



"What's the verdict?": Measuring differences in students' attitudes towards Autism Spectrum Disorder (ASD) and non-ASD sex offenders.

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ABSTRACT

The previous research has neglected to measure attitudes towards ASD sex offenders. The current study used a 20-item, 5-point Likert scale questionnaire, created by the researcher, to measure and compare the differences in attitudes of undergraduate students towards ASD and non-ASD sex offenders. The two participant groups were provided with separate vignettes to read regarding a fictional sex offender; and they then completed the three-section questionnaire.

Independent Sample T-Tests in SPSS software was used to calculate the mean and significance of the participants’ scores between the ASD and the control group. Results showed a significant difference in scores between the ASD and control group for section 1, which was directly pertinent to the vignettes, but no significant differences were found in sections 2, 3 or in the total questionnaire scores. This research discusses the implications of leniency towards ASD sex offenders in government legislation and in jury-settings.

KEY WORDS:	SEX OFFENDER	AUTISM	ASD	CRIME	ATTITUDES	SURVEY
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Literature Review

A sexual offence is a term which can encompass a variety of criminal actions, including contact offences such as sexual assault and rape; covering acts of non-consensual sexual bodily penetration (Howitt, 2015; Baarsma et al., 2016). Sex offences also include statutory rape which involves sexual activity with children under the age of consent (Howitt, 2015; Jackson, 2016). The possession of child pornography or sexual images of individuals under the age of consent is a criminal act for which an individual could become a registered sex offender (Baarsma et al., 2016; Gershel, Dubin, Horowitz, Mahoney, & Attwood, 2017). A sex offender may have received a diagnosis for an Autism Spectrum Disorder (ASD); a Neurodevelopmental Disorder which can produce impairments to social reciprocal and communicative abilities (American Psychiatric Association, 2013; Sondenaa et al., 2014; Creaby-Atwood, & Allely, 2017). One theorised perspective suggests that these deficits in the development of social skills may prevent sexual maturity from developing correctly. This can result in maladjusted sexual behaviours, which may lead an individual with ASD to become a sex offender (Sevlever, Roth, & Gillis, 2013; Gershel et al., 2017). Other literature states that offending behaviours in individuals with ASD can be linked to deficits in Theory of Mind, empathic understanding and difficulties with moral reasoning (Atwood, 2006; Grant, Furlano, Hall, & Kelley, 2018). This can potentially lead these individuals to criminal behaviour and sexual offences by misreading social cues (Grant et al., 2018).

The public has consistently displayed negative attitudes towards individuals with a sex offender label (Budd, & Mancini, 2016; Olver, & Barlow, 2010), with much of the public believing that all sex offenders possess an equal risk to communities (Rogers, Hirst, & Davies, 2011). The media have influenced these negative attitudes (Taylor, 2017), with development towards residence restriction laws gaining influence from public emotion rather than the consideration of empirical research (Anderson, Sample, & Cain, 2015; Savage, & Windsor, 2018). The attitudes which are conveyed by members of the public play a crucial role in the development of legislation that is designed to manage sex offenders (Shackley, Weiner, Day, & Willis, 2014; Salerno, et al., 2010). This highlights the importance of research in this area, as it is possible to modify public attitudes towards sex offenders using psychoeducation (Kleban, & Jeglic, 2012). Empirical research could be used to appropriately influence sex offender legislation by informing the public about the risk of groups of sex offenders (King, & Roberts, 2017), like those with ASD. Research in this area would also be essential in determining the perceived culpability and risk of offending for these categories of sex offenders in a jury setting. Adult members of the public are the demographic which are selected by the courts to be used as members in a jury and the attitudes held by these individuals influence decisions when making verdicts (Louden, & Skeem, 2007).

Offenders with ASD may be perceived as mentally competent by the CJS because of their proficient verbal abilities; but these individuals will often be mentally incompetent (Woodbury-Smith, & Dein, 2014), linking to traits such as social naivety (King, & Murphy, 2014). Sexual offending behaviours among individuals with ASD are often attributed to a manifestation of the ASD symptoms, not because of malicious intentions (Mogavero, 2016). This perceived level of competence can influence how these individuals are treated by the CJS and can influence the public's attitudes of sex offenders diagnosed with ASD through media portrayal (Malinen, Willis, & Johnston, 2014; Taylor, 2017).

Despite public perceptions, individuals with ASD who download child pornography present a minimal risk of physical harm to children (Gershel et al. 2017). Child pornography possession is categorised as a 'hands-off' offence (Baarsma et al., 2016), in which the sex offender is distant from a victim, minimising the physical danger of the offender. It could therefore be argued that a prison sentence may not be appropriate for these sex offenders with ASD, and may not be necessary in protecting the public, especially children, from harm. In a contact sexual offence, individuals that are diagnosed with an ASD may possess a limited understanding of the harm to which they have inflicted upon their victims (Berryessa, 2014). An overcritical public may neglect the academic literature regarding sex crime behaviours and perceive all sex offenders to be as equally culpable (Socia, & Harris, 2016). A consequence of the culmination of these negative attitudes could be the delegation of potentially biased members of the public to be placed on a jury. These individuals may possess misconceptions regarding the danger of sex offenders diagnosed with ASD and could act as jurors in a trial for a potentially low-risk individual.

The literature has neglected to measure public attitudes towards sex offenders diagnosed with ASD, which has led to an absence of research in this area (Chaplin, McCarthy, & Underwood, 2013; Mogavero, 2016). This could be attributed to a lack of large-scale research which connects ASD with offending (Brewer, & Young, 2015). There is also a limited body of information surrounding the prevalence of ASD diagnoses in offender populations (Talbot, 2009). There are only a minority of individuals with ASD who encounter the Criminal Justice System (CJS) and there are issues within the CJS in managing and recognising individuals with ASD (Michna, & Trestman, 2016). The lack of information surrounding ASD offenders may explain the variance of public opinions among the literature, as certain demographics hold different attitudes towards offenders with ASD (Shackley et al., 2014). There is an absence of literature addressing public attitudes towards sex offenders diagnosed with ASD. It is unclear as to whether there are any differences in public attitudes towards ASD and non-ASD sex offenders, which is why this study was conducted. This research also addresses and analyses the limitations among the existing literature.

