How do autistic people view their empathic capacity?

Title: How do Autistic People View Their Empathic Capacity?

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Abstract

Extensive research has examined empathy in autistic people; this has largely been conducted by asking autistic participants to complete measures, engage in experimental procedures, or by consulting with close relatives (Chown et al., 2017). To the best of our knowledge, this study is one of the first to seek the views of autistic participants on their self-perceived empathic capacity.. In this case, empathy was explored within a wider context of self-concept. The study recruited 100 participants who were asked to complete ten statements about themselves. Subsequently, participants were asked to rate their self-perceived empathy on a scale of 1-10, providing justification for this. Autistic and non-autistic participants made a comparable proportion of references to numerous psychological traits. However, non-autistic participants made a higher proportion of references to being happy, friendly and caring. Autistic participants gave lower self-ratings of empathy, compared to non-autistic participants, but the thematic analysis showed that both groups felt they had cognitive and affective empathic capacity, with nuanced differences between the groups. This paper highlights the importance of involving autistic voices into research about their empathic capacity and self-concept, identifying nuance in the autistic experience which has been generally overlooked in previous research.

Key words: autism, empathy, self-concept, qualitative

Over the past two decades, there has been a wealth of research into empathic capacity within the autistic population (Schniltzer & Fuchs, 2024), but to the best of our knowledge, only one study has directly sought the views of autistic people[1] on this matter (Kimber, Verrier, & Connolly, 2024). While the validity of autistic insight has been debated (Hens et al., 2019), Chown et al. (2017) argue that it is ethically problematic to exclude autistic voices in research that attempts to further our understanding of the condition. By way of comparison, it would be poor practice to capture information about members of other marginalised communities (for example, the LGBTQ+ community) by either asking them to complete experimental measures or asking their close relatives to contribute, without providing opportunity for them to provide their own, first-hand input.

Irrespective of the accuracy of self-ratings as a measure of ability, it remains valuable to understand how different groups perceive themselves. Consequently, this study asked autistic people for their views on how empathising they perceive themselves to be, in the context of exploring how they describe themselves more generally (self-concept). Whilst self-concept has a range of definitions (Suszek et al., 2015; Fjermestad et al., 2022), this study will explore the conscious beliefs about the self, alongside self-perceived traits and abilities that are used to characterise the self as an individual.

Empathy in autism has been studied utilising a range of methodologies, though it is most commonly defined as having two components: cognitive empathy, which is the ability to identify another's thoughts and feelings, and affective empathy which is the ability to share another's feelings (Baron-Cohen & Wheelwright, 2004), though criticism is levelled at the lack of clarity in definitions (Fletcher-Watson & Bird, 2019) Despite the high volume of studies, research into empathy has been criticised overall – Coll et al. (2017) argue that empathy is a result of a sequence of complex processes, in that to say someone is lacking empathy, it remains rather vague as to which part of the process a person reputedly has difficulty with. Whilst a

wealth of studies utilise the two-component definition of empathy (Baron-Cohen & Wheelwright, 2004), many only investigate one aspect of this (Shah et al., 2019), such as cognitive empathy. If the participant struggles with this aspect, the difficulty is applied to empathic capacity as a whole - often without considering the other component of empathy. For example, some studies speak of autistic people having a reduced empathic capacity overall (Senju et al., 2007; Greenberg et al., 2018) whilst others refer to preserved empathic capacity overall (Santieseteban et al., 2020; Helt et al., 2021; Rieffe et al., 2021). However, when the two components of empathy are disentangled, the findings regarding empathy and autism seem more nuanced; some studies indicate reduced cognitive empathic capacity (Poustka et al., 2010; Deschamps et al., 2014; Rueda et al., 2015; Pepper et al., 2019), but comparable affective empathic capacity within autistic people (Rogers et al., 2007; Hadjikhani et al., 2014; Song et al., 2019; Janowski & Pfeifer, 2021). More recently, research has suggested autistic people experience hyper-empathy (Kimber et al., 2024). This supports Smith's (2009) Empathy Imbalance Hypothesis which states that autistic people may have difficulty with cognitive empathy, but display intact or even heightened affective empathy (Kimber et al, 2024), which would help to explain the varied findings of previous research.

Despite the mixed findings, it remains widely held that autistic people have difficulty with empathy (Harmsen, 2019). It seems useful to explore whether this view is incorporated into the self-concept of autistic people, as research has demonstrated that the stigma faced by autistic people can have an impact on identity development (McDonald, 2017). Fletcher-Watson and Bird (2019) suggest that the prevailing stereotype of lack of empathy in autism and other associated features is so widespread, that autistic people themselves have adopted this view – not necessarily because it is true but rather because it seems like received wisdom. It is thus useful to be mindful of this stereotype when interpreting self-reports from autistic people. A relevant study is by Jackson, Skirrow and Hare (2012) who conducted the Self-

Understanding Interview (Damon & Hart, 1988) asking participants seven principal questions, such as ‘what are you like?’ and ‘what kind of person are you?’. Interviews were then coded into categories of different characteristics. The study found that fewer autistic participants made references to social aspects (for example, social interactions and relationships) and psychological aspects (for example, thoughts, feelings and preferences) of the self in comparison to the non-autistic group, but there was no difference found in physical components (bodily characteristics or material possessions) or active aspects (abilities and activities) of the self. This finding supports the idea that autistic people typically experience social interaction less than non-autistic individuals; as suggested by Fletcher-Watson and Bird (2019), they may have incorporated this into their self-concept such that these relationships become less central to their identity.

