cyswllt llygaid â chyfoedion
6. Gwneud rhai gweithgareddau mewn trefn benodol neu batrwm
7. Cwblhau gweithgareddau pan dywedir wrthynt i wneud hynny
8. Methu addasu i newidiadau
9. Ddim yn cymryd rhan mewn trafodaethau grŵp
10. Dilyn cyfarwyddiadau'n fanwl

Cwestiwn 11: Ychwanegwch unrhyw sylwadau eraill am y pynciau a roddir isod:

- Diagnosis o ASD a'r broses gyfeirio
- Ymddygiadau'n gysylltiedig ag ASD
- Pa mor gyffredin yw ASD mewn gwahanol grwpiau o bobl
- Pobl sy'n gysylltiedig â chefnogi unigolion gydag ASD
- Rolau gender (yn eich barn chi neu farn cymdeithas) a'u heffaith ar ymddygiad a disgwyliadau
- Arall

Cwestiwn 12: Os oes gennych unrhyw sylwadau eraill am y cwestiynau neu sylwadau blaenorol ynglŷn â materion cysylltiedig, nodwch sylwadau ychwanegol isod.

**Diolch yn fawr iawn i chi am roi o'ch amser i lenwi'r holiadur hwn.**

## Appendix 6

At sylw y Pennaeth/For the attention of Headteacher

Annwyl

Rwy'n fyfyrwr ymchwil ôl-radd ym Mhrifysgol Bangor, ac rwy'n gweithio tuag at wneud fy nhraethawd hir ar hyn o bryd.

Rwy'n chwilio am gyfranogwyr a all fod yn fodlon i ateb holiadur byr am eu profiadau a gwybodaeth am Anhwylderau Sbectrwm Awtistig, a'r cysylltiadau posibl â gender.

Amgaeaf y daflen wybodaeth sy'n cynnwys rhagor o fanylion am y project hwn a'r hyn y bydd cymryd rhan yn ei olygu.

Os yw hwn yn rhywbeth yr ydych chi, neu aelodau staff yn eich ysgol, yn teimlo y gallech fy helpu, hoffwn glywed gennych.

Os ydych yn penderfynu yr hoffech chi gymryd:

- Rwyf wedi darparu'r cyswllt i'r holiadur ar-lein isod  
[https://docs.google.com/forms/d/e/1FAIpQLSev2XtiWjMnrq2JniWPcXbv14mbX1Aa6Kh\\_n-NVXNcwr5M32w/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSev2XtiWjMnrq2JniWPcXbv14mbX1Aa6Kh_n-NVXNcwr5M32w/viewform?usp=sf_link)

- Os byddai'n well gennych gael dogfennau ar ffurf papur, cysylltwch â mi fel y gallaf drefnu hynny.

Os oes gennych unrhyw gwestiynau, neu os hoffech wybod unrhyw beth arall am y project, mae pob croeso i chi gysylltu â mi naill ai drwy e-bost neu gyfarfod pan mae'n gyfleus i chi.

Diolch yn fawr am eich amser,

Bethany Edwards

[Edu4a3@bangor.ac.uk](mailto:Edu4a3@bangor.ac.uk)

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Dear

I am a postgraduate research student at Bangor University and am currently working towards my dissertation.

I am looking for participants who may be willing to answer a short questionnaire about their experiences and knowledge of Autistic Spectrum Disorders, and possible relationships to gender.

I have attached the information sheet which has more information about this project and what participation would entail.

If this is something which you, or members of staff in your school, feel you would be able to help me with, I would like to hear from you.

If you decide that you would like to take part:

- I have provided the link to the online questionnaire below

[https://docs.google.com/forms/d/e/1FAIpQLSdtGPWX2sF2pYAI5MATjNruBNk\\_2T6K4CIAEWHtk0VvMiFsRg/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSdtGPWX2sF2pYAI5MATjNruBNk_2T6K4CIAEWHtk0VvMiFsRg/viewform?usp=sf_link)

- If you would prefer documents to be provided in a paper format, please contact so me to arrange that.

If you have any questions, or would like to know anything else about the project, please get in touch, either by email, or a meeting at your convenience.

Many thanks for your time,

Bethany Edwards  
Edu4a3@bangor.ac.uk

## **Appendix 7**

### **Participant Information Sheet**

**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher and institutional affiliation:**

Bethany Anne Edwards, School of Education, Bangor University.

I am a postgraduate research student at Bangor University and this research project forms part of my dissertation. This study will be conducted in accordance with the guidelines of the MRes Childhood and Youth programme and Bangor University's Ethics committee.

**What is the study about?**

The aim of this study is to explore perceptions of ASD in relation to gender, through collecting information from professionals working in Educational and Healthcare settings.

Responses obtained through data collection will help to explore perceptions, and it is hoped that this study will contribute to current research aiming to better understand Autism in Women and Girls.

**Why have I been approached?**

You have been approached as you have regular contact with children in a school environment. This study requires information from people who have different experiences and understandings of themes such as Special Educational Needs, Autistic Spectrum Disorder and Gender roles.

**Do I have to take part?**

No. It is completely up to you whether you decide to take part or not.

**What will I be asked to do if I take part?**

If you decide you would like to take part, you will be asked to complete a short questionnaire about topics including Special Educational Needs, Autistic Spectrum Disorder and Gender roles. This will be available in your preferred format (either an electronic or paper copy).

**Can I choose not to continue?**

Yes. If you agree to take part in this study please be aware that you have the right to withdraw your data at any point. You do not have to give a reason for withdrawing.

**Will my data be identifiable?**

No. All the data obtained will be kept securely and all identifiable features will be omitted.

**What will happen to the results?**

The results will be reported and summarised as part of my dissertation. They may also be shared in academic journals and conference presentations. They will be kept on a password protected computer and will be accessible by the researcher. They may also be viewed in the presentation of the dissertation by the project supervisor and moderator.

**Are there any risks?**

There are no risks anticipated with participating in this study. However, if you experience any distress following your participation you are encouraged to inform the researcher or research supervisor.

**Are there any benefits to taking part?**

Although you may find participating interesting, there are no direct benefits in taking part.

**What happens after the study?**

After the information has been collected you will be debriefed about the findings of the study and be reminded of your right to withdraw and anonymity.

**Where can I obtain further information about the study if I need it?**

If you have any questions about the study, please contact:

Me by email on: [edu4a3@bangor.ac.uk](mailto:edu4a3@bangor.ac.uk)

Or my supervisor Fliss Kyffin on: [f.kyffin@bangor.ac.uk](mailto:f.kyffin@bangor.ac.uk)

**If you have any complaints about how this study is conducted please address these to:  
Prof. Enlli Thomas, Tel: 01248 383053, email: [enlli.thomas@bangor.ac.uk](mailto:enlli.thomas@bangor.ac.uk)**

## Appendix 8

### Taflen wybodaeth i gyfranogwyr

**Teitl y project ymchwil:** Gwahaniaethau gender mewn Anhwylder Sbectrwm Awtistiaeth: Archwilio safbwyntiau gweithwyr proffesiynol

**Enw'r ymchwilydd a'r sefydliad cysylltiedig:**

Bethany Anne Edwards, Ysgol Addysg, Prifysgol Bangor.

Rwy'n fyfyrwr ymchwil ôl-radd ym Mhrifysgol Bangor, ac mae'r project ymchwil hwn yn ffurfio rhan o'm traethawd hir. Cynhelir yr astudiaeth hon yn unol â chanllawiau'r rhaglen MRes Plentyndod ac Ieuenctid a phwyllgor moeseg Prifysgol Bangor.

**Beth yw'r astudiaeth?**

Nod yr astudiaeth hon yw edrych ar y canfyddiadau o Anhwylder Sbectrwm Awtistiaeth mewn perthynas â gender, trwy gasglu gwybodaeth gan weithwyr proffesiynol sy'n gweithio mewn lleoliadau addysgol a gofal iechyd.

Bydd yr atebion a geir trwy gasglu data yn helpu i archwilio canfyddiadau, a gobeithir y bydd yr astudiaeth hon yn cyfrannu at ymchwil cyfredol gyda'r nod o gael gwell dealltwriaeth o awtistiaeth mewn menywod a merched.

**Pam y cysylltwyd â mi?**

Cysylltwyd â chi oherwydd bod gennych gysylltiad rheoliad gyda phlant mewn amgylchedd ysgol. Mae'r astudiaeth yn gofyn am wybodaeth gan bobl sydd â gwahanol brofiadau a dealltwriaeth o themâu fel anghenion addysgol arbennig, anhwylder sbectrwm awtistiaeth a rolau gender.

**Oes rhaid imi gymryd rhan?**

Nac oes. Chi sydd i benderfynu a ydych am gymryd rhan neu beidio.