Research by Kernsmith, Comartin, and Kernsmith (2016), found that misinformation among a public survey sample was predictive of support for sex offender legislation and management policies. This reinforces the consensus among the literature that the media can influence public attitudes towards sex offenders, with these attitudes carrying negative connotations (Budd, & Mancini, 2016). Kernsmith et al. (2016) do not address the possibility of variance in these attitudes if the public were aware of the circumstances for recidivism and risk of physical danger for sex offenders with ASD, as public attitudes for these types of sex offenders were not addressed. The researchers only focussed on public attitudes towards sex offenders in a broader context, but individuals with a sex offender label will have committed a variety of separate offences, including rape and child pornography possession and distribution (Gershel et al., 2017). Kernsmith et al. (2016) did not include an intellectually heterogeneous participant sample, as 95.9% had a high-school education and 32.2% possessed a university degree, which makes the sample appear intellectually and demographically biased. This research overall supports perceptions of the public holding negative attitudes towards sex offenders but has neglected to measure public attitudes towards sex offenders with ASD. Their research could have benefitted from a more heterogeneous public sample to obtain a more diverse set of public responses,

as individuals with a higher educational status have been shown to possess more positive attitudes towards sex offenders (Stevenson, Smith, Sekely, & Farnum, 2013).

Gakhal, and Brown (2011) performed a between-group study on public opinions of sex offenders with a mixed sample of members of the public, students and forensic professionals and found more positive attitudes from the forensic professionals' sample. The results from this research demonstrate that there are differences in attitudes for sex offenders for certain demographics, but the study does not address the area of differences in attitudes towards sex offenders diagnosed with ASD. This study is limited by the utilisation of a homogenous participant sample, as the researchers only focussed on female sex offenders. This hinders their data as the public associate sex offenders less often with females (Gakhal and Brown, 2011); and attitudes towards male sex offenders were excluded from their research. A finding from the research indicates that the public sample displayed more negative attitudes towards sex offenders. This result provides further support for the belief that the public displays negative attitudes towards sex offenders. Much like the other empirical research discussed, Gakhal and Brown do not address the public's attitudes towards ASD sex offenders; which future research should explore.

Harper, and Hogue (2015) utilised a modified version of the CATSO (Community Attitudes Towards Sex Offenders) scale to assess public attitudes towards sex offenders; with findings indicating that perceived risk of sex offenders correlated with harsher punishments. The results from this research support previous literature which has found members of the public to report harsher attitudes and misinformation of sex offender risk (Kernsmith et al. 2016; Rosselli, & Jeglie, 2017), although this research does not assess public attitudes towards ASD sex offenders. One other limitation of this research is the use of a six-point Likert scale which omits the option to not answer a question(s) (the options available were: 'strongly disagree,' 'disagree,' 'probably disagree,' 'probably agree,' 'agree,' and 'strongly agree'). Although this type of Likert scale can increase the number of responses, the omission of an option to not answer the question forces the participant to provide an answer with which they may not agree. This can provide a skewed set of data, as some of the participants may have selected one of the options because there was an inability to ignore a question. Future research in this area should utilise a Likert scale which provides an option to proclaim uncertainty to avoid any potential researcher bias.

Further research by Shackley et al. (2014), was conducted using a public survey methodology which also utilised the CATSO scale and found that individuals with a higher level of education reported fewer negative attitudes towards sex offenders. A strength of this study was the inclusion of a large public sample and age demographic, with 552 participants aged 18-72 years old, as this provided the researchers with a large and diverse number of responses. This study provides further insight into the current knowledge of the public's attitudes towards sex offenders, although attitudes towards sex offenders diagnosed with ASD were not measured in this study. Much like the research conducted by Harper and Hogue, this research utilised an identical six-point Likert scale to assess public attitudes. This methodology is limited by its absence of a survey response option which would enable a participant to proclaim uncertainty, which forces a participant to enter an answer with which they may not necessarily agree. Future research should discontinue the use of this six-point Likert scale, given the unnecessary range of options and the inability to ignore questions.

Interestingly, Campregher, and Jeglic (2016) found differences in university students' attitudes towards sex offenders when specific information regarding a case was introduced. It was found that the participants viewed sex offenders as less dangerous when case specific information was introduced; and generic sex offenders were perceived as more dangerous. This may suggest that the public could perceive a sex offender with ASD as less dangerous than any other sex offender, potentially producing more lenient responses in a sample, as the diagnosis of ASD itself is a piece of case specific information. The researchers neglected to measure attitudes towards sex offenders with ASD, making it ambiguous as to whether a survey would produce more positive responses when specifically focussing on sex offenders diagnosed with ASD. This is especially relevant as research which has focussed on offenders has found inconsistencies among different samples in attitudes towards offenders when ASD was included in the case studies (Brewer et al., 2017). The sample of 978 participants makes it easier to generalise the results from this research with a larger participant sample (Graham, Karmarkar, & Ottenbacher, 2012). A limitation of the participant selection was the use of an intellectually homogeneous sample, much like Kernsmith et al. (2016). This makes the research appear more biased, as individuals with a higher level of education have shown less support for juvenile sex offender registration and more positive attitudes towards sex offenders (Stevenson, Smith, Sekely, & Farnum, 2013; Shackley et al. 2014). This study ultimately supports previous statements regarding the public's negative attitudes towards sex offenders, but much like other research in this area, does not assess and compare public attitudes for sex offenders with an ASD diagnosis.

Brewer, Zuanetti, and Young (2017) performed a comparison study on the perceptions of offenders with ASD, in which a survey was used to assess the attitudes of undergraduate students. It was found that the introduction of an ASD diagnosis indicated more negative attitudes towards offenders. This research is strengthened by the inclusion of an ASD offender, to determine their perceived risk, although ASD sex offenders were not used in this research. Brewer et al. (2017) do not specifically address public attitudes towards ASD sex offenders and do not compare those attitudes towards sex offenders without an ASD diagnosis. Another limitation of this study was the assessment of the participants' levels of education, as those with no education were also found to display a greater level of negative attitudes when an ASD diagnosis was mentioned in the case studies. It therefore makes it difficult to distinguish which variable, the ASD diagnosis or the level of participant education, significantly influenced the results. This study is successful in providing an insight into the public's perception of offenders with ASD, although there was no inclusion of a case study of a sex offender with ASD.