Other studies provide contradictory evidence – for example, Sasson et al. (2018) asked participants to provide self-perception ratings for twenty items taken from the Ten Item Personality Inventory of the Big Five (Gosling et al., 2003) and from the Autism Quotient (Baron-Cohen et al., 2001); these included terms such as ‘friendly’, ‘calm’, ‘empathetic’ and ‘cold’. There was no significant difference in the self-perception ratings of these characteristics between the autistic and non-autistic groups. Furthermore, there was no significant difference between psychological aspects of the self, with ratings of items describing feelings such as ‘calm’ and ‘anxious’ and social aspects of the self, with ratings such as ‘friendly’ and ‘empathetic’ being comparable in both groups.

Nevertheless, autistic people in a study by Mitchell and O’Keefe (2008) perceived that they lacked insight into themselves, instead deferring to others as the authority on knowing what they were like; in this context, this suggested that autistic people lacked confidence in how well they know themselves (Mitchell & O’Keefe, 2008). A tendency for autistic people to perceive themselves as underperforming should be interpreted in the context of a prevailing

societal view on autistic people's lack of ability in the socio-affective arena, as mentioned above (Fletcher-Watson & Bird, 2019) and more broadly in the context of the 'Double Empathy Problem' (Milton, 2012). Briefly, this theory posits that just as autistic people might misperceive and misunderstand non-autistic people, the same may be true the other way around. That is, this view maintains that autistic people are in danger of being misperceived and indeed underestimated by the neurotypical majority, which in turn can negatively impact on the development of autistic people, especially around self-worth (Mitchell et al, 2020).

To enable autistic people to provide their own views and first-hand insight into their self-perceived empathic capacity and self-concept, this study utilised a mixed-methods design. Participants were first asked to complete up to ten 'I am _____' statements, with the frequency of references to different traits then being compared between groups. Following this, participants were asked to give a rating of how empathising they perceive themselves to be, before providing a justification for this rating. As a result of the fact that the limited number of studies investigating self-concept in autistic people have generated mixed findings, and that the present study uses a novel methodology to assess self-concept and perceived empathy, the purpose of this study is exploratory. The aim was to explore autistic self-concept and self-perceived empathy, whilst also providing opportunity for autistic people to express their views around empathy, so that this can be considered alongside existing quantitative evidence in this area.

Method

Research Design

This study employed a mixed qualitative-quantitative cross-sectional design from a realist perspective. In accordance with Greene et al., (1989), qualitative and quantitative approaches complement each other in mixed methods designs by helping to elaborate, clarify and enhance the phenomena under consideration.

In this study, the different approaches explore depth of experience in individual accounts, while allowing comparison across the groups through self-reported ratings. Akin to Brooks et al. (2020), we investigate subjective experiences that potentially contribute to knowledge beyond the context of quantitative data collection. The inclusion of qualitative data allowed richer understanding of the narratives generated by both groups; additionally, its use is important in order to give voice to autistic individuals (van Schalkwyk & Dewinter, 2020).

The study was pre-registered on the Open Science Framework (Xet al., 2022).

Researcher Description

Sophie Campbell-Templeton is an autistic, white, cisgender woman with heterosexual orientation. Peter Branney and Peter Mitchell are both non-autistic, white, cisgender men, with a heterosexual orientation who do not have a diagnosis of ASD. Peter Branney's expertise is in qualitative methods and Peter Mitchell's is in quantitative methods.

Participants

This study recruited 100 participants in total – 50 autistic participants (M= 35.54 years of age, SD = 13. 22 years, range = 18-64) and 50 control (non-autistic) participants who did not have an autism diagnosis (M=30.81 years of age, SD=12.82 years, range= 18-63). The groups did not significantly differ in age $t(98) = 1.87$, $p > .05$. Both groups were equally comprised of 25

male and 25 female participants. This study had a 1:1 ratio of males to females. Many studies have minimally included, or neglected to include, female autistic participants entirely and as such, a large proportion of the data is male focused (Deschamps et al., 2014; Cascia & Barr, 2017; Trimmer, McDonald & Rushby, 2017; Mul et al., 2018), perhaps because of the widely proposed 4:1 ratio of males to females that are diagnosed (Rynkiewicz et al., 2016). However, it is important to include the voice of autistic females, as this part of the autistic population might be under-diagnosed (Kreisner & White, 2014; Ferri et al., 2018) and little understood.

All participants completed both qualitative and quantitative aspects of the study. A post-hoc power analysis, using G* Power (version 3.1.9.7; Faul et al., 2007), showed that to achieve the effect size found (shown in results), with significance criterion set to $a = .05$ and with power set to 80%, the sample size needed to comprise of 98 participants. Participants were recruited by advertising the study on various forms of social media – including Facebook and Twitter, in specialist groups for autistic people or using specialist hashtags relating to autism. Those who were interested in participating then contacted the researcher via a link. Participants were informed that the study was to investigate self-concept among autistic and non-autistic people. All participants gave written, informed consent before starting the study and did not receive any compensation for completing the survey. The study was approved by the ethics committee of a university in England, which complies with standards set by the British Psychological Society. Whilst there is argument around the risk involved in recruiting autistic participants online for qualitative research (Pellicano et al., 2024), this study engaged numerous techniques to minimise the impact of fraudulent participation. This included: not offering a financial incentive for participation, asking participants for additional diagnostic information (specific diagnosis given and age at diagnosis), and requiring participants to provide a description of themselves (in this case, through the 'I am ___ statements').

The first 25 males and females to fully complete the survey, in both the autistic and non-autistic group, were included in the data. Participants were allocated to the autistic group according to whether they checked a box confirming that they had received a diagnosis from clinicians. Participants were also asked to give their age at diagnosis and were asked to confirm whether they had been given a specific diagnosis (for example, High Functioning Autism or Asperger's Syndrome).

Participants who stated they were awaiting diagnosis and who self-identified as autistic, though did not have a diagnosis from a clinician, were excluded from the data – a few people were excluded on this basis, however, due to conditions of consent and data protection we were unable to record this.