**Beth fydd yn rhaid i mi ei wneud os byddaf yn cymryd rhan?**

Os penderfynwch yr hoffech gymryd rhan, gofynnir i chi lenwi holiadur byr am bynciau fel anghenion addysgol arbennig, anhwylder sbectrwm awtistiaeth a rolau gender. Bydd ar gael yn y ffurf sydd orau gennych (naill ai'n electronig neu gopi papur).

### **Alla'i ddewis peidio â pharhau?**

Cewch. Os cytunwch i gymryd rhan yn yr astudiaeth hon, cofiwch fod gennych hawl i dynnu'ch data yn ôl ar unrhyw adeg. Nid oes raid i chi roi rheswm am dynnu'n ôl.

### **A ellir adnabod fy nata?**

Na. Cedwir yr holl ddata'n ddiogel a bydd yr holl nodweddion o'r hyn y gellid eich adnabod yn cael eu gadael allan.

### **Beth fydd yn digwydd i'r canlyniadau?**

Caiff y canlyniadau eu hadrodd a'u crynhoi fel rhan o'm traethawd hir. Gallant gael eu rhannu hefyd mewn cyfnodolion academiaidd a chyflwyniadau mewn cynadleddau. Cedwir y canlyniadau ar gyfrifiadur wedi'i ddiogelu gan gyfrinair a dim ond yr ymchwilydd fydd yn mynd atynt. Gallant hefyd gael eu gweld gan oruchwyliwr y project a'r safonwr wrth i'r traethawd hir gael ei gyflwyno.

### **A oes unrhyw risgiau?**

Ni ragwelir bod unrhyw risgiau o gymryd rhan yn yr astudiaeth hon. Fodd bynnag, os byddwch yn teimlo'n ofidus ar ôl cymryd rhan, cewch eich annog i roi gwybod i'r ymchwilydd neu oruchwyliwr yr ymchwil

### **A oes unrhyw fanteision wrth gymryd rhan?**

Efallai y gwelwch fod cymryd rhan yn ddiddorol, ond nid oes unrhyw fanteision uniongyrchol o gymryd rhan.

### **Beth fydd yn digwydd ar ôl yr astudiaeth?**

Ar ôl casglu'r wybodaeth, cewch wybodaeth am ganfyddiadau'r astudiaeth a chewch eich atgoffa o'ch hawl i dynnu'n ôl a bod yn ddienw.

### **Lle gallaf gael rhagor o wybodaeth am yr astudiaeth pe bai arnaf ei heisiau?**



Os oes gennych unrhyw gwestiynau am yr astudiaeth, cysylltwch â

Fi'n bersonol drwy e-bostio [edu4a3@bangor.ac.uk](mailto:edu4a3@bangor.ac.uk)

Neu fy ngoruchwyliwr Fliss Kyffin ar: [f.kyffin@bangor.ac.uk](mailto:f.kyffin@bangor.ac.uk)

**Os oes gennych unrhyw gwynion ynghylch y ffordd mae'r astudiaeth hon yn cael ei chynnal anfonwch nhw at: Yr Athro Enlli Thomas, Ffôn: 01248 383053, e-bost: [enlli.thomas@bangor.ac.uk](mailto:enlli.thomas@bangor.ac.uk)**

## Appendix 9

**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher and institutional affiliation:** Bethany Anne Edwards, School of Education, Bangor University

1. I confirm that I have read and understood the information sheet for the above study and have had the opportunity to ask questions.

Yes    No

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

Yes    No

3. I agree to take part in the above study.

Yes    No

**Name of participant:**

Signature:

Date:

Signature of the researcher:

Date:

## Appendix 10

**Teitl y project ymchwil:** Gwahaniaethau gender mewn Anhwylder Sbectrwm Awtistiaeth: Archwilio safbwyntiau gweithwyr proffesiynol

**Enw'r ymchwilydd a'r sefydliad cysylltiedig:** Bethany Anne Edwards, Ysgol Addysg, Prifysgol Bangor

1. Rwy'n cadarnhau fy mod wedi darllen a deall taflen wybodaeth yr astudiaeth uchod ac wedi cael cyfle i ofyn cwestiynau.

Ydw    Nac ydw

2. Rwy'n deall fy mod yn cymryd rhan yn wirfoddol ac y gallaf dynnu'n ôl unrhyw bryd, heb roi rheswm.

Ydw    Nac ydw

3. Rwy'n cytuno i gymryd rhan yn yr astudiaeth uchod.

Ydw    Nac ydw

**Enw'r cyfranogwr:**

Llofnod:

Dyddiad:

Llofnod yr ymchwilydd:

Dyddiad:

## Appendix 11

**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher and institutional affiliation:** Bethany Anne Edwards, Bangor University

Proposed schedule:

- Introduction to the interview. Remind the participant that they have the right to withdraw from the study at any point. Ask if the participant has any questions and ensure that they have received a copy of the information sheet and have completed the consent form.
- Discussion about the participants experiences of ASD and if they have had any experiences with the referral or diagnosis processes (**Discussion 1**).
- Discussion about their understanding of gender, gender roles and whether they believe that they can have an impact on ASD and the recognition of possible indicators of ASD (**Discussion 2**).
- Discussion about the study and the main areas of interest and whether they have a hypothesis or ideas about possible results and their personal opinion on the research title (**Discussion 3**).
- Researcher asks the participant if they have any questions or other comments to make about any of the topics covered in the interview (**Discussion 4**).
- Thank the participant for taking part, remind them of the right to withdraw and ensure to debrief them: which will include the aims of the research questions and how their data will be used within the study.

### Discussion 1:

Question 1: Please can you describe your job role and the key tasks which you undertake or have undertaken as part of this role?

Question 2: Have you ever worked with or had experience of individuals with ASD?

Question 3: If so, please can you give a brief summary of:

- the age(s) of the individual(s),
- the setting(s) where you had your experience(s), and
- the main difficulties that the individual(s) were experiencing?

Question 4: Have you ever been involved in the referral, assessment or diagnosis of an individual showing indicators of ASD?

Question 5: If so, please can you give a brief description of:

- your role in the process and
- any other people and/or agencies involved in the process

Question 6: Do you consider there to be any strengths and/or limitations of:

- the referral process for individuals with ASD traits,
- the assessment of individuals with ASD traits and
- the diagnostic criteria used in assessment for ASD

### **Discussion 2:**

Question 1: Do you have an understanding of what the term ‘Gender’ means? If so, please could you provide a brief summary of what this term means to you?

Question 2: Do you consider yourself to have expectations of people based upon their gender? Please could you give some information which prompted your response to this question?

Question 3: Have you had any experiences of gender influencing the tasks given to individuals and/or the achievement expected of individuals? Please could you provide:

- some more information about your response for this question and/or
- an example of your experience(s) of these topics within either your professional or personal life?

Question 4: Do you have any comments which you wish to make about the relationship between gender and ASD? This may include your experience of ASD in various groups (for example: girls, boys, children, teenagers, adults, elderly).

### **Discussion 3:**

Question 1: From the information provided and your understanding of the discussed ideas, do you have a personal opinion about the importance of this study?

Question 2: Do you consider there to be any possible implications of this study that you would like to comment on? For example, in your professional role or personal life.

Question 3: Having read the title and aims of this study, along with the information sheet, do you:

- a) Have a hypothesis about the results of this study? And/or
- b) Have any expectations or ideas about the implications of this study?

If so, please can you describe and give more information about the reasoning behind your ideas?

### **Discussion 4:**

Question 1: Are there any other comments which you would like to make about the topics covered in this interview?

Question 2: Are there any comments which you would like to make about any topics that you believe to be relevant to this study?