Further research from King, and Roberts (2017), found that the alteration of offence characteristics; offence type, previous relationship and victim/offender sex and age, significantly impacted the public's perception of sex crimes. This research is strengthened using random sampling of participants, rather than selecting participants with similar demographic backgrounds, such as education (Shackley et al., 2014), to avoid the overrepresentation of certain groups in the data. This suggests that members of the public may hold different views towards sex offenders with ASD than non-ASD sex offenders, although this was not a factor discussed by King and Roberts, making it unknown whether ASD significantly changes the public's perception of a sex crime. This places further emphasis on the necessity to research the public's attitudes towards this category of sex offender. This research also neglected to examine the

perceived causes of sexual offending and their significance public attitudes towards sex offenders, which future research should explore to determine if this could significantly affect public attitudes towards ASD offenders.

Maras, Marshall, and Sands (2018), assessed public attitudes towards an ASD offender who had displayed aggressive behaviour, in a mock-jury setting, with half of the sample being informed of the offender's ASD diagnosis whilst being supplied with background information about ASD. It was found that the inclusion of the ASD label produced more positive attitudes towards the offender, including perceptions of reduced culpability, increased leniency and more beliefs of the individual's honesty. The results also found that fewer of the participants provided a guilty verdict when the ASD diagnosis of the offender was mentioned. A strength from this research was the use of a randomly selected opportunity sample which did not collect information regarding the participants' educational background or status, as education can influence punitive attitudes (Tajalli, de Soto, & Dozier, 2013). This study provides an insight into attitudes towards offenders with ASD; an area which has an absence of research (Mogavero, 2016), with the study being conducted recently to provide a current insight into this somewhat unexplored area of research. These results do not absolutely conclude that members of the public would be more lenient towards a sex offender with ASD, as the researchers did not include sex offences into the case study. A mock-jury setting would not guarantee complete anonymity to the participants as there will inevitably be communication among a jury (Anesa, 2012), which could influence the honesty in the participants' responses. A methodology which ensures complete participant anonymity, such as an online survey, may also prevent answers from being influenced by other participants. This study overall provides insight into the public's attitudes towards offenders with and without ASD, although the study neglected to include sex offenders with ASD, leaving a gap in this area of research.

Further research by Berryessa, Milner, Garrison, and Cho (2015) also assessed public attitudes towards ASD offenders using a mock-jury setting. Findings from the study indicate a greater set of positive responses from the participants when an ASD diagnosis was mentioned, with participants reporting higher levels of sympathy and leniency. The participants also reported that the diagnosis was a mitigating factor in their decision when making a verdict. One other result from the research shows that the participants also reported a positive influence in their attitudes from the findings that Autistic Disorders have biological origins. This could indicate a greater level of leniency if the public believes that an ASD individual's offending behaviours are beyond their control. A strength of this research was the use of a sample of 623 'demographically diverse' adults, with no apparent element of sampling selection bias used by the researchers. This study is also strengthened by the researchers' assessment of public attitudes when factoring the publics' perceived origins of the ASD condition in offenders. This was an area that the other literature neglected and future research should address this area further to determine whether the perceived origin of ASD by members of the public is a significant factor in the publics' decision of leniency towards ASD offenders. The research is limited by the absence of an ASD sex offender vignette and does not specify the offence type for the ASD case that was used in their research. These findings contradict the results from the study by Brewer et al. (2017), although there was variance among participant sample selection between these two pieces of research. This may also suggest that specific samples of participants can influence the results among these pieces of research, which reinforces the utility of random sampling for future research in this area.

Current Study

The current study was developed by building upon three similar empirical studies; conducted by Berryessa et al. (2015), Brewer et al. (2017), and Maras et al. (2018). These three studies manipulated variables between comparison groups to determine differences in public attitudes towards offenders diagnosed with ASD. The authors of these studies neglected to measure public attitudes towards sex offenders with ASD, which was the aim of the current study. The current study focussed on attitudes towards male sex offender cases, as there is a higher prevalence for ASD in males (Michna, & Trestman, 2016; Bitsika, Sharpley, & Mills, 2018). Females are not as frequently diagnosed with ASD as males, alluding to speculation that high-functioning females display superficial social abilities which help to mask ASD symptoms (Matilla et al., 2007; Goldman, 2013). The ability to mimic socially acceptable behaviours in these high-functioning females can impact an ASD diagnosis (Matilla et al., 2007), which has created a gender disparity among the diagnosed ASD population (Halladay et al., 2015). The previous research found that the public holds negative attitudes towards sex offenders but does not address the potential variance in these opinions if a public sample were aware of the existence of an ASD diagnosis in a sex offender case. Some of the public survey research has focussed on case studies of offenders with ASD, with much of the research indicating positive attitudes. The previous studies neglected to include vignettes of sex offenders with ASD, leaving a research gap for assessing public attitudes in this area of research.

The aim of this research was to accumulate primary data which measured public attitudes towards sex offenders diagnosed with ASD and to compare those to attitudes of non-ASD sex offenders. A between-group study was performed to measure public attitudes towards ASD and non-ASD sex offenders. The main objective of this study was to determine whether there would be differences in leniency and punitive treatment between the two participant sample groups. This was to determine if there were any differences in these attitudes, but also to assess public attitudes towards ASD sex offenders. It was hypothesised (two-tailed) that there would be a significant difference in the public's attitudes between these categories (ASD and non-ASD) of sex offenders. A two-tailed hypothesis was used as there were some differences in attitudes in the previous findings towards non-sexual ASD offenders, which made it unclear as to which direction the public attitudes would take.