This study recorded a range of demographics (see Table 1) such as current age, age at diagnosis, sex and specific details of diagnosis, following other online studies into autism (Roth & Gillis, 2015; Cooper et al., 2021; Bury et al., 2022). There was no significant difference in age between the autistic group (M = 13.2, SD = 1.87) and the non-autistic group (M = 12.3, SD = 1.7), t(98) = -1.6, p = .52.

Data Collection

Data were collected online using the Qualtrics platform. In the first part of the task, participants were asked 'please give up to 10 statements about yourself' in response to 10 prompts beginning with 'I am _____' (based on Rosenberg, 1965), with a blank text box, without a character limit, provided for their response This section generated 922 statements in total, with 458 statements from the autistic group and 464 statements from the non-autistic group. Participants did not have to complete all ten statements before progressing to the next task.

In the second part of the procedure, participants read a description stating ‘A person who is empathising has the ability to identify another person's experience (for example, thoughts or feelings) and respond to them with an appropriate emotion’ (this study chose to use a broad definition of empathy so as to not impose a specific definition on participants). Following this description, participants were asked ‘how empathising are you?’ and gave a rating on a scale of 0-10 (0 being not empathising at all and 10 being extremely empathising). Subsequently, participants were asked for a justification with, ‘In as much detail as possible, please give a reason as to why you think this or describe an experience that supports your rating,’, then provided with a textbox for their response.

Data can be accessed on OSF (https://doi.org/10.17605/OSF.IO/UA9NB). Two participants did not give consent for their data to be shared and their responses were not uploaded.

Data Analysis

Quantitative

For the first part of the task that generated the ‘I am _____’ statements – responses were coded for the presence or absence of the 10 most frequently occurring psychological characteristics in addition to references to relationships and references to physical traits. A proportion of the sample’s statements (20% of the 100 participants) were coded for their valence; that is, whether the statement referred to something positive or negative. A proportional method was used due to the high volume of statements generated, in line with previous research (Hallgren et al., 2012; Campbell et al., 2013; Belotto et al., 2018) Only items which were indisputably positive/negative were coded, for example, ‘happy’, ‘excited’ or ‘loved’. Items which were ambiguous, such as ‘sensitive’ or ‘tall’ were omitted from the

coding. Whilst these descriptors could have provided meaningful information, there was no method to ascertain how the participant intended them. If the valence of a statement would generally be interpreted as indisputably positive/negative, but may have appeared ambiguous in the context of the other statements provided, coding was addressed through the method of negotiated agreement (Campbell et al., 2013). In this instance, the two coders discussed which valence to code the statement as and came to an agreement; this occurred with only three statements. Frequencies between groups were then compared.

For the second part of the task, where participants gave a rating of how empathising they perceived themselves to be; the mean ratings of the groups were compared. We hypothesised a priori (see record published in OSF) that autistic participants would feel they have less empathic ability compared with non-autistic participants.

Qualitative

The statements generated in the first part of the task and the statements to support empathy rating were analysed using the Linguistic Inquiry and Word Count (LIWC) software (Pennebaker et al., 2015) – LIWC is designed to analyse text files, comparing each word in the text to its dictionary. If there is a match, the software then assigns the word to the appropriate word category (or categories). The programme generates a wide range of outputs, including standard linguistic information (such as word count), as well as data pertaining to three psychological constructs: affective processes, social processes and cognitive processes. Affective processes refer to words that reference positive and negative emotions, social processes refer to words that connote relational factors (for example, ‘friend’, ‘family’) and cognitive processes refer to the ways in which participants process information (including

concepts such as: insight, causation, certainty and differentiation). These psychological constructs were defined by LIWC based on previous research (Pennebaker et al., 2015)

These outputs provided information on the content included in the statements and empathy explanations – for example, it provided insight into how the groups differed in relation to their referencing of social relationships.

The data generated in the second part of the task, regarding why the individual gave themselves that particular empathy rating, was analysed using reflexive thematic analysis (TA, Braun & Clarke, 2006; 2020). This process required the researcher to become immersed within the data through an iterative process to code aspects of responses (for example, according to a key feature) and generate wider themes.

Furthermore, Braun and Clarke (2006) discuss data in relation to different considerations for analysis, these are: rich vs detailed analysis, inductive vs deductive analysis, semantic vs latent themes and epistemological stance. In this study, themes are that which provide a rich, overall sense of the entire data set to provide insight into important recurrent concepts. Secondly, themes are generated inductively, using the data itself to formulate recurring notions within the data. Thirdly, themes were comprised of primarily semantic content, in which the meaning was apparent from the content, requiring little interpretive work. Finally, a theme can be said to be essentialist/realist meaning that the themes report the experiences and reality of the individuals within this study. This is especially pertinent given that the study seeks to understand how autistic people conceptualise themselves and experience empathy first-hand.

Data were initially processed utilising a complete coding method (Braun & Clarke, 2006), in which anything of interest or relevance to the research topic was highlighted – this generated a large number of data-driven codes. These were initially collated into a table of

extracts where we began looking for any codes with shared meaning that could be grouped together. Following this, we engaged in a process of actively seeking themes, looking for topics and extracts that were united around a central organising concept. Once themes were generated, we flexibly moved back and forward throughout the outlined stages, constantly checking codes, extracts and themes to ensure that our selected, developed themes were coherent and representative of meaningful patterns within the data.

Methodological Integrity

Reflexive TA is a useful method for exploring under-researched areas (Braun & Clarke, 2006), such as self-concept in autistic people, as it suits topics which directly relate to an individual's experiences and views. Data were generated by participants following minimal interaction with researchers – as the study was conducted remotely, the only interaction between researcher and participant was exchange of the study link. This minimises the impact of the researchers' background and any preconceptions they may have of the participant when collecting the data. Furthermore, this reduces the impact of research presence on the participant when undertaking the study.