## Appendix 12

**Teitl y project ymchwil:** Gwahaniaethau rhwng y Rhywiau o ran Anhwylderau'r Sbectrwm Awtistig: Archwilio Safbwyntiau Gweithwyr Proffesiynol

**Enw'r ymchwilydd a'r sefydliad cysylltiedig:** Bethany Anne Edwards, Prifysgol Bangor

Y drefn arfaethedig:

- Cyflwyniad i'r cyfweiliad. Atgoffa'r cyfranogwr fod ganddynt yr hawl i dynnu'n ôl o'r astudiaeth ar unrhyw adeg. Gofyn a oes gan y cyfranogwr unrhyw gwestiynau a sicrhau eu bod wedi cael copi o'r daflen wybodaeth ac wedi cwblhau'r ffurflen gydsynio.
- Trafodaeth am brofiadau'r cyfranogwyr o Anhwylderau'r Sbectrwm Awtistig ac a ydynt wedi cael unrhyw brofiad o brosesau atgyfeirio neu wneud diagnosis (**Trafodaeth 1**).
- Trafodaeth am eu dealltwriaeth o'r rhywiau, rolau'r rhywiau ac a ydynt o'r farn eu bod yn effeithio ar Anhwylderau'r Sbectrwm Awtistig ac ar adnabod dangosyddion posibl Anhwylderau'r Sbectrwm Awtistig (**Trafodaeth 2**).
- Trafodaeth am yr astudiaeth ac am y prif feysydd sydd o ddiddordeb ac a oes ganddynt unrhyw ragdybiaeth neu syniadau am y canlyniadau posibl a beth yw eu barn bersonol am deitl yr ymchwil (**Trafodaeth 3**).
- Yr ymchwilydd i ofyn i'r cyfranogwr a oes ganddynt unrhyw gwestiynau neu sylwadau eraill i'w gwneud ynghylch unrhyw un o'r pynciau a drafodwyd yn y cyfweiliad (**Trafodaeth 4**).
- Diolch i'r cyfranogwr am gymryd rhan, eu hatgoffa am eu hawl i dynnu'n ôl a dod â'r cyfweiliad i ben trwy eu hatgoffa am ddiben y cwestiynau ymchwil a sut y bydd eu data'n cael ei ddefnyddio yn yr astudiaeth.

### Trafodaeth 1:

Cwestiwn 1: Fedrwch chi ddisgrifio eich swydd a'r prif dasgau y byddwch chi yn eu gwneud neu yr ydych chi wedi eu gwneud fel rhan o'r swydd yma?

Cwestiwn 2: Ydych chi erioed wedi cael profiad neu wedi gweithio efo unigolion ag Anhwylderau'r Sbectrwm Awtistig?

Cwestiwn 3: Os ydych chi, fedrwch chi roi crynodeb byr:

- o oedran(nau) yr unigolyn(-ion) hynny,
- o'r lleoliad(au) lle cawsoch chi'r profiad(au) hynny, a
- o'r prif anawsterau yr oedd yr unigolyn(-ion) hynny yn eu cael?

Cwestiwn 4: Ydych chi erioed wedi bod yn rhan o atgyfeirio, asesu neu wneud diagnosis o unigolyn efo dangosyddion Anhwylderau'r Sbectrwm Awtistig?

Cwestiwn 5: Os ydych chi, fedrwch chi roi crynodeb byr:

- o'ch rôl chi yn y broses a
- unrhyw bobl a/neu asiantaethau eraill a oedd yn rhan o'r broses

Cwestiwn 6: Ydych chi'n credu bod yna unrhyw gryfderau a/neu gyfyngiadau o ran:

- y broses atgyfeirio ar gyfer unigolion sydd efo nodweddion Anhwylderau'r Sbectrwm Awtistig,
- asesu unigolion efo nodweddion Anhwylderau'r Sbectrwm Awtistig a
- y meini prawf diagnostig sy'n cael eu defnyddio wrth asesu Anhwylderau'r Sbectrwm Awtistig

## **Trafodaeth 2:**

Cwestiwn 1: Ydych chi'n deall beth mae'r term 'Rhyw' neu 'Rhywedd' yn ei olygu? Os felly, fedrwch chi roi crynodeb byr o beth mae'r term yma'n ei olygu i chi?

Cwestiwn 2: Ydych chi'n meddwl bod gennych chi ddisgwyliadau o bobl yn seiliedig ar eu rhyw? Fedrwch chi roi rhywfaint o wybodaeth am beth wnaeth i chi ateb y cwestiwn fel hyn?

Cwestiwn 3: Ydych chi wedi cael unrhyw brofiadau pan mae rhywedd wedi dylanwadu ar y tasgau sy'n cael eu rhoi i unigolion a/neu ar y canlyniad yr oeddech yn ei ddisgwyl gan unigolion? Fedrwch chi roi:

- mwy o wybodaeth am eich ateb i'r cwestiwn yma a / neu
- enghraifft o'ch profiad(au) o'r pynciau yma yn eich bywyd proffesiynol neu bersonol?

Cwestiwn 4: Oes gennych chi unrhyw sylwadau y buasech chi'n hoffi eu gwneud am y berthynas rhwng rhywedd ac Anhwylderau'r Sbectrwm Awtistig? Gallai'r sylwadau fod am eich profiad o Anhwylderau'r Sbectrwm Awtistig mewn gwahanol grwpiau (er enghraifft: merched, bechgyn, plant, pobl ifanc yn eu harddegau, oedolion, henoed).

## **Trafodaeth 3:**

Cwestiwn 1: O'r wybodaeth sydd wedi cael ei darparu ac o'ch dealltwriaeth chi o'r syniadau sydd wedi cael eu trafod, oes gennych chi farn bersonol am bwysigrwydd yr astudiaeth yma?

Cwestiwn 2: Ydych chi'n meddwl y gallai fod unrhyw oblygiadau posibl i'r astudiaeth yma y buasech chi'n hoffi rhoi sylwadau amdany'n nhw? Er enghraifft, yn eich rôl broffesiynol neu yn eich bywyd personol.

Cwestiwn 3: Ar ôl darllen teitl a nodau'r astudiaeth yma, a'r daflen wybodaeth:

- a) Ydych chi'n gallu rhagdybio beth fydd canlyniadau'r astudiaeth yma? A/neu
- b) Oes gennych chi unrhyw ddisgwyliadau neu syniadau am beth fydd goblygiadau'r astudiaeth yma?

Os felly, fedrwch chi ddisgrifio a rhoi rhagor o wybodaeth am eich rhesymau chi dros ddweud hynny?

## **Trafodaeth 4:**

Cwestiwn 1: Oes unrhyw sylwadau pellach y buasech chi'n hoffi eu gwneud am y pynciau sydd wedi cael sylw yn y cyfweiliad yma?

Cwestiwn 2: Oes unrhyw sylwadau y buasech chi'n hoffi eu gwneud am unrhyw bynciau yr ydych chi'n credu eu bod nhw'n berthnasol i'r astudiaeth yma?



## Appendix 13

### Interview/case study based activity

Dear (Name/Manager)

*I am a postgraduate research student at Bangor University and am currently working towards my dissertation.*

*I am looking for participants who may be willing to take part in:*

- 1. A short interview about their experiences and knowledge of Autistic Spectrum Disorders, and possible relationships to gender.*
- 2. A short case study based activity which asks for some comments about the given case, focusing around facilitating support for the individual described.*

*I have attached the information sheets which have more information about this project and what participation would entail.*

*If this is something which you, or your colleagues, feel you may be able to help me with, I would like to hear from you. You can participate in both or just one of the methods outlined above.*

*If you have any questions, or would like to know anything else about the project, please get in touch, either by email, or a meeting at your convenience.*

*Many thanks for your time,*

*Bethany Edwards*

[Edu4a3@bangor.ac.uk](mailto:Edu4a3@bangor.ac.uk)

## Appendix 14

### Cyfweliad/Gweithgaredd sy'n seiliedig ar astudiaeth achos

Annwyl (*Enw/Rheolwr*)

*Rwy'n fyfyrwr ymchwil ôl-radd ym Mhrifysgol Bangor ac rydw i'n gweithio ar fy nhraethawd hir ar hyn o bryd.*

*Rwy'n chwilio am gyfranogwyr a fyddai'n barod i gymryd rhan mewn:*

- 1. Cyfweliad byr am eu profiadau a'u gwybodaeth am Anhwylderau'r Sbectrwm Awtistig, a'r cysylltiadau posibl gyda rhywedd.*
- 2. Gweithgaredd byr sy'n seiliedig ar astudiaeth achos lle gofynnir am sylwadau am yr achos hwnnw, gan ganolbwyntio ar hwyluso cefnogaeth i'r unigolyn sy'n cael ei ddisgrifio.*

*Rwyf wedi atodi'r taflenni gwybodaeth sy'n cynnwys mwy o wybodaeth am y project a beth fyddai cymryd rhan yn ei olygu.*

*Os yw hyn yn rhywbeth y byddai modd i chi, neu'ch cydweithwyr, fy helpu i'w wneud, hoffwn glywed gennych. Gallwch gymryd rhan yn y cyfweliad ac yn y gweithgaredd sy'n seiliedig ar astudiaeth achos, neu yn un ohonyn nhw yn unig.*

*Os oes gennych unrhyw gwestiynau, neu os hoffech wybod unrhyw beth arall am y project, cysylltwch â mi, naill ai trwy e-bost, neu gallwn ddod i'ch cyfarfod ar amser cyfleus.*

*Diolch yn fawr am eich amser,*

*Bethany Edwards*

[Edu4a3@bangor.ac.uk](mailto:Edu4a3@bangor.ac.uk)

## **Appendix 15**

### **Participant Information Sheet**

**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher and institutional affiliation:**

Bethany Anne Edwards, School of Education, Bangor University.