Methodology

Participants

The participants that were chosen for this research were (mostly) undergraduate university students and were selected through face-to-face communication. This involved the researcher entering a university building and approaching students to ask for their consent to participate in the research; and signed consent was also received from the participants. The remainder of the sample were non-student criminology professionals. Adult participants were used to avoid inflicting psychological harm to participants (Moss, Uluğ, & Acar, 2018), as minors are considered as a vulnerable group. The initial intention of the research was to gather the data by utilising an online survey, but due to complications with the survey website the data was gathered by approaching the participants in person. The age ranges of the sample were mixed (mean age N=22.9 years), because the participants were chosen by opportunity sampling, through their voluntary participation. Much of the previous research in this area has obtained data using an intellectually homogeneous participant sample, which gives the appearance of a biased research methodology, as individuals with a higher educational background report more positive attitudes towards sex offenders (Shackley et al., 2014). The researcher chose participants with a similar educational demographic, only because of the participants' availability.

A Priori tests were conducted using G*Power to determine the study's sample size. Based on the design of this study (two tailed, p value set at 0.05, effect size of 0.8) it was intended for the researcher to recruit 60 participants (30 participants in each condition) to meet the desired power of 0.85. Due to low participant response rates, the desired sample size of 60 was not met; and the total sample size used was 51 participants, which created a small variance among the two group sample sizes (ASD group N= 30, Control group N=21). There were also a greater number of female participants in the sample (N=33, 64%) when compared to male participants (N=12, 23%); and 6 of the participants did not disclose their gender (11%), while 8 participants (15%) did not disclose their age. There was a variance in the age ranges among the participants, as the study included a range of adult participants. There were other participant factors that could have affected the results, such as participants who had been victimised by sex offenders, who may have felt strongly against sex offenders and purposefully provided negative scores for the questions. These groups were not excluded as the research may have otherwise appeared biased with the exclusion of participant demographics, although this type of demographic information was not collected as part of the research. Participants who had a criminal justice and/or psychology background were also not excluded from the sample for the same reason. Educational background and job status were excluded from collection, unlike the previous research, as this was to ensure complete participant anonymity and prevent the assumption of researcher bias within the methodology.

Design

This research consisted of a between group sample of participants and gathered quantitative, experimental primary data on the public's attitudes of ASD and non ASD sex offenders. This was the dependent variable which was used in the research. The independent variable was the type of vignette used, which was the ASD sex offender and the non-ASD sex offender case studies, consisting of two sample groups to gather

the data. A self-completion questionnaire was distributed through university lecture classes to gather data from students and some staff members.

A quantitative methodological approach was chosen for this research, as this was more suitable for the aims and objectives. The aim was to measure the differences between the two participant groups' attitudes towards ASD and non-ASD sex offenders, which was achieved using an independent Sample T-Test in SPSS. A strength of using this analysis was the ability to compare and analyse data between the two independent groups to determine the significance and means in the participants' questionnaire scores (Xu, Fralick, Zheng, Wang, Feng, & Tu, 2017). The utilisation of a quantitative approach for data collection and analysis was an efficient approach to utilise, as the data analyses were completed automatically by the SPSS software, as opposed to the manual transcription of qualitative interviews. The objectives of this research were to gather data from a public sample regarding the attitudes towards Karl in both vignettes, outline what the public believes are the causes of sexual offending and measure the differences in the public's punitive attitudes towards sex offenders with and without an ASD diagnosis. A quantitative approach was a more appropriate methodology for measuring these objectives, as it was more efficient to measure numerous self-reported properties at once in the survey (Neuman, 2014).

An additional strength of utilising a quantitative approach for this study was the inclusion of a Likert scale format questionnaire. The use of a Likert scale provided the researcher with an extensive range of response items, which provided a greater quantity of statistical analyses. A larger set of data collected made it easier to support the research hypothesis, as there was a greater quantity of data to analyse and make generalisations about the data. It could also be suggested that a larger range of data would make the research more replicable for future researchers. The information sheet contained two vignettes, one for each group, although each participant was only able to fill out one questionnaire and was not told about the other case study to prevent the data from being skewed. This was to ensure that the data collected was reliable, as each participant was debriefed after the completion of the questionnaire and would otherwise have known the purpose of the research.

Materials

The participants were provided with a briefing form and information sheet, which they were instructed to read prior to filling in the questionnaire. The participants provided written consent by signing a consent form created by the researcher. Consent was obtained prior to completion of the questionnaire, as this legitimised the agreement of the participants to be involved in the research (Ferreira, & Serpa, 2018). The briefing form explained the purpose of the research and the information sheet contained a vignette regarding a fictional sex offender.

The data was collected using a 20-item, 5-point Likert scale questionnaire, created by the researcher. The questionnaire was split into three sections, in which the participants scored their attitudes towards the sex offender in the case study in the first section. The first section contained 8 items and was connected to the case study which the participants had read prior to completing the questionnaire. The second section asked the participants which of the causes for sexual offending they agreed with the most. These included causes such as chemical imbalances in the brain, mental disorders, cognitive factors and environmental factors (4 items in total). This

was to determine whether there was misinformation among this area, as this was absent from much of the previous research. The third section of the questionnaire, containing 8 items, focussed on punitive attitudes towards sex offenders and this section, along with the second section, was not specifically tied towards the case study. The two participant groups were each given a similar sex offender case study about the same individual, which was provided inside of the information sheet. One case study described a sex offender with an ASD diagnosis, and the other case involved a sex offender with no mention of ASD or a diagnosis. Below are examples of some of the questions that were present on the participant questionnaire, in the first section:

“(sex offender) is not to blame for his actions”

“The Criminal Justice System gave (sex offender) an appropriate sentence”

“(sex offender) is unlikely to re-offend”

Each item on the questionnaire provided five tick box options, with a maximum of 4 points being allocated to each question: ‘Definitely agree’, ‘Agree’, ‘Neither agree nor disagree’, ‘Disagree’ and ‘Definitely disagree’. No more than five options were used in the Likert scale and a ‘Neither agree nor disagree’ option was included to prevent forced choice questionnaire bias (Xiao, Liu, & Li, 2017). Items such as ‘definitely agree’ and ‘agree’ were allocated larger numbers, as higher scores would indicate more positive attitudes towards the sex offender in the questionnaires. After completing the questionnaire, each participant was directed to a page that contained the de-briefing form. The debriefing form re-informed the participants of the purpose of the study and explained that two case studies were used in the research. This form also contained the contact details of a sex offender victim charity for support and the contact details of the researcher and the supervisor for further information on the study.