Whilst the impact of the researcher is minimised in data collection, care needs to be exercised in data analysis. Braun and Clarke (2020) argue that themes cannot exist separately from the researcher, as they are generated by the researcher and mediated by the personal attributes that the researcher brings to the study; including personal, first-hand experience of being autistic (X), years of research into ASD (Y) and extensive experience utilising qualitative data (Z). Whilst the interpretation of qualitative data is mediated by the researchers, the present study utilises statistical analysis of quantitative data as objective measures. Furthermore, qualitative findings are grounded in the data generated by participants, with direct quotes

utilised to highlight participants' perspectives in their own words. As a result of this, the aim is to produce meaningful findings into empathic self-perception in autistic people, an area that is under researched hitherto.

Results

Statements

Two independent-raters coded the statements for the presence or absence of characteristics that commonly appeared in both groups' statements, for example 'caring'. Words that were synonymous with these characteristics were also coded as demonstrating presence of the general characteristic, for example 'kind' and 'considerate' relating to 'caring', with 'strong', and 'tenacious' relating to 'resilient'. It was understood that words that could refer to either physical or psychological traits (for example, 'strong') would be coded according to the wider context of the statements. For example, if a participant made only references to psychological traits, 'strong' would be interpreted to mean resilient rather than physically powerful and vice versa.

Cohen's kappa demonstrated a high level of agreement between raters, k = .98, 95% CI [.97, .99], $p = < .001$. This is above Landis and Koch's (1977) proposed cut off of .81 for almost perfect agreement – showing high interrater reliability.

The content of the statements varied considerably – as such, the 10 most frequently occurring psychological characteristics, from both groups combined, were selected for analysis. These were references to being: autistic, intelligent, caring, quiet, friendly, anxious, happy, funny, creative and resilient. In addition to this, references to relationships (for example, 'I am… a mother' and 'I am… a good friend) and physical traits (for example, 'I am… blonde' and 'I am… short') were analysed as these were frequently included by both the autistic group

and the non-autistic group. This resulted in a total of 12 themes being coded overall, identified in a total of 124 statements in the autistic participants and 133 statements in the non-autistic participants.

To investigate if autistic and non-autistic participants differed in how frequently they referred to these psychological characteristics, 12 chi-squared tests were conducted (see Table 2). Overall, there were significantly different frequencies in group references to a number of characteristics. Understandably, only the autistic group made references to being autistic., whereas the non-autistic group made significantly more frequent references to their physical traits and to being caring, happy and friendly. Despite this, there was no significant difference in frequency of references to being funny, intelligent, quiet, creative, anxious and resilient between the autistic and non-autsitic groups.

Additionally, the non-autistic group made more references to positive characteristics than the autistic group, which was identified when the statements of both groups were coded for the positive/negative valence of their statements. A Mann-Whitney U demonstrated equal distribution of types of statement (psychological traits, references to relationships and references to physical traits) between groups, allowing us to interpret the mean rank. The test showed significantly more common positive statements, across all types of statement, among the non-autistic participants (mean rank = 59.98) compared with the autistic participants (mean rank = 41.02), $U = 1{,}724$ $z = 3.29$, $p = <.001$.

Processes Demonstrated in Statements based on LIWC analysis

Word-count in statements made by participants was analysed utilising a a Mann-Whitney U, which demonstrated equal distribution between groups, allowing us to interpret the mean rank.

The test did not show any significant difference between the word count in the statements of the autistic group (mean rank = 51.80) compared to the non-autistic group (mean rank = 49.20), U = 1,185, z = -.45, p = .65, suggesting that participants in both groups approached the task in a similar way in terms of motivation and engagement.

Further Mann-Whitney U tests demonstrated that overall, there was no significant difference between the ratio of psychological processes to wordcount for the autistic group, compared to the non-autistic group. However, the test showed unequal distribution, requiring interpretation of the median value. As such, the ratio of psychological processes to word count for the autistic group (*mdn* = 1.40) and the non-autistic group (*mdn* = 2.48), showed no significant difference, U = 1,463, z = 1.47, p = .14.

Interestingly, variation between groups was found when the psychological processes were analysed by the three individual components that make up this category overall: affective processes, social processes and cognitive processes. The ratio of affective processes per word count was significantly higher in the non-autistic group (mean rank = 57.29) compared to the autistic group (mean rank = 43.71), U = 1,590, z = 2.34, p = .02.

The ratio of social processes per word count was significantly higher in the non-autistic group (mean rank = 58.64) compared to the autistic group (mean rank = 42.36), U = 1,657, z = 2.82, p = .005

No significant difference was found in the cognitive processes per word count – regarding references to insight, causation, certainty and differentiation: non-autistic group (*mdn* = .33) compared to the autistic group (*mdn* = .45), U = 1, 378, z = .89, p = .37.

Empathy Ratings

Participants were asked to rate how empathising they perceived themselves to be on a scale of 0 - 10. The autistic group's ratings had a range of 0 - 10, whilst the non-autistic group's ratings had a range of 2 - 10. A Welch's *t*-test was conducted to compare the mean empathy rating of the autistic and non-autistic. This test is robust in the face of homogeneity of variances being violated, as demonstrated by Levene's test for equality of variances (p = .002). As hypothesised, the autistic group had a lower mean rating of empathy (M = 6.28, SD = 2.43) compared to the mean rating of the non-autistic group (M = 8.02, SD = 1.65), $t(86.12) = -4.19$, $p < .001$, revealing a large effect of $d = .8$ (Cohen, 1998 in Lakens, 2013). Participants who gave a rather high rating of empathy also tended make positive statements about themselves relating to other characteristics, as demonstrated by a Spearman's rank-order correlation $r_s(98) = .27.$, $p = .01$.Finally, there was no evidence to suggest that the age of diagnosis was associated with low perceived empathy in the autistic group, $r(48) = -.23$, $p = .12$.