I am a postgraduate research student at Bangor University and this research project forms part of my dissertation. This study will be conducted in accordance with the guidelines of the MRes Childhood and Youth programme and Bangor University's Ethics committee.

**What is the study about?**

The aim of this study is to explore perceptions of ASD in relation to gender, through collecting information from professionals working in Educational and Healthcare settings.

Responses obtained through data collection will help to explore perceptions, and it is hoped that this study will contribute to current research aiming to better understand Autism in Women and Girls.

**Why have I been approached?**

You have been approached as this study requires participants from various professionals who are working with or have previously worked with children and/or adults. Specifically, where work included involvement in the referral, assessment or diagnosis of ASD. Participation will contribute to wider research considering societal perceptions of gender and the possible impact that these perceptions can have on recognising, referring and supporting individuals displaying indicators of ASD.

**Do I have to take part?**

No. It is completely up to you whether you decide to take part or not.

**What will I be asked to do if I take part?**

If you decide you would like to take part, you would be asked to take part in a short interview which will consider your experience with children, your understanding of ASD and the possible links between gender and receiving a diagnosis. There will also be opportunity to

discuss any other experiences that you have had in various areas for example: the ASD referral process and post-diagnosis support.

**Can I choose not to continue?**

Yes. If you agree to take part in this study please be aware that you have the right to withdraw your data at any point. You do not have to give a reason for withdrawing.

**Will my data be identifiable?**

No. All the data obtained will be kept securely and all identifiable features will be omitted.

**What will happen to the results?**

The results will be reported and summarised as part of my dissertation. They may also be shared in academic journals and conference presentations. They will be kept on a password protected computer and will be accessible by the researcher and may be viewed in the presentation of the dissertation by the project supervisor and moderator.

**Are there any risks?**

There are no risks anticipated with participating in this study. However, if you experience any distress following your participation you are encouraged to inform the researcher or research supervisor.

**Are there any benefits to taking part?**

Although you may find participating interesting, there are no direct benefits in taking part.

**What happens after the study?**

After the information has been collected, you will be debriefed about the findings of the study and be reminded of your right to withdraw and anonymity.

**Where can I obtain further information about the study if I need it?**

If you have any questions about the study, please contact:

Myself by email on: [edu4a3@bangor.ac.uk](mailto:edu4a3@bangor.ac.uk)

Or my supervisor Fliss Kyffin on: [f.kyffin@bangor.ac.uk](mailto:f.kyffin@bangor.ac.uk)

**If you have any complaints about how this study is conducted please address these to:  
Prof. Enlli Thomas, Tel: 01248 383053, email: [enlli.thomas@bangor.ac.uk](mailto:enlli.thomas@bangor.ac.uk)**

## Appendix 16

### Taflen wybodaeth i rai sy'n cymryd rhan

**Teitl y project ymchwil:** Gwahaniaethau rhwng y Rhywiau o ran Anhwylderau'r Sbectrwm Awtistig: Archwilio Safbwyntiau Gweithwyr Proffesiynol

**Enw'r ymchwilydd a'r sefydliad cysylltiedig:**

Bethany Anne Edwards, Ysgol Addysg, Prifysgol Bangor.

Rwy'n fyfyrwr ymchwil ôl-radd ym Mhrifysgol Bangor ac mae'r project ymchwil hwn yn rhan o'm traethawd hir. Cynhelir yr astudiaeth hon yn unol â chanllawiau rhaglen MRes Astudiaethau Plentyndod ac Ieuencid a phwyllgor Moeseg Prifysgol Bangor.

**Beth yw diben yr astudiaeth?**

Nod yr astudiaeth hon yw archwilio canfyddiadau pobl o Anhwylderau'r Sbectrwm Awtistig mewn perthynas â rhywedd, trwy gasglu gwybodaeth gan weithwyr proffesiynol sy'n gweithio mewn lleoliadau Addysg a Gofal Iechyd.

Bydd yr ymatebion a geir trwy gasglu data o gymorth i archwilio canfyddiadau, a'r gobaith yw y bydd yr astudiaeth hon yn cyfrannu at ymchwil gyfredol sy'n ceisio deall Awtistiaeth yn well mewn Menywod a Merched.

**Pam y cysylltwyd â mi?**

Rydym yn cysylltu â chi gan fod angen, fel rhan o'r astudiaeth hon, gyfranogwyr o wahanol feysydd proffesiynol sy'n gweithio, neu sydd wedi gweithio yn y gorffennol, gyda phlant a/neu oedolion. Yn benodol, pan mae'r gwaith hwnnw'n golygu atgyfeirio, asesu neu wneud diagnosis o Anhwylderau'r Sbectrwm Awtistig. Drwy gymryd rhan byddwch yn cyfrannu at ymchwil ehangach sy'n ystyried canfyddiadau cymdeithasol rhywedd ac effaith bosibl y canfyddiadau hyn ar adnabod, atgyfeirio a chefnogi unigolion a chanddynt ddangosyddion Anhwylderau'r Sbectrwm Awtistig.

**Oes rhaid imi gymryd rhan?**

Nac oes. Eich dewis chi'n llwyr yw penderfynu a ydych am gymryd rhan.

### **Beth fydd yn rhaid i mi ei wneud os byddaf yn cymryd rhan?**

Os byddwch yn penderfynu yr hoffech gymryd rhan, fe ofynnir i chi gymryd rhan mewn cyfweiliad byr a fydd yn ystyried eich profiad gyda phlant, eich dealltwriaeth o Anhwylderau'r Sbectrwm Awtistig a'r cysylltiadau posibl rhwng rhywedd a chael diagnosis. Bydd cyfle hefyd i drafod unrhyw brofiadau eraill yr ydych wedi'u cael mewn gwahanol feysydd, er enghraifft: y broses atgyfeirio oherwydd Anhwylderau'r Sbectrwm Awtistig a chefnogaeth ar ôl cael diagnosis.

### **Alla'i ddewis peidio â pharhau?**

Gallwch. Os cytunwch i gymryd rhan yn yr astudiaeth, mae gennych hawl i dynnu'ch data yn ôl ar unrhyw adeg. Does dim rhaid i chi roi rheswm dros dynnu'n ôl.

### **A fyddwch yn gwybod mai fy nata i ydyw?**

Na fyddwn. Cedwir yr holl ddata'n ddiogel a bydd yr holl nodweddion y gellid eu defnyddio i'ch adnabod yn cael eu hepgor.

### **Beth fydd yn digwydd i'r canlyniadau?**

Caiff y canlyniadau eu hadrodd a'u crynhoi fel rhan o'm traethawd hir. Efallai y byddant hefyd yn cael eu rhannu mewn cyfnodolion academiaidd a chyflwyniadau mewn cynadleddau. Byddant yn cael eu cadw ar gyfrifiadur wedi'i ddiogelu gan gyfrinair a dim ond yr ymchwilydd fydd yn gallu cael mynediad atynt. Efallai hefyd y bydd goruchwyliwr a safonwr y project yn eu gweld pan gyflwynir y traethawd hir.

### **A oes unrhyw risgiau?**

Ni ragwelir bod unrhyw risgiau o gymryd rhan yn yr astudiaeth hon. Fodd bynnag, ond os byddwch yn teimlo'n ofidus ar ôl cymryd rhan, cewch eich annog i roi gwybod i'r ymchwilydd neu i oruchwyliwr yr ymchwil.

### **A oes unrhyw fanteision o gymryd rhan?**

Er y byddwch yn cael cymryd rhan yn ddiddorol efallai, nid oes unrhyw fanteision uniongyrchol o gymryd rhan.

### **Beth fydd yn digwydd ar ôl yr astudiaeth?**

Ar ôl casglu'r wybodaeth, byddwch yn cael gwybod beth yw cganfyddiadau'r astudiaeth a chewch eich atgoffa o'ch hawl i dynnu'n ôl a bod yn ddienw.

**Lle gallaf gael rhagor o wybodaeth am yr astudiaeth pe bai arnaf ei heisiau?**

Os oes gennych unrhyw gwestiynau am yr astudiaeth, cysylltwch â:

Mi drwy e-bostio: [edu4a3@bangor.ac.uk](mailto:edu4a3@bangor.ac.uk)

Neu â'm goruchwyliwr, sef Fliss Kyffin ar: [f.kyffin@bangor.ac.uk](mailto:f.kyffin@bangor.ac.uk)

**Os oes gennych chi unrhyw gwynion ynghylch y ffordd mae'r ymchwil hwn yn cael ei gynnal anfonwch nhw at: Yr Athro Enlli Thomas, Ffôn: 01248 383053, e-bost: [enlli.thomas@bangor.ac.uk](mailto:enlli.thomas@bangor.ac.uk)**

## Appendix 17

**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher and institutional affiliation:** Bethany Anne Edwards, School of Education, Bangor University

1. I confirm that I have read and understood the information sheet for the above study and have had the opportunity to ask questions.