Procedure

Two groups of participants were used in this research; one group was used to measure public attitudes towards ASD sex offenders and a control group which measured public attitudes towards non-ASD sex offenders, to compare the responses. The two groups of participants were provided with an information sheet regarding a fictional sex offender case study, only one of the groups was told that the sex offender suffers from an ASD. This was to discover a significant difference in the participants' answers. The five-item Likert scale questionnaire was distributed and self-completed through university lecture classes and a university library. The answers were scored on a scale of 1-5, with higher scores indicating more favourable treatment towards sex offenders (1=definitely disagree, 2=disagree, 3=agree, 4= definitely agree, 0= neither agree nor disagree). The maximum number that a participant could have scored on the questionnaire was 80. Participant scores which were closer to 80 indicated more positive attitudes towards sex offenders and lower scores indicated more negative attitudes. The participants were debriefed after they had completed the questionnaire, as they were told to read the debriefing form which explained the purpose of the study, as the participants were not initially told about the two case studies which were used in the research.

The scores were added up for each participant and were manually input into SPSS software to calculate the mean and significance of the data. A five-item Likert scale questionnaire was used for this research project, as data gathered from the Likert

scale can reduce the negative effect of response biases (Xiao, Liu, & Li, 2017). Likert formats also provide a wider range of response scores which increases the quantity of statistical analyses available to the researcher (Pallant, 2016). Independent sample-T-Tests were used to analyse the significance of the data between the participant groups. This type of test provided the researcher with results for the analysed data, including means, significance, skewness and kurtosis.

Results

Data Screening

The raw data from all questionnaires were manually input into SPSS, where a total score was calculated for each participant, measuring their leniency scores on all three of the questionnaire sections. Data were checked for missing scores; and all scores were present apart from some demographic information which some of the participants did not disclose (i.e., gender and age). Answers which were left blank by participants were given a default answer of 'neither agree nor disagree' and were allocated a score of 0. The focus was to compare the questionnaire data between the ASD and the control group to determine if there was a significant difference in any of the sections of the questionnaire.

Normality Checks

The distribution of the data was checked, showing normally distributed histograms apart from the control group on section 1. Box plots were checked showing two outliers on the control variable for section 1 and one outlier on the control group total score 3. However, Z scores were conducted and revealed these outliers were not problematic (i.e., no score above or below 3). Skewness and kurtosis were calculated and were found to be within the acceptable value between -1.96 and + 1.96 apart from control group 1 with a value 2.56. Apart from this one indication of skewness within the data set all previous checks were not skewed, therefore a parametric test was considered appropriate to analyse these data.

Inferential tests

An Independent Sample T-test was conducted to explore the different scores between the ASD and control group. There was a significant difference showing that people in the ASD group showed more lenience ($M= 16.63$, $SD= 5.79$) compared to the control group ($M= 12.10$, $SD= 5.06$) and this difference was significant (see '**Figure 1**') ($t(49) = 2.86$, $p = 0.006$, Cohen's $d = 0.82$, which is a large effect size). There were no significant differences in the participants' scores among sections 2 and 3 between the ASD and control groups, which may be because the questions from these two sections were more distant in their connection to the group case studies than section 1. There were also no significant differences in the total questionnaire scores between the ASD and control groups, possibly because the non-significance of the findings in sections 2 and 3 eclipsed the significance of the findings from section 1. The significant results from section 1 suggest that the participants in the ASD group displayed higher levels of leniency in their questionnaire scores, possibly because they deemed the ASD to be a mitigating factor in the offender's culpability.