Empathy Description

After providing a self-assessment of empathy, participants were asked to justify their rating with either an explanation or an example. A reflexive thematic analysis was conducted on the 100 narratives (50 from each group) based on Braun and Clarke's (2006) analytical process. Please see Braun and Clarke (2006) for an outline of the process. Participants have been identified with a letter (A for autistic group, NA for non-autistic group), their sex at birth (M for male, F for female) and a participant number. Spelling and grammatical errors within the data were corrected to allow greater readability of the extracts. Editing, solely to remove unnecessary detail, is indicated by '…'.

The analysis resulted in four prominent themes – each of which was composed of two smaller subthemes. Themes appear in Table 3.

Cognitive Empathy (Mental State Recognition)

The theme of cognitive empathy refers to the ability to identify other individuals' thoughts and feelings (that is, their mental state). There were references to this in both groups - with autistic and non-autistic participants noting that they were able to recognise other peoples' mental states with relative ease. Despite this, there were reports of difficulty identifying others' mental states – though noted in both groups, this theme was primarily found in autistic participants.

Ability to Recognise Others' Mental States

This subtheme represents the ability of participants to recognise other people's mental states, particularly with reference to their thoughts or feelings, for example, *'I'm good at understanding and reading people's feelings, thoughts and their attitude'* (NAM17). Often this was made in reference to being able to pick up on *'signs'* (NAM6), which may suggest reliance on common sources of information to determine mood, for example, using information about facial expression and behaviour to infer someone's mental state.

Participants in both groups made reference to being able to identify others' mental states with ease, *'I am known for my ability to detect what patients… are feeling' (AF17).* Frequent reference to this ability across both groups, and the suggestion that this came fairly easily '*I can see someone's situation… clearly'* (AM5), suggested that this was second-nature to many autistic and non-autistic participants.

Furthermore, participants made frequent references to phrases which have become commonplace in society. For example, there was recurrent reference to the metaphor of 'putting yourself in another's shoes', *'I can put myself in another's shoes… I pick up on moods'* (AF22)

and *'it's easy for me to put myself in other's shoes'* (NAF3), perhaps representing that this term is commonplace for the ability to cognitively empathise. Alongside this, participants referred to their ability to '*read people'* (AF14) as though identifying another's mental state, or interpreting an emotional situation, is akin to reading a book.

Difficulty in Recognising Others' Mental States

This subtheme is characterised by references to difficulty with cognitive empathy, which was primarily found within the autistic group. In this sense, autistic participants highlighted that they often find it difficult to identify others' thoughts and feelings '*I cannot relate to other people's problems or put myself in their shoes' (AF20).* In some cases, it was suggested that participants are unable to identify others' thoughts and feelings. Contrastingly, other narratives suggested that participants were are able to identify others' mental states but may have required more concrete, extreme displays of emotion– *'it is often necessary that I see people crying or shouting that I notice…angry but with a such longer delay than normal people'* (AM25), and *'if someone… is upset… I don't see that they are struggling right away'* (NAM24) suggesting potential difficulty when displays of emotion are more subtle.

Nonetheless, there was evidence to suggest that this difficulty is characterised by a lack of ability to identify others' mental states, rather than a lack of willingness, *'It's not that I don't care, I just can't jump in others' shoes'* (AM7). This is an important distinction to make as difficulty with identifying others' mental states may be interpreted as autistic people being 'ignorant' or 'uncaring', when this theme suggests that this is not the case. Rather, it seems that some autistic people may feel they are unable to understand, which starkly contrasts with a lack of motivation or willingness to identify others' mental states, *'If I am upset about something and someone is upset about the same thing the next day, I can't understand'* (AF5).

Affective Empathy (Sharing Another's Feelings)

The theme of affective empathy refers to the participants' ability to share another's feelings. Both groups contained both themes of being able to share another's feelings and the lack of this ability.

Ability to Share Another's Feelings

This subtheme is characterised by ability to personally share and take on another's feelings, '*'When someone is sad, I can feel his pain'* (AM8)**.** This was often described in terms of being consumed by another's feelings, such that the other person's feelings became their own, '*my heart hurts because it knows that their's hurts*' (AF15). This suggested a more intense and experiential response to someone's feelings characterised by sharing the given emotion with them, rather than responding to the others' emotion with a different, appropriate one, for example, responding to someone's sadness with sympathy, *'When I see someone in pain… I tend to carry the weight of their anguish and feel it myself'* (AF24).

This theme represented the personal impact that anothers' emotions had on individuals, which was found across both groups, *'I am often that focused on what the other person is feeling, I completely fail to register my own feelings'* (NAM22). There was a strong sense that people become wholly engaged with another's feelings, particularly of distress, even when the other individual is not known to them, for example, when others are represented in the media: *'even in television programmes… I feel as if I take on a lot of the emotion'* (NAF6) and *'I often get extremely remorseful towards situations that don't directly affect me, like the situation with migrants or when people have their animals put down'* (AF3). Though this is likely to take an emotional toll on people, this subtheme suggested that those who share others' feelings so

intensely do not begrudge this, but rather approach this with a caring mentality, '*I care about others and feel their pain'* (AF22) and '*If you feel it, I'll feel it. If you cry, I'll cry'* (NAF13).

Difficulty with Sharing Others' Feelings

This subtheme encapsulates participants' inability to share others' feelings, which emerged from both groups, '*'I don't feel any emotions when I hear about people or animals being killed or injured'* (AF20). This highlighted that some people, both autistic and non-autistic, do not feel an emotional response in relation to another's feelings. Most frequently, this theme was characterised by a suggested lack of ability to share another's emotional state, *'It's easier for me to say "I don't know what to say" than to… share what they feel. It's something I just can't do'* (AM7).