Yes                      No

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

Yes                      No

3. I agree to take part in the above study.

Yes                      No

4. I agree for this interview to be recorded in order for my responses to be used within the research project and subsequent report.

Yes                      No

**Name of participant:**

Signature:

Date:

Signature of the researcher:

Date:



## Appendix 18

**Teitl y project ymchwil:** Gwahaniaethau rhwng y Rhywiau o ran Anhwylderau'r Sbectrwm Awtistig: Archwilio Safbwyntiau Gweithwyr Proffesiynol

**Enw'r ymchwilydd a'r sefydliad cysylltiedig:** Bethany Anne Edwards, Ysgol Addysg, Prifysgol Bangor

1. Rwy'n cadarnhau fy mod wedi darllen a deall taflen wybodaeth yr astudiaeth uchod a'm bod wedi cael cyfle i ofyn cwestiynau.

Ydw                      Nac ydw

2. Rwy'n deall fy mod yn cymryd rhan o'm gwirfodd ac y gallaf dynnu'n ôl ar unrhyw adeg, heb roi rheswm.

Ydw                      Nac ydw

3. Rwy'n cytuno i gymryd rhan yn yr astudiaeth uchod.

Ydw                      Nac ydw

4. Rwy'n cytuno i'r cyfweiliad gael ei recordio fel y gellir defnyddio fy atebion yn rhan o'r project ymchwil a'r adroddiad dilynol.

Ydw                      Nac ydw

**Enw'r cyfranogwr:**

Llofnod:

Dyddiad:

Llofnod yr ymchwilydd:

Dyddiad:

## Appendix 19

**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher and institutional affiliation:** Bethany Anne Edwards, Bangor University

### Instructions:

- Please read carefully the information sheet provided about this project and task.
- If you are happy to take part, please complete the consent form.
- Please read case study 1 and answer in as much detail as you can the questions given below. Please feel free to add any additional comments below.
- Please read case study 2 and answer in as much detail as you can the questions given below. Please feel free to add any additional comments below.
- Once completed, please return your responses along with the consent form

### Case study 1:

*\*Copy assigned case study here\**

### Questions:

1. Please can you write down your initial interpretation of the child's difficulties in the case study?
2. What do you consider to be the child's main difficulty?
3. Do you consider any support or interventions to be needed? If so, please can you provide some details?
4. What targets would you set for the child? *(These can be educational, social, emotional or personal)*
5. Are there any specific teaching strategies that may benefit the child? If so, please can you provide some details?
6. Would you consider a referral to a specialist service to be appropriate? If so, please can you provide some more details?
7. From the information provided, do you think there is a specific difficulty? If so, please can you provide some more details? *(This can be any difficulties, for example emotional or behavioural).*
8. What would be your first step in supporting, or facilitating support for this child?

9. Are there any more comments that you wish to make about this case study?

Case study 2:

*\*Copy assigned case study here\**

Questions:

1. Please can you write down your initial interpretation of the child's difficulties in the case study?
2. What do you consider to be the child's main difficulty?
3. Do you consider any support or interventions to be needed? If so, please can you provide some details?
4. What targets would you set for the child? *(These can be educational, social, emotional or personal)*
5. Are there any specific teaching strategies that may benefit the child? If so, please can you provide some details?
6. Would you consider a referral to a specialist service to be appropriate? If so, please can you provide some more details?
7. From the information provided, do you think there is a specific difficulty? If so, please can you provide some more details? *(This can be any difficulties, for example emotional or behavioural).*
8. What would be your first step in supporting, or facilitating support for this child?
9. Are there any more comments that you wish to make about this case study?

## Appendix 20

**Teitl y project ymchwil:** Gwahaniaethau rhwng y Rhywiau o ran Anhwylderau'r Sbectrwm Awtistig: Archwilio Safbwyntiau Gweithwyr Proffesiynol

**Enw'r ymchwilydd a'r sefydliad cysylltiedig:** Bethany Anne Edwards, Prifysgol Bangor

### Cyfarwyddiadau:

- Darllenwch y daflen wybodaeth sy'n sôn am y project a'r dasg hon yn ofalus.
- Os ydych yn fodlon cymryd rhan, llenwch y ffurflen gydsynio sydd ynghlwm.
- Darllenwch astudiaeth achos 1 ac atebwch y cwestiynau isod mewn cymaint o fanylder ag y gallwch. Mae croeso i chi ychwanegu unrhyw sylwadau ychwanegol isod.
- Darllenwch astudiaeth achos 2 ac atebwch y cwestiynau isod mewn cymaint o fanylder ag y gallwch. Mae croeso i chi ychwanegu unrhyw sylwadau ychwanegol isod.
- Ar ôl ei llenwi, dylech ddychwelyd eich ymatebion ynghyd â'r ffurflen gydsynio

### Astudiaeth achos 1:

*\* Copïo'r astudiaeth achos a neilltuwyd yma \**

#### Cwestiynau:

1. A allwch chi ysgrifennu beth yw eich dehongliad cychwynnol o anawsterau'r plentyn yn yr astudiaeth achos?
2. Beth yn eich barn chi yw prif anhawster y plentyn?
3. Ydych chi o'r farn bod angen unrhyw gefnogaeth neu ymyriadau? Os hynny, a wnewch chi ddarparu rhywfaint o fanylion?
4. Pa dargedau fydddech chi'n eu gosod ar gyfer y plentyn? (*Gallant fod yn addysgol, cymdeithasol, emosiynol neu bersonol*)
5. A oes unrhyw strategaethau addysgu penodol a allai fod o fudd i'r plentyn? Os hynny, a wnewch chi ddarparu rhywfaint o fanylion?
6. Ydych chi o'r farn y byddai atgyfeirio i wasanaeth arbenigol yn briodol? Os hynny, a wnewch chi ddarparu mwy o fanylion?
7. O'r wybodaeth a ddarparwyd, ydych chi o'r farn bod yma anhawster penodol? Os hynny, a wnewch chi ddarparu mwy o fanylion? (*Gall hyn fod yn unrhyw anhawster, e.e. anhawster emosiynol neu ymddygiad*).
8. Beth fyddai eich cam cyntaf wrth gefnogi, neu hwyluso cefnogaeth i'r plentyn hwn?

9. A oes unrhyw sylwadau pellach yr hoffech eu gwneud ynghylch yr astudiaeth achos hon?

Astudiaeth achos 2:

*\* Copïo'r astudiaeth achos a neilltuwyd yma \**

Cwestiynau:

1. A allwch chi ysgrifennu beth yw eich dehongliad cychwynnol o anawsterau'r plentyn yn yr astudiaeth achos?
2. Beth yn eich barn chi yw prif anhawster y plentyn?
3. Ydych chi o'r farn bod angen unrhyw gefnogaeth neu ymyriadau? Os hynny, a wnewch chi ddarparu rhywfaint o fanylion?
4. Pa dargedau fydddech chi'n eu gosod ar gyfer y plentyn? (*Gallant fod yn addysgol, cymdeithasol, emosiynol neu bersonol*)
5. A oes unrhyw strategaethau addysgu penodol a allai fod o fudd i'r plentyn? Os hynny, a wnewch chi ddarparu rhywfaint o fanylion?
6. Ydych chi o'r farn y byddai atgyfeirio i wasanaeth arbenigol yn briodol? Os hynny, a wnewch chi ddarparu mwy o fanylion?
7. O'r wybodaeth a ddarparwyd, ydych chi o'r farn bod yma anhawster penodol? Os hynny, a wnewch chi ddarparu mwy o fanylion? (*Gall hyn fod yn unrhyw anhawster, e.e. anhawster emosiynol neu ymddygiad*).
8. Beth fyddai eich cam cyntaf wrth gefnogi, neu hwyluso cefnogaeth i'r plentyn hwn?
9. A oes unrhyw sylwadau pellach yr hoffech eu gwneud ynghylch yr astudiaeth achos hon?