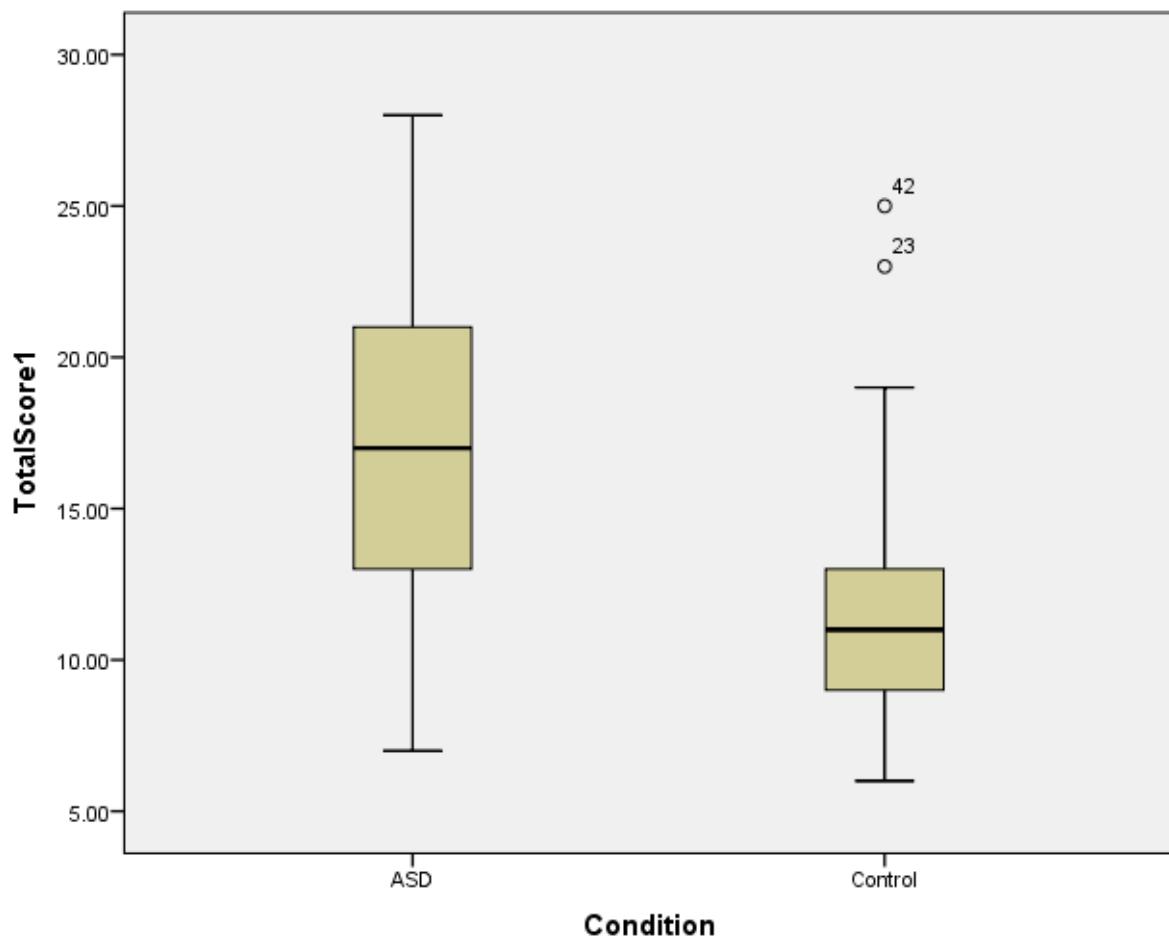


Figure 1: Plots displaying the score differences for section 1 between the ASD and control groups.

Discussion

The main aim of this research was to determine whether there would be a significant difference in the questionnaire scores between the two participant groups, in the form of leniency for sex offenders with and without ASD. The other aim of this research was to gather data on people's attitudes towards ASD sex offenders, as to the best of the researcher's knowledge, this area had not been previously explored by other researchers. The final aim of the current study was to explore the significance of participants' attitudes towards the perceived origins of sexual offending, in relation to leniency. A significant difference was found between the two participant groups' scores among section 1 of the questionnaire, which was directly linked to the sex offender vignettes. There were no significant differences found among the participants' answers in section 2, which focussed on the participants' perceived origins of sexual offending. There were also no significant differences between two participant groups' scores in section 3 of the questionnaire, which focussed on punitive attitudes towards sex offenders; and no significant differences were found in the total questionnaire scores between the two participant groups.

Given the variety of significant and non-significant results found within the three sections of the questionnaire in the current study, all three studies from which this research was based support the current findings to some degree. The results found by Berryessa et al. (2015) revealed a greater set of positive responses when an ASD diagnosis was disclosed to their participants, with reported higher levels of sympathy and leniency. Their results also indicated the presence of positive attitudes from an understanding that Autistic Disorders have biological origins. The results from the current study contradict the findings from Berryessa et al. in this regard, as the findings from this study indicate no significant difference in levels of attitudes between the two groups for section 2 of the questionnaire; which measured the perceived origins of sex offending. The current study however explored more than biological origins alone, as the items from section 2 explored attitudes towards perceived environmental origins (childhood maltreatment and head injuries), which Berryessa et al. neglected to explore.

The results from Maras et al. (2018) also support the current findings, as they found that an inclusion of the ASD label produced more positive attitudes towards an offender and fewer guilty verdicts where considered for an ASD offender. Although the exact offending type used in this current study does not match the offence characteristics used by Berryessa et al. (2015), and Maras et al. (2018), the indication of leniency among participants for an offender with ASD is present in the findings from both pieces of research and the findings from the current study. The results of the third piece of research from which the current study was based (Brewer et al., 2017) do not match with the results from section 1 of the current study. Brewer et al. (2017) found that participants' attitudes were negative when an ASD diagnosis was mentioned, although these results match with section 3 of the current study, as no significant results were found within this section regarding positive punitive attitudes towards the sex offender in the case studies.

These differences in the results could stem from the type of setting that was used between these studies, as Berryessa et al. and Maras et al. used a mock-jury setting, which involves a larger amount of communication among jury members (Anesa, 2012), which could have influenced the participants' answers by the collective sharing of ideas. One other factor which may explain the differences in the results between these

studies is the type of offence used, as the current study included sex offenders and Berryessa et al. (2015), Brewer et al. (2017) and Maras et al. (2018) did not use sex offenders in their vignettes. Brewer et al. (2017) also assessed the participants' levels of education, which was also found to have had an influence on the levels of negative attitudes, whereas the current study did not collect educational demographic information from the participants, which may explain some of the differences in this research. The current study however used undergraduate university students for most of the sample, who all possess a similar educational background, leaving a lack of educational diversity in the sample.

The assessment tool which was used to measure the attitudes may also explain some of the differences in the data between the current study and these pieces of research, as the current study assessed attitudes using a Likert-scale questionnaire created by the researcher. This questionnaire contained items which were created by the researcher and would not have been present in the previous research, as these studies used either their own questionnaires, or one that was developed by another researcher. The questionnaire created by the researcher contained a different number of items to the assessment tools used in the previous research; and varying numbers of questionnaire items could affect significance in research data.

Participants who did not possess a psychology, criminology or criminal justice background may have found it more difficult to formulate an opinion in this area, which may explain the amount of 'neither agree nor disagree' answers. Future research in this area may want to provide participants with an information sheet with facts about ASD and sex offenders, prior to the completion of a questionnaire, to help participants with no criminology background to form an opinion in this area. The phrasing of the questions could have also affected the results, as a complex wording for some of the questions may have affected participants' answers and made it difficult for individuals understand the question, resulting in more 'neither agree nor disagree' tick boxes being checked. The wording of the ASD vignette could have influenced the participants' responses, rather than the ASD diagnosis information itself, as the pitying nature of the case could have elicited sympathy from the participants to influence their decision of leniency. Care was taken by the researcher to minimise unnecessary background information in the vignettes, although other researchers could experiment with the quantity of this type of background information in sex offender case studies to determine if this would significantly affect results in future research.