Contrastingly, other narratives highlighted that there was a reluctance, or in some cases refusal, to allow another's feelings to impact them, '*It's not that I don't feel sorry for people… I just don't feel that should affect my daily life in any way'* (NAM11). There was suggestion that this may be the case because other people's feelings are too overwhelming, in addition to one's own, '*I had no capacity to feel for her'* (CM8), which may suggest that disconnection from others' feelings could be self-protective. In other cases, it seemed that participants struggled to make sense of why someone would share another's feelings, giving the sense that it is an unusual behaviour, *'I don't understand why some people get upset if others around them are crying'* (NAF23).

Empathic Development

This overarching theme relates to empathic development, that is, how individuals have come to be empathising or have developed this skill further. Narratives from the autistic group suggested that participants have learnt and developed empathic capacity over time, akin to developing a skill. Both groups highlighted how individuals draw on their own experiences to better understand others' feelings.

Empathy as a Learned Skill

This theme captured the notion that empathy had not come naturally to participants, instead they had worked hard to master identifying and understanding others' feelings, *'I can empathise, it isn't something that comes naturally to me and it's definitely something I have had to work at'* (AM1). This sub-theme was exclusively noted within the autistic group, with narratives suggesting that this process happened over a considerable period of time, *'after years of study and practice, I am very good at identifying likely emotions'* (AM9). Interestingly, despite reference to empathic development requiring conscious effort, rather than it occurring naturally, there was evidence to suggest that participants felt their ability to empathise (following this period of development) was comparative to those who have not had to actively hone this skill, '*it is a learned skill that has become second nature to me'* (AF17). As well, there was suggestion of an understanding that empathy is expected of us in society, *'I'd now say that I'm quite satisfactory at being able to empathise in a socially acceptable way'* (AF21), which may highlight why autistic participants had made such a conscious effort to master this skill.

Drawing on Personal Experiences

This subtheme demonstrates participants frequently referring to using their own life experiences when empathising with another, '*'I know what it's like to be treated unfairly and can therefore empathise with people's struggles'* (AF3), this was a frequently occurring sub-theme across both participant groups. This subtheme suggests that participants found it easier, to empathise with someone if they had shared a similar experience to what the other person was going through, *'Some situations are easier than others to empathise with, such as those where I have had similar things happen'* (AM1). This suggests that people may draw on their knowledge about their own feelings in given situations, in order to empathise more effectively with someone experiencing something similar, *'When a colleague had a miscarriage, I was able to use my own experience of loss… to understand how she was feeling'* (NAM15).

Within both groups, some participants expressed greater difficulty in empathising with someone if they had not shared a similar experience, *'I… struggle where they are experiencing something I have not personally experienced'* (AM6). However, in these cases, it may be that individuals are able to empathise as effectively, but may be less confident that they are understanding the others' feelings correctly, *'Unless you've experienced something yourself, you can never quite understand what people are going through'* (NAF14).

Responding to Others

This theme captures participants referring to their response to others following empathising. The sub-theme of desires and attempts to help others was present across both participant groups. Contrastingly, the subtheme of difficulty in knowing how to respond practically in situations was only present amongst autistic participants.

Desires and Attempts to Help Others

This subtheme was present across both autistic and non-autistic participants; it represented both the desire to respond to another's emotional experience and actual attempts to do so, *'I don't like anyone to suffer… I'll always try to heal it in people where and whenever I can do'* (AF15). There were strong narratives of wanting to help others across both groups, *'I… really want to help*' (AM22).

Participants referred to caring for others and wanting to improve their situations, or reduce their suffering, to the best of their ability, *'whenever someone is in pain physically or emotionally, I try to help'* (AF10). Within this subtheme, participants referred to attempts to help people emotionally, *'I would always try to minimise the discomfort felt by another individual'* (NAF6), as well as practically, *'I've taken my friends to doctors appointments… I've helped them seek out therapy'* (CF18).

Furthermore, attempts to help others frequently appeared to be selfless acts to support individuals in times of distress; there were no references to helping others with self-centred motivations or for self-gain, '*I… will go out of my way to cater to them [others]'* (NAF1).

Interestingly, participants seemed to want to respond in a person-centred manner, that is, participants referred to wanting support others in a way that still upheld their autonomy and respected their wishes, demonstrating awareness of nuance in people's needs and people's ability to accept help, '*I… try to help them as much as I can and as much as they would want me to'* (NAM3).

Difficulty in Knowing How to Respond

This subtheme encapsulates participants being able to identify another's emotional state (that is, being able to affectively empathise) but experiencing difficulty in knowing how to respond practically and in a socially appropriate way, '*I can understand most emotions but I don't know how to respond properly'* (AF8). This demonstrates an awareness that there is a 'proper' (which could be interpreted as 'socially appropriate') way to respond to others in response to their feelings, suggesting that one can get things 'right' or 'wrong'.

As such, there is nuanced difference between the previously discussed theme (difficulty sharing others' feelings) and the present theme in that, in this theme, individuals may understand how another is feeling but may remain unsure of how to respond outwardly following this, *'I can see someone's situation fairly clearly. I am really slow at deciding a correct response'* (AM5). This suggests that in instances where autistic people may not visibly respond to others' distress, this may be a result of uncertainty or a fear of getting things wrong, rather than a lack of desire to help, *'I do empathise with people and really want to help, however, I don't always know how'* (AM22).