## Appendix 21

### Case 1: Female (1F)

*Carrie met developmental milestones on time or early. For example, her mother reported that she began reading street signs at 30 months of age. She was grade accelerated from 6th to 8th (skipped Grade 7) and excels in reading and languages but dislikes writing tasks.*

*Parents also reported that Carrie had several difficulties, including sustaining attention and following directions, disorganization, and forgetfulness. Despite having quite advanced academic skills, she struggled with attending to day-to-day activities, such as turning in homework, taking care of hygiene, and cleaning up around the house. Parents also described Carrie as not interested in forming social relationships with many children her age, but she was friends with a book store owner with whom she had common interests. It had always been difficult for Carrie to make friends but she reportedly was drawn to people with her similar interests.*

*Some observations made during test administration were that Carrie was mainly cooperative, but at times she needed instructions repeated because she talked over the examiner.*

### Case 1: Male (1M)

*James met developmental milestones on time or early. For example, his mother reported that he began reading street signs at 30 months of age. He was grade accelerated from 6th to 8th (skipped Grade 7) and excels in reading and languages but dislikes writing tasks.*

*Parents also reported that James had several difficulties, including sustaining attention and following directions, disorganization, and forgetfulness. Despite having quite advanced academic skills, he struggled with attending to day-to-day activities, such as turning in homework, taking care of hygiene, and cleaning up around the house. Parents also described James as not interested in forming social relationships with many children His age, but he was friends with a book store owner with whom he had common interests. It had always been difficult for James to make friends but he reportedly was drawn to people with his similar interests.*

*Some observations made during test administration were that James was mainly cooperative, but at times he needed instructions repeated because he talked over the examiner.*

### Case 1: Neutral (1N)

*Child A met developmental milestones on time or early. For example, their mother reported that they began reading street signs at 30 months of age. They were grade accelerated from 6th to 8th (skipped Grade 7) and excels in reading and languages but dislikes writing tasks.*

*Parents also reported that Child A had several difficulties, including sustaining attention and following directions, disorganization, and forgetfulness. Despite having quite advanced academic skills, they struggled with attending to day-to-day activities, such as turning in homework, taking care of hygiene, and cleaning up around the house. Parents also described*

*Child A as not interested in forming social relationships with many children their age, but they were friends with a book store owner with whom they had common interests. It had always been difficult for Child A to make friends but they reportedly were drawn to people with their similar interests.*

*Some observations made during test administration were that Child A was mainly cooperative, but at times they needed instructions repeated because they talked over the examiner.*

#### Case 2: Female (2F)

*There was nothing remarkable about Sophie's first year-and-a-half: she made good progress in all aspects of development. At 18 months she became very interested in the television and video recorder, and learned how to switch them on using the remote controls. She sometimes tried to take control of the TV, video and the other technology in the house.*

*At four-and-a-half years of age Sophie would insist on reading the instructions for any new equipment or toys that came into the house. She did sometimes play with the other children at nursery, but this was usually a game of her choosing, and she would direct the others to perform very specific roles.*

*Sophie settled into school very well, and the teacher in her reception class regularly commented about how helpful she was around the class, and that she was rarely a problem. She would tell the other children what to do, and Sophie was often quite insistent on certain things happening according to the usual routine. She did respond to clear instructions and rules, and so she was not usually disruptive within the classroom.*

#### Case 2: Male (2M)

*There was nothing remarkable about Oliver's first year-and-a-half: he made good progress in all aspects of development. At 18 months he became very interested in the television and video recorder, and learned how to switch them on using the remote controls. He sometimes tried to take control of the TV, video and the other technology in the house.*

*At four-and-a-half years of age Oliver would insist on reading the instructions for any new equipment or toys that came into the house. He did sometimes play with the other children at nursery, but this was usually a game of his choosing, and he would direct the others to perform very specific roles.*

*Oliver settled into school very well, and the teacher in his reception class regularly commented about how helpful he was around the class, and that he was rarely a problem. He would tell the other children what to do, and Oliver was often quite insistent on certain things happening according to the usual routine. He did respond to clear instructions and rules, and so he was not usually disruptive within the classroom.*

#### Case 2: Neutral (2N)

*There was nothing remarkable about Child B's first year-and-a-half: they made good progress in all aspects of development. At 18 months they became very interested in the television and video recorder, and learned how to switch them on using the remote controls. They sometimes tried to take control of the TV, video and the other technology in the house.*

*At four-and-a-half years of age Child B would insist on reading the instructions for any new equipment or toys that came into the house. They did sometimes play with the other children at nursery, but this was usually a game of their choosing, and they would direct the others to perform very specific roles.*

*Child B settled into school very well, and the teacher in their reception class regularly commented about how helpful they were around the class, and that they was rarely a problem. They would tell the other children what to do, and Child B was often quite insistent on certain things happening according to the usual routine. They did respond to clear instructions and rules, and so they were not usually disruptive within the classroom.*



## Appendix 22

### Achos 1: Menyw (1F)

*Cyrhaeddodd Carrie ei cherrig milltir datblygiadol ar amser neu yn gynnar. Er enghraifft, dywedodd ei mam ei bod hi wedi dechrau darllen arwyddion stryd yn 30 mis oed. Cafodd ei symud ymlaen o flwyddyn 6 i flwyddyn 8 (gan fethu blwyddyn 7), ac mae'n rhagori ar ddarllen ac ieithoedd ond nid yw'n hoffi tasgau ysgrifennu.*

*Dywedodd y rhieni hefyd fod gan Carrie nifer o anawsterau, gan gynnwys cynnal ei sylw a dilyn cyfarwyddiadau, bod yn anhrefnus, ac anghofio. Er gwaethaf y ffaith bod ganddi sgiliau academaidd eithaf datblygedig, roedd hi'n cael trafferth wrth ymgymryd â gweithgareddau beunyddiol, megis cyflwyno gwaith cartref, ymolchi, a glanhau o gwmpas y tŷ. Cafodd Carrie ei disgrifio gan ei rhieni hefyd fel rhywun sydd ddim efo diddordeb ffurfio perthnasau cymdeithasol gyda llawer o blant yr un oed â hi, ond mae hi'n ffrindiau gyda pherchennog siop lyfrau sy'n rhannu'r un diddordebau â hi. Roedd wastad yn anodd i Carrie wneud ffrindiau, ond yn ôl pob sôn câi ei denu at bobl gyda diddordebau tebyg.*

*Un o'r arsylwadau a wnaed yn ystod y broses o gynnal profion oedd bod Carrie ar y cyfan yn cydweithredu, ond ar adegau roedd angen ailadrodd cyfarwyddiadau oherwydd ei bod yn siarad ar draws yr arholwr.*

### Achos 1: Gwryw (1M)

*Cyrhaeddodd James ei gerrig milltir datblygiadol ar amser neu yn gynnar. Er enghraifft, dywedodd ei fam ei fod o wedi dechrau darllen arwyddion stryd yn 30 mis oed. Cafodd ei symud ymlaen o flwyddyn 6 i flwyddyn 8 (gan fethu blwyddyn 7), ac mae'n rhagori ar ddarllen ac ieithoedd ond nid yw'n hoffi tasgau ysgrifennu.*

*Dywedodd y rhieni hefyd fod gan James nifer o anawsterau, gan gynnwys cynnal ei sylw a dilyn cyfarwyddiadau, bod yn anhrefnus, ac anghofio. Er gwaethaf y ffaith bod ganddo sgiliau academaidd eithaf datblygedig, roedd yn cael trafferth wrth ymgymryd â gweithgareddau beunyddiol, megis cyflwyno gwaith cartref, ymolchi, a glanhau o gwmpas y tŷ. Cafodd James ei ddisgrifiodd gan ei rieni hefyd fel rhywun sydd ddim efo diddordeb mewn ffurfio perthnasau cymdeithasol gyda llawer o blant yr un oed â fo, ond mae yn ffrindiau gyda pherchennog siop lyfrau sy'n rhannu'r un diddordebau â fo. Roedd wastad yn anodd i James wneud ffrindiau, ond yn ôl pob sôn câi ei ddenu at bobl gyda diddordebau tebyg.*

*Un o'r arsylwadau a wnaed yn ystod y broses o gynnal profion oedd bod James ar y cyfan yn cydweithredu, ond ar adegau roedd angen ailadrodd cyfarwyddiadau oherwydd ei fod yn siarad ar draws yr arholwr.*

### Achos 1: Niwtral (1N)

*Cyrhaeddodd Plentyn A y cerrig milltir datblygiadol ar amser neu yn gynnar. Er enghraifft, dywedodd y fam fod Plentyn A wedi dechrau darllen arwyddion stryd yn 30 mis oed. Cafodd ei symud ymlaen o flwyddyn 6 i flwyddyn 8 (gan fethu blwyddyn 7), ac mae'n rhagori ar ddarllen ac ieithoedd ond nid yw'n hoffi tasgau ysgrifennu.*