The current study also utilised a different sample size to the studies from which it was based, which may have also influenced these results. Berryessa et al. used 623 participants in their sample to measure attitudes towards an ASD offender, which is considerably larger than the sample of 51 participants used in the current study. It could be suggested that a different level of significance in the data may have been produced in the current study data based upon the alteration of the sample size. The Likert item scoring for the 'neither agree nor disagree' option was changed before the data were analysed, as this item was originally allocated a score of 3 but was changed to 0 to prevent participants' scores from being artificially large. As these values represent uncertainty in the participants' answers, it was deemed appropriate to give this item a null value when inputting the data. These results ultimately suggest that certain communities can display leniency towards sex offenders when case specific information is included in a sex offender vignette. This places further emphasis on the

need to educate the public on the risk of different groups of sex offenders and victimisation (King, & Roberts, 2017).

Limitations

The current study contains some methodological limitations. This research utilised a sample size of only 51 participants, whereas Berryessa et al. used 623 participants and found similar attitudes to the current study. Brewer et al. (2017) recruited 186 undergraduate students in their research and found more negative attitudes towards ASD offenders among the sample. A small sample size limits this data, as it is easier to generalise a set of data when utilising a larger sample size (Graham, Karmarkar, & Ottenbacher, 2012), and it could be argued that the significance of the data would change if a larger sample size was used, like the study by Brewer et al. If this study were to be replicated, then the utilisation of a larger sample would make it easier to generalise the data to a larger population of the public. The characteristics of the sample may have also limited this research, as the study predominantly used undergraduate students, who are more likely to report positive attitudes due to their higher educational status (Stevenson et al., 2013; Shackley et al., 2014). It could be suggested that a sample which is comprised of individuals with a mixed educational status may produce a different level of significance in the results. This is particularly applicable to those who have a forensic professional background, as these individuals report more positive attitudes towards sex offenders (Gakhal, & Brown, 2011).

Future research in this area should use a mix of participants with different educational and professional demographics, to determine if this significantly affects attitudes towards ASD sex offenders. It is also not known as to whether the significant findings of the current study would be consistent if this study were to be repeated, due to the lack of similar research in ASD sex offenders (Chaplin, McCarthy, & Underwood, 2013; Mogavero, 2016), and the absence of identical studies which assess attitudes towards ASD sex offenders.

The initial intention of this research was to utilise a research survey website to collect data from a random public sample of participants. This would have avoided the overrepresentation of participant demographics, such as educational status, which can influence attitudes towards sex offenders (Shackley et al., 2014). This type of data collection method was not used due to complications with the survey website, which resulted in the researcher using a sample of mostly university students, due to their availability to participate in the research. It could be argued that a research sample with participants from different educational backgrounds would have produced results with a different level of significance; and future research should use an educationally diverse participant sample if available. Due to the unique nature of the methodology for the current study and the consistency of the results with most of the other research, this limitation may be less impactful on the significance of the findings. The current study also only focussed on attitudes towards male sex offender cases and excluded attitudes towards female ASD and non-ASD sex offenders. It could be suggested that this limitation does not affect the significance of the results, as ASD is more common in males (American Psychiatric Association, 2013; Michna, & Trestman, 2016; Bitsika, Sharpley, & Mills, 2018), which makes the cases from the current study more applicable in a real-life context. Future research may still want to explore and compare community attitudes towards female ASD and non-ASD sex offender to determine if there would be a significant difference in these attitudes.

The gender and size disparity among the sample groups could have affected the significance, as sample size disparities can overrepresent groups of data (Faber, & Fonseca, 2014); and it may appear as though the ASD group was purposefully made to be larger to overrepresent this group to achieve significance in the data. These results however were extremely significant, which makes this limitation less impactful on the overall significance of the data. Future research should try to use matched sample group sizes and gender wherever possible to avoid the overrepresentation of demographic groups and independent variables in the data. It is also unknown as to whether other factors influenced leniency in the questionnaire scores, such as religion. It could be argued that individuals who selected positive answer choices regarding their objection to the capital punishment question was because of religious beliefs, as religious demographic information was not collected. The section that this question appeared in however produced no significant findings anyway, making this limitation less impactful on the study, although researchers may want to address this issue by acknowledging religious demographic information in future studies.

The current study is also limited by its neglect to collect qualitative data on the participants' attitudes towards sex offenders, as it could be argued that the data collected from the Likert scale questionnaire would not be as thorough as a qualitative methodology. One of the participants wrote down additional information on their questionnaire in addition to completing the Likert items, although this data was disregarded due to the nature of the research methodology not collecting qualitative data. This may be indicative of an inability to decide on which questionnaire item to choose, which may be due to the complex nature of the questions; and participants answers may be subject to the context of the research. Future research in this area should utilise a mixed methodology of both qualitative and quantitative data, as participants' answers may be complex and circumstantial to the case study information. A mixed methods study could therefore benefit this area of research by gathering richer and more thorough data to be analysed.

Personal experiences may have also influenced participants' answers, as individuals who feel strongly opposed towards sex offenders may have chosen more punitive answers. The section which focussed on the more punitive questions (section 3) showed no significant findings anyway, which makes this limitation less impactful to the research. Participants with family members who were victims of a sex crime may be more inclined to report more negative attitudes towards sex offenders, regardless of whether there was an ASD diagnosis, although this research did not collect information on the participants' sexual victimisation history. Participants who had children could also have purposefully reported harsher attitudes, although it is unknown as to whether this would have significantly affected the results, as parental demographic information was not collected. This could be another area that future researchers studying attitudes towards ASD sex offenders may want to explore.

Some of the questions may have appeared to be vague in their description and these questions could have potentially benefitted from providing more background information to the participants on the case to help formulate opinions. It could be argued that this information could influence answers by resulting in a greater level of uncertainty, and future researchers should acknowledge this by providing the participants with a fact-sheet to provide a critical, unbiased view of the topic. This could be achieved with the inclusion of an equal amount of briefing information for and against ASD sex offender rehabilitation, to avoid potential biases influencing the data.