Discussion

This research investigated how autistic and non-autistic people perceive themselves both generally as well as specifically in their capacity for empathy. Overall, the findings suggest that autistic people have a rather less positive impression of themselves compared with non-autistic people. Specifically, they rated themselves as being less empathising than non-autistic individuals. It is worth considering whether these differences are explained by autism or whether are they explained by other group differences that happen to coincide with autism. For example, maybe the groups differed in aspects of demographics or in levels of motivation/engagement with the task. This seems unlikely, however, as the demographic

information we captured suggested the two groups were similar. Moreover, the two groups supplied similar amounts of information (according to word-count), suggesting they were similarly motivated and engaged. Another possibility is that the autistic participants experience higher levels of alexithymia than non-autistic participants (Kinnaird, Stewart & Tchanturia, 2019), meaning that they have difficulty expressing inner states. As mentioned, though, there is little sign of general quantitative and qualitative differences between groups in producing narrative on inner states in this study. While there are various other potential differences between the two groups not measured in this study that could explain the findings reported here, it seems plausible to suggest tentatively that differences between groups are indeed explained by autism, or autistic people's experiences.

The two groups generated similar narratives about themselves in some areas, specifically in the number of references to five traits, including: being intelligent, funny and anxious. Furthermore, the autistic participants made a similar number of references to relationships. Nonetheless, the groups differed in their number of references to five other traits, such as: being autistic, friendly and caring. There was also a difference in the number of references to physical traits, to which the non-autistic group made more frequent references, which contrasts with previous research (Jackson, Skirrow & Hare, 2012).

Not surprisingly, autistic participants made more references to being autistic than the non-autistic group. This finding is noteworthy in relation to Tan's (2018) research on biographical illumination following diagnosis. Tan (2018) found that being diagnosed with autism often enhanced people's self-identity, giving them greater clarity about their personality and behaviours, such that this was positively incorporated into their self-concept, something that has been demonstrated in further studies (Cooper et al., 2021; Kenny et al., 2016). In this sense, the results from the present study could be interpreted to mean that autistic people are accepting, and in some cases may be proud of this part of their identity, considering that they

refer to autism within the first few statements about themselves. If so, this could be attributed to the growing prominence of the neurodiversity movement which has pushed for greater acceptance of different mindsets (Kapp et al., 2013), proposing that variations in the way we process things are a natural part of genetic variation, like having different hair colours. However, whilst 'autistic' was referenced in the statements, it remains unclear as to whether participants in this study meant this in a positive, negative or even neutral way (Gillespie-Lynch et al., 2017; Botha et al., 2022), akin to the likes of 'I am tall'; exploration of this could provide a route for future research.

The two groups differed significantly in the proportion of references made to being *happy*, with more non-autistic participants making references to this state. One might argue that non-autistic participants are simply more happy than autistic participants; nonetheless, there was no significant difference in the proportion of references to being anxious and neither group made frequent reference to being sad or depressed. These findings seem contradictory, though it may be that non-autistic people are more aware of the societal pressure for people to be happy in life (Dejonckheere & Bastian, 2021), and thus, conform to this in their statements when it may not be the case. This tendency to report well-being (for example, being happy) because we believe this is what is expected of us, has been previously found (Brajsa-Zganec et al., 2011; Heintzelman et al., 2015) in non-autistic participants. Nevertheless, the possibility that autistic people generally feel less happy than non-autistic people is highly consistent with a prediction from the 'Double Empathy' account of autism (Milton, 2012). Mitchell et al. (2020) argue that being misperceived and misunderstood by the neurotypical majority, which is the central tenet of the 'Double Empathy Problem', will likely lead to a state of unhappiness. Hence, perhaps our autistic participants described themselves as happy less frequently than our our non-autistic participants, principally because they are misperceived and misunderstood. Indeed, previous research has demonstrated a higher incidence of mental health problems

within the autistic population, with autistic people being four times more likely to experience depression than typically-developing people (Hudson et al., 2019). As such, findings reported here could genuinely reflect a lower feeling of happiness among autistic people.

Moving on to self-perceptions of empathy, as mentioned, autistic participants rated their capacity less positively compared with non-autistic participants. Autistic participants also made fewer references to being 'caring' and 'friendly' in their self-description statements, all of which can be considered as aspects of pro-social traits (Ruci et al., 2018). Perhaps autistic people have rather low estimations of their pro-social functioning, something that demands an explanation. One possibility is that they actually lack such ability (Baron-Cohen et al., 1997; Mazza et al., 2014) and are also aware of this. However, the findings of the present study suggest a more complex picture, in accordance with research by Song et al. (2019). Whilst the theme of difficulties in identifying others' thoughts and feelings (indicating cognitive empathy) was primarily found in the autistic group, it was also noted within the non-autistic group. This could suggest that although this difficulty may be more prevalent in autistic individuals (in accordance with previous research, for example, Jones et al., 2010), it is nonetheless a feature in non-autistic people also. Although the autistic group demonstrated the theme of difficulty with cognitive empathy, they exhibited themes of affective empathy - that is, that they reported sharing feelings with other individuals in an empathic way. This further supports the Empathy Imbalance Hypothesis (Smith, 2009) which posits that autistic people can *affectively* empathise but may exhibit greater difficulties with cognitive empathy (Sucksmith et al., 2013), resulting in empathy disequilibrium (Shahlev & Uzefovsky, 2020) in which these two components are unbalanced in autistic people.

However, it does not necessarily follow that low self-estimations of empathy in autism are accurate; rather, it could be that despite being able to effectively empathise, autistic people have absorbed a prevailing narrative in society that autistic people lack such skills (Botha et

al., 2022; Fletcher-Watson & Bird, 2019; Han et al., 2022), and then echo this narrative when describing and evaluating themselves. Bertilsdotter Rosqvist and Jackson-Perry (2021) call this phenomenon 'epistemic infection,' where a person's view of themselves is coloured by collective knowledge that prevails in wider society about the kind of person they are. This seems especially pertinent to consider given the presence of powerful, affective empathy responses in autistic people in which they are overcome by another's emotion (demonstrated by the qualitative data), which are comparable to responses in people who are not autistic.