*Dywedodd y rhieni hefyd fod gan Blentyn A nifer o anawsterau, gan gynnwys cynnal ei sylw a dilyn cyfarwyddiadau, bod yn anhrefnus, ac anghofio. Er gwaethaf y ffaith bod gan Blentyn A sgiliau academiaidd eithaf datblygedig, roedd yn cael trafferth wrth ymgymryd â gweithgareddau beunyddiol, megis cyflwyno gwaith cartref, ymolchi, a glanhau o gwmpas y tŷ. Cafodd Plentyn A ei ddisgrifio gan y rhieni hefyd fel rhywun sydd ddim efo diddordeb mewn ffurfio perthnasau cymdeithasol gyda llawer o blant sydd yr un oed, ond mae yn ffrindiau gyda pherchennog siop lyfrau sy'n rhannu'r un diddordebau. Roedd wastad yn anodd i Blentyn A wneud ffrindiau, ond yn ôl pob sôn câi ei ddenu at bobl gyda diddordebau tebyg.*

*Un o'r arsylwadau a wnaed yn ystod y broses o gynnal profion oedd bod Plentyn A ar y cyfan yn cydweithredu, ond ar adegau roedd angen ailadrodd cyfarwyddiadau oherwydd bod Plentyn A yn siarad ar draws yr arholwr.*

#### Achos 2: Menyw (2F)

*Doedd dim byd yn nodedig am flwyddyn a hanner cyntaf Sophie: gwnaeth gynnydd da ym mhob agwedd ar ei datblygiad. Yn 18 mis dechreuodd ymddiddori'n fawr yn y teledu a'r peiriant fideo, a dysgodd sut i'w rhoi ymlaen wrth ddefnyddio'r teclynau rheoli. Roedd hi weithiau'n trio rheoli'r teledu, y fideo a thechnoleg arall yn y tŷ.*

*Pan oedd yn bedair a hanner byddai Sophie yn mynnu darllen cyfarwyddiadau unrhyw offer neu deganau newydd a fyddai'n cyrraedd y tŷ. Byddai weithiau'n chwarae gyda'r plant eraill yn y feithrinfa, ond fel arfer hi fyddai wedi dewis y gêm, a byddai'n rhoi cyfarwyddiadau i'r plant eraill i berfformio rolau penodol iawn.*

*Ymgartrefodd Sophie yn yr ysgol yn dda iawn, ac roedd ei hathrawes dosbarth derbyn yn dweud yn aml pa mor ddefnyddiol oedd hi o gwmpas y dosbarth, ac mai prin iawn y byddai hi'n achosi unrhyw broblem. Byddai'n dweud wrth y plant eraill beth i'w wneud, ac roedd Sophie'n aml yn eithaf penderfynol bod angen i rai pethau gael eu gwneud yn dilyn y drefn arferol. Roedd hi'n ymateb i gyfarwyddiadau a rheolau clir, ac felly nid oedd hi fel arfer yn aflonyddgar yn yr ystafell ddosbarth.*

#### Achos 2: Gwryw (2M)

*Doedd dim byd yn nodedig am flwyddyn a hanner cyntaf Oliver: gwnaeth gynnydd da ym mhob agwedd ar ei ddatblygiad. Yn 18 mis dechreuodd ymddiddori'n fawr yn y teledu a'r peiriant fideo, a dysgodd sut i'w rhoi ymlaen wrth ddefnyddio'r teclynau rheoli. Roedd o weithiau'n trio rheoli'r teledu, y fideo a thechnoleg arall yn y tŷ.*

*Pan oedd yn bedair a hanner byddai Oliver yn mynnu darllen cyfarwyddiadau unrhyw offer neu deganau newydd a fyddai'n cyrraedd y tŷ. Byddai weithiau'n chwarae gyda'r plant eraill yn y feithrinfa, ond fel arfer fo fyddai wedi dewis y gêm, a byddai'n rhoi cyfarwyddiadau i'r plant eraill i berfformio rolau penodol iawn.*

*Ymgartrefodd Oliver yn yr ysgol yn dda iawn, ac roedd ei athrawes dosbarth derbyn yn dweud yn aml pa mor ddefnyddiol oedd o o gwmpas y dosbarth, ac mai prin iawn y byddai o'n achosi unrhyw broblem. Byddai'n dweud wrth y plant eraill beth i'w wneud, ac roedd*

*Oliver yn aml yn eithaf penderfynol bod angen i rai pethau gael eu gwneud yn dilyn y drefn arferol. Roedd o'n ymateb i gyfarwyddiadau a rheolau clir, ac felly nid oedd o fel arfer yn aflonyddgar yn yr ystafell ddosbarth.*

## Achos 2: Niwtral (2N)

*Doedd dim byd yn nodedig am flwyddyn a hanner cyntaf Plentyn B: gwnaeth gynnydd da ym mhob agwedd ar ddatblygiad. Yn 18 mis dechreuodd ymddiddori'n fawr yn y teledu a'r peiriant fideo, a dysgodd sut i'w rhoi ymlaen wrth ddefnyddio'r teclynnau rheoli. Roedd weithiau'n trio rheoli'r teledu, y fideo a thechnoleg arall yn y tŷ.*

*Pan oedd yn bedair a hanner byddai Plentyn B yn mynnu darllen cyfarwyddiadau unrhyw offer neu deganau newydd a fyddai'n cyrraedd y tŷ. Byddai weithiau'n chwarae gyda'r plant eraill yn y feithrinfa, ond fel arfer Plentyn B fyddai wedi dewis y gêm, a byddai'n rhoi cyfarwyddiadau i'r plant eraill i berfformio rolau penodol iawn.*

*Ymgartrefodd Plentyn B yn yr ysgol yn dda iawn, ac roedd yr athrawes dosbarth derbyn yn dweud yn aml pa mor ddefnyddiol oedd Plentyn B o gwmpas y dosbarth, ac mai prin iawn y byddai Plentyn B yn achosi unrhyw broblem. Byddai'n dweud wrth y plant eraill beth i'w wneud, ac roedd Plentyn B yn aml yn eithaf penderfynol bod angen i rai pethau gael eu gwneud yn dilyn y drefn arferol. Roedd Plentyn B yn ymateb i gyfarwyddiadau a rheolau clir, ac felly nid oedd fel arfer yn aflonyddgar yn yr ystafell ddosbarth.*

## **Appendix 23**

### **Participant Information Sheet**

**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher and institutional affiliation:**

Bethany Anne Edwards, School of Education, Bangor University.

I am a postgraduate research student at Bangor University and this research project forms part of my dissertation. This study will be conducted in accordance with the guidelines of the MRes Childhood and Youth programme and Bangor University's Ethics committee.

**What is the study about?**

The aim of this study is to explore perceptions of ASD in relation to gender, through collecting information from professionals working in Educational and Healthcare settings.

Responses obtained through data collection will help to explore perceptions, and it is hoped that this study will contribute to current research aiming to better understand Autism in Women and Girls.

**Why have I been approached?**

You have been approached as this study requires participants from various professionals who are working with or have previously worked with children and/or adults. Specifically, where work included involvement in the referral, assessment or diagnosis of ASD. Participation will contribute to wider research considering societal perceptions of gender and the possible impact that these perceptions can have on recognising, referring and supporting individuals displaying indicators of ASD.

**Do I have to take part?**

No. It is completely up to you whether you decide to take part or not.

**What will I be asked to do if I take part?**

If you decide you would like to take part, you will be given two short fictional case studies of children, and will be asked to make comments on various questions. These questions may include:

- How you would proceed in providing support for this child
- Whether there are any behaviours and/or characteristics which may require support
- How you would ensure that the necessary support is provided for this child

**Can I choose not to continue?**

Yes. If you agree to take part in this study please be aware that you have the right to withdraw your data at any point. You do not have to give a reason for withdrawing.

**Will my data be identifiable?**

No. All the data obtained will be kept securely and all identifiable features will be omitted.

**What will happen to the results?**

The results will be reported and summarised as part of my dissertation. They may also be shared in academic journals and conference presentations. They will be kept on a password protected computer and will be accessible by the researcher and may be viewed in the presentation of the dissertation by the project supervisor and moderator.

**Are there any risks?**

There are no risks anticipated with participating in this study. However, if you experience any distress following your participation you are encouraged to inform the researcher or research supervisor.

**Are there any benefits to taking part?**

Although you may find participating interesting, there are no direct benefits in taking part.

**What happens after the study?**

After the information has been collected, you will be debriefed about the findings of the study and be reminded of your right to withdraw and anonymity.