Strengths

The main advantage of the current study in comparison to the previous literature is the assessment of attitudes towards a sex offender diagnosed with ASD, which the other research neglected to assess. This is especially relevant given the large effect size found in the data. This has helped the current study to identify and compare the differences in attitudes between ASD and non-ASD sex offenders and bring new knowledge into this area of research. These results can help researchers and criminal justice professionals to make inferences about the public's attitudes towards ASD sex offenders, given the significant difference between those attitudes and opinions of non-ASD sex offenders. The current study also explored perceived attitudes towards the causes of sexual offending to determine whether this factor would influence participants' responses, which few studies seemed to address (Berryessa et al., 2015), although no significant data was found in this part of the research. The exploration into this factor helped to determine if there was significant misinformation in this area and helped the researcher to understand if this factor influenced the findings. In comparison to Berryessa et al. who only appeared to examine perceived biological origins on community leniency to ASD offenders, the current study also included environmental factors among the questionnaire items, which helps to explore a wider range of perceived causes on attitudes towards sex offenders. This research also provided anonymity to the participants, which may have helped to produce a more honest set of questionnaire responses, as the participants did not have to disclose any personal information, such as their name.

One other strength of this research was the utilisation of a 5-point Likert scale to assess the attitudes in the questionnaire. Some of the previously discussed research assessed community attitudes using the CATSO (Shackley et al., 2014; Harper, & Hogue, 2015) which used a Likert scale with an absence of an option to proclaim uncertainty in an answer. This type of scale allowed participants in the current study to avoid a question if they found it difficult to formulate an opinion, which helps to prevent forced-choice answers which could potentially skew the data (McKibben, & Silvia, 2017). The questionnaire in the current study also avoided including an unnecessary amount of Likert choices, unlike the CATSO scale, which uses a 6-point scale (Shackley et al., 2014), which could be an unnecessary range of choices; and may have confused participants when selecting items.

Implications

The main implication for this research is that the perceived culpability of ASD sex offenders could influence attitudes in both a jury setting and the perceived risk of ASD sex offenders to communities. It is already apparent that the public influences sex offender legislation (Shackley et al., 2014; Salerno, et al., 2010; Savage, & Windsor, 2018), but these results could make an argument for increased leniency in sex offender management policies. This could include shorter sentences for ASD sex offenders, if the public perceives these individuals as less harmful to society and more prone to rehabilitation than non-ASD sex offenders. One other implication that can be inferred from this research is the prevalence of an increased frequency for ASD diagnoses and disclosure in court, as this could be considered as a mitigating factor in a court setting to appeal for a reduced sentence. Lawyers, prosecutors and juries should be able to make requests for the disclosure of an ASD diagnosis, as this could influence their decision when making a verdict, based on the results from the current study. Adults are selected by the courts for their role as jury members and their

attitudes influence decisions in court (Louden, & Skeem, 2007). This makes it crucial for an ASD diagnosis to be disclosed if one is present in a sex offender, as this could potentially result in a shorter sentence for that individual, as the jury may view it as a mitigating factor for reduced culpability.

Courts may also want to include an ASD diagnosis into sentencing guidelines as a potential mitigating factor in a criminal trial, although this level of perceived risk may not apply to all members of the public. An ASD diagnosis should also be disclosed in media reports of sex offenders if they possess a diagnosis, as the media can influence public attitudes towards sex offenders (Malinen, Willis, & Johnston, 2014; Taylor, 2017; King, & Roberts, 2017) which, by extension, could influence jury verdicts in a court-setting. This could help to create more positive attitudes towards ASD sex offenders, which may also help a jury when making a verdict. Given the non-significant findings in section 3 of the questionnaire which focussed on punitive treatments, it could also be suggested that not all members of a jury would display punitive leniency, as some participants still indicated favour towards harsher sentences; including longer sentence lengths, capital punishment and physical and chemical castration. This may be indicative of a lack of public knowledge for the efficacy of treatments on sex offenders.

Community-based treatment is effective in reducing sex offender recidivism, despite a public objection to this form of rehabilitation (Duwe, 2015), particularly in areas populated with children (Anderson, Sample, & Cain, 2015). This outlines a lack of academic understanding within members of the public of the efficacy of treatments to manage sex offenders, which could place the public at risk if effective measures are not implemented. Governments and policy makers may want to create legislation that is based upon academic research as an alternative to the current influence from the public (Shackley et al., 2014). This practice would generate more effective sex offender management policies, as the public have been shown to be misinformed about the reality of sex offender risk and recidivism (Rosselli, & Jeglie, 2017). Some of the current sex offender management policies which are supported by the public are costly, such as the consumption of police resources to capture sex offenders who present a minimal risk of offending (Vess, Day, Powell, & Graffam, 2014). Current public-influenced policies, such as sex offender residence restriction (SORR) also have insufficient academic support for its efficacy (Rydberg, Dum, & Socia, 2018). Discarding the practice of public influence on policy could save more money this way, particularly if the public perceives some groups of sex offenders, such as those diagnosed with ASD to present a minimal risk to communities.

Conclusion

In summary, the research found a significant difference in the participants' questionnaire scores between the two groups in section 1, but there were no significant findings in the other two sections or in the total questionnaire scores between the two groups. The study could have benefitted from a larger sample which would have made it easier to generalise the results to a larger population; and this may have revealed a different level of significance in the data. The study could have also benefited from the collection of qualitative data, as some of the participants expressed a potential need to elaborate their answers, and this practice could have obtained richer data in the research. This study however provides a unique insight into attitudes towards ASD sex offenders which has previously been neglected by the literature and brings new findings into this area. The current study also further

examined a somewhat neglected area of research by assessing the perceived origins of sexual offending and their association with community attitudes, which few pieces of research have previously explored. Future research in this area should examine different types of public demographic information, such as educational status, religion and victimisation history of participants, to determine whether these factors significantly influence attitudes towards ASD sex offenders.

The results reinforce the notion that different groups of sex offenders possess varying levels of risk to the public, as the sample perceived the ASD sex offender to be less dangerous than the control group sex offender. It can be concluded from the current research that policy-makers should not be influenced by public attitudes towards sex offenders as some of the public-supported policies are ineffective in sex offender management, especially if the public perceives different subgroups of sex offenders, like those with ASD as less dangerous than non-ASD sex offenders. Future research may also want to assess community attitudes towards female ASD and non-ASD sex offenders to determine if the gender of the sex offender significantly influences these attitudes.

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