Previous research demonstrates that stigma can have an impact on identity development (Shtayermman, 2009; McDonald, 2017). If this were the case, then there may be an association between age at diagnosis and self-perceived empathy score, with those having been diagnosed earlier having a greater period to observe and internalise this discourse around autism. However, there was no evidence of a correlation between age at diagnosis and empathy rating. Nonetheless, the pervasive stigma about autistic people being incapable of empathy is widespread and societally harmful (Gernsbacher & Yergau, 2020). Consequently, we should not rule out the possibility that internalised stereotypes impact identity development, leading to fewer references to being 'friendly' and 'caring' in autistic participants, along with associated lower ratings and more negative narratives around other aspects of empathy (Wood & Freeth, 2016).

Such stereotypes have potential to negatively impact on the development of people with autism, as implied by the 'Double Empathy Problem' (Milton, 2012). Specifically, non-autistic people's misunderstandings are perhaps coloured by unhelpful stereotypes that prevail in society. In turn, these stereotypes, to which autistic people are exposed, might lead autistic individuals to have a poor estimation of their own abilities, especially in prosocial capabilities relating to empathising. Ironically, this could lead to a sense of thwarted belonging and associated issues with mental health in autism (Mitchell et al, 2021). In summary, while the

'Double Empathy Problem' (Milton, 2012), has mainly concentrated on how different groups misperceive or misunderstand each other, the findings reported here add to that picture by highlighting how this can also impact on the way individuals perceive (or possibly misperceive) themselves.

Limitations

It is important to acknowledge a number of limitations with this study. Firstly, we did not collect data regarding participant demographics (for example, ethnic or socio-economic background) or cognitive ability; it is therefore possible that the statements and empathy ratings provided reflect experiences other than a purely autistic experience. Despite this, autism does not occur in isolation and it is helpful to gain insight into these experiences through an autistic lens alone. Further, the empathy definition provided to participants was 'a person wjo is empathising has the ability to identify another person's experience (for example, thoughts and feelings) and respond to them with an appropriate emotion'. This is nuanced from the definition of affective empathy (sharing another's feelings) and may have primed participants to focus on sympathising rather than empathising. Nonetheless, this is offset by the findings in the thematic analysis which clearly demonstrate accounts of sharing another's feelings (affective empathy).

Conclusion and Implications

This study sought to increase the voice of autistic individuals within autism research. A wealth of previous research has focused on either asking autistic participants to complete measures or engage in experimental procedures, or by asking close relatives for their views (Chown et al., 2017). This study is notable in directly asking autistic people to provide their first-hand views and experiences, rather than elucidating these through indirect means, which

has been longstanding practice in autism research (Milton & Bracher, 2013). This has enabled greater insight into the first-hand views of autistic people, expanding our knowledge on their self-concept and highlighting the numerous similarities between their views and the views of non-autistic people. This emphasises the importance of inclusive research where the voices of the community are the focus of the study.

The findings revealed a degree of similarity in narratives between autistic and non-autistic participants, which may challenge the tenet of the long-prevailing deficit-based models of ASD (Dinishak, 2016; Chapple et al., 2022). Nonetheless, the results demonstrated a distinct lowered estimation of empathic abilities among autistic compared with non-autistic participants. This difference between groups might reflect a tendency for autistic people to adopt a prevailing societal stereotype about 'empathy deficits' in autism (Kimber, Verrier & Connolly, 2024). If so, this could qualify as an insidious instance of the 'Double Empathy Problem', where widely held misunderstandings and misperceptions of autism are detrimental to positive self-concept and feelings of wellbeing in autistic people. Whilst the study is limited by numerous factors, rendering the conclusions tentative, the findings remain important in having demonstrated the important insights generated by focusing first-hand on autistic people's experiences.

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Footnotes

[1] This paper will use identity-first language to refer to autistic people, to reflect the preferences of many self-advocates in the community (Kapp et al., 2013; Kenny et al., 2016).

Tables

Table 1

Participant Demographics

Variable	Autistic Group	Non-Autistic Group
Gender (*n)*		
Male	25	25
Female	25	25
Mean age in years *(SD)*	35.5 (13.2)	31.4 (12.3)
Age at Diagnosis *(SD)*	30 (16.4)	
Male	31.2 (19.5)	
Female	28.7 (19.5)	

Table 2

Comparison of References to Traits Between Groups in Descending Order of Total Frequency.

Reference	Number of references		X^2	*p*	*Strength of Association (Cramer's V)*
	Autistic	**Control**			
Relationships	17	16	.05	.83	
Physical Traits	3	10	4.33	.04	.21 (.04)
Caring	17	27	4.06	.04	.20 (.04)
Funny	9	12	.54	.47	
Happy	5	14	5.26	.02	.23 (.02)
Autistic	19	0	23.46	<.001	.45 (<.001)
Intelligence	17	11	1.79	.18	
Quiet	8	7	.08	.78	
Creative	11	10	.06	.81	
Anxious	8	10	.27	.60	
Friendly	3	12	6.35	.01	.25 (.01)
Resilient	7	4	.92	.34	

Table 3

Themes and Subthemes from Reflexive Thematic Analysis

Theme	Subthemes
Cognitive Empathy (Mental State Recognition)	• Ability to recognise others' mental states • Difficulty with recognising others' mental states
Affective Empathy (Sharing Another's Feelings)	• Ability to share another's feelings • Difficulty with sharing others' feelings
Empathic Development	• Empathy as a learned skill • Drawing on personal experiences
Responding to Others	• Desires and attempts to help others • Difficulty in knowing how to respond