**Where can I obtain further information about the study if I need it?**

If you have any questions about the study, please contact:

Myself by email on: [edu4a3@bangor.ac.uk](mailto:edu4a3@bangor.ac.uk)

Or my supervisor Fliss Kyffin on: [f.kyffin@bangor.ac.uk](mailto:f.kyffin@bangor.ac.uk)

**If you have any complaints about how this study is conducted please address these to:  
Prof. Enlli Thomas, Tel: 01248 383053, email: [enlli.thomas@bangor.ac.uk](mailto:enlli.thomas@bangor.ac.uk)**

## Appendix 24

### Taflen wybodaeth i gyfranogwyr

**Teitl y project ymchwil:** Gwahaniaethau rhwng y Rhywiau o ran Anhwylderau'r Sbectrwm Awtistig: Archwilio Safbwyntiau Gweithwyr Proffesiynol

**Enw'r ymchwilydd a'r sefydliad cysylltiedig:**

Bethany Anne Edwards, Ysgol Addysg, Prifysgol Bangor.

Rwy'n fyfyrwr ymchwil ôl-radd ym Mhrifysgol Bangor ac mae'r project ymchwil hwn yn rhan o'm traethawd hir. Cynhelir yr astudiaeth hon yn unol â chanllawiau rhaglen MRes Astudiaethau Plentyndod ac Ieuenctid a phwyllgor Moeseg Prifysgol Bangor.

**Beth yw diben yr astudiaeth?**

Nod yr astudiaeth hon yw archwilio canfyddiadau pobl o Anhwylderau'r Sbectrwm Awtistig mewn perthynas â rhywedd, trwy gasglu gwybodaeth gan weithwyr proffesiynol sy'n gweithio mewn lleoliadau Addysg a Gofal Iechyd.

Bydd yr ymatebion a geir trwy gasglu data o gymorth i archwilio canfyddiadau, a'r gobaith yw y bydd yr astudiaeth hon yn cyfrannu at ymchwil gyfredol sy'n ceisio deall Awtistiaeth yn well mewn Menywod a Merched.

**Pam y cysylltwyd â mi?**

Rydym yn cysylltu â chi gan fod angen, fel rhan o'r astudiaeth hon, gyfranogwyr o wahanol feysydd proffesiynol sy'n gweithio, neu sydd wedi gweithio yn y gorffennol, gyda phlant a/neu oedolion. Yn benodol, pan mae'r gwaith hwnnw'n golygu atgyfeirio, asesu neu wneud diagnosis o Anhwylderau'r Sbectrwm Awtistig. Drwy gymryd rhan byddwch yn cyfrannu at ymchwil ehangach sy'n ystyried canfyddiadau cymdeithasol rhywedd ac effaith bosibl y canfyddiadau hyn ar addnabod, atgyfeirio a chefnogi unigolion a chanddynt ddangosyddion Anhwylderau'r Sbectrwm Awtistig.

**Oes rhaid imi gymryd rhan?**

Nac oes. Eich dewis chi'n llwyr yw penderfynu a ydych am gymryd rhan.

### **Beth fydd yn rhaid i mi ei wneud os byddaf yn cymryd rhan?**

Os ydych yn penderfynu yr hoffech gymryd rhan, byddwch yn cael dwy astudiaeth achos fyr, ffuglennol am blant, a gofynnir i chi wneud sylwadau ynglŷn â gwahanol gwestiynau. Gall y cwestiynau hyn gynnwys:

- Sut fydddech chi'n mynd ati i ddarparu cefnogaeth i'r plentyn hwn
- A oes unrhyw ymddygiad a/neu nodweddion sy'n galw am gefnogaeth
- Sut fydddech chi'n sicrhau bod y gefnogaeth angenrheidiol yn cael ei darparu i'r plentyn hwn

### **Alla'i ddewis peidio â pharhau?**

Gallwch. Os cytunwch i gymryd rhan yn yr astudiaeth, mae gennych hawl i dynnu'ch data yn ôl ar unrhyw adeg. Does dim rhaid i chi roi rheswm dros dynnu'n ôl.

### **A fyddwch yn gwybod mai fy nata i ydyw?**

Na fyddwn. Cedwir yr holl ddata'n ddiogel a bydd yr holl nodweddion y gellid eu defnyddio i'ch adnabod yn cael eu hepgor.

### **Beth fydd yn digwydd i'r canlyniadau?**

Caiff y canlyniadau eu hadrodd a'u crynhoi fel rhan o'm traethawd hir. Efallai y byddant hefyd yn cael eu rhannu mewn cyfnodolion academiaidd a chyflwyniadau mewn cynadleddau. Byddant yn cael eu cadw ar gyfrifiadur wedi'i ddiogelu gan gyfrinair a dim ond yr ymchwilydd fydd yn gallu cael mynediad atynt. Efallai hefyd y bydd goruchwyliwr a safonwr y project yn eu eu gweld pan gyflwynir y traethawd hir.

### **A oes unrhyw risgiau?**

Ni ragwelir bod unrhyw risgiau o gymryd rhan yn yr astudiaeth hon. Fodd bynnag, ond os byddwch yn teimlo'n ofidus ar ôl cymryd rhan, cewch eich annog i roi gwybod i'r ymchwilydd neu i oruchwyliwr yr ymchwil.

### **A oes unrhyw fanteision wrth gymryd rhan?**

Er y byddwch yn cael cymryd rhan yn ddiddorol efallai, nid oes unrhyw fanteision uniongyrchol o gymryd rhan.

### **Beth fydd yn digwydd ar ôl yr astudiaeth?**



Ar ôl casglu'r wybodaeth, byddwch yn cael gwybod beth yw canfyddiadau'r astudiaeth a chewch eich atgoffa o'ch hawl i dynnu'n ôl a bod yn ddienw.

**Lle gallaf gael rhagor o wybodaeth am yr astudiaeth pe bai arnaf ei heisiau?**

Os oes gennych unrhyw gwestiynau am yr astudiaeth, cysylltwch â:

mi drwy e-bostio: [edu4a3@bangor.ac.uk](mailto:edu4a3@bangor.ac.uk)

Neu â'm goruchwyliwr, sef Fliss Kyffin ar: [f.kyffin@bangor.ac.uk](mailto:f.kyffin@bangor.ac.uk)

**Os oes gennych chi unrhyw gwynion ynghylch y ffordd mae'r ymchwili hwn yn cael ei gynnal anfonwch nhw at: Yr Athro Enlli Thomas, Ffôn: 01248 383053, e-bost: [enlli.thomas@bangor.ac.uk](mailto:enlli.thomas@bangor.ac.uk)**

## Appendix 25

**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher and institutional affiliation:** Bethany Anne Edwards, School of Education, Bangor University

1. I confirm that I have read and understood the information sheet for the above study and have had the opportunity to ask questions.

Yes

No

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

Yes

No

3. I agree to take part in the above study.

Yes

No

**Name of participant:**

Signature:

Date:

Signature of the researcher:

Date:

## Appendix 26

**Teitl y project ymchwil:** Gwahaniaethau rhwng y Rhywiau o ran Anhwylderau'r Sbectrwm Awstistig: Archwilio Safbwyntiau Gweithwyr Proffesiynol

**Enw'r ymchwilydd a'r sefydliad cysylltiedig:** Bethany Anne Edwards, Ysgol Addysg, Prifysgol Bangor

1. Rwy'n cadarnhau fy mod wedi darllen a deall taflen wybodaeth yr astudiaeth uchod ac wedi cael cyfle i ofyn cwestiynau.

Ydw

Nac ydw

2. Rwy'n deall fy mod yn cymryd rhan o'm gwirfodd ac y gallaf dynnu'n ôl ar unrhyw adeg, heb roi rheswm.

Ydw

Nac ydw

3. Rwy'n cytuno i gymryd rhan yn yr astudiaeth uchod.

Ydw

Nac ydw

**Enw'r cyfranogwr:**

Llofnod:

Dyddiad:

Llofnod yr ymchwilydd:

Dyddiad:

## Appendix 27



**Title of research project:** Gender Differences in ASD: Exploring Professionals' Perspectives

**Name of the researcher:** Bethany Anne Edwards

- I understand that the interviews I am transcribing are confidential.
- I will not disclose any details of the interview content including any names mentioned, location details and other identifiable information, to anyone except the researcher and research supervisor.
- I will not allow any other person (other than the researcher and research supervisor) to hear the audio tape or read the transcriptions of the interviews.
- I will keep the memory stick and transcribed interviews in a safe and secure place, which cannot be accessed by anyone else.
- Once transcription has been completed, I will ensure that the recordings and transcriptions are returned to the researcher. No copies or record of the audio tapes or transcriptions (including any notes) will be stored.
- Should there be any written notes during the transcription process, I will ensure they are given to the researcher in order for them be stored or destroyed as appropriate.

**If you agree to all the points outlined above, please complete the form below and return to the researcher.**

Name:

Signature:

Date:

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