



Experiencing Intimate Relationships and Sexuality: A Qualitative Study with Autistic Adolescents and Adults

Ana Beato^{1,2,3}  · Mariana Reis Sarmento¹ · Mariana Correia²

Accepted: 25 February 2024
© The Author(s) 2024

Abstract

Romance, intimacy, and sexuality are crucial elements of human well-being. However, they have gone unnoticed and insufficiently explored among individuals with neurodevelopmental difficulties, namely among autistic people. Autism Spectrum Disorder (ASD) is a neurodevelopmental disability characterized by repetitive and stereotypical behavior, interests, or activities and by difficulties in interpersonal relationships and verbal and non-verbal communication. Preliminary studies reveal that, although most wish to relate intimately with other people, several autistic individuals tend to isolate themselves and engage in individual sexual behaviors. Despite the importance of this topic, few studies have looked at it in depth nor included the unique perceptions of autistic people about topics such as romantic and intimate relationships or sexuality. To fill that gap, we have designed a qualitative, cross-sectional and exploratory study that sought to explore the perceptions and experiences of autistic people about romance, intimacy and sexuality. Twenty-two autistic teenagers and adults (63.6% female) aged between 15 and 45 years, consented to participate in individual in-depth, semi-structured interviews. The transcripts were examined with thematic analysis. The results highlight three main themes: Intimate relationships, sexuality, and sex education. The negative impact of autistic characteristics in sexuality and sexuality was highlighted by the participants. Understanding the difficulties and the needs of autistic people will increase awareness regarding this topic and improve assessment and interventions related to romantic relationships and sexuality. Furthermore, our study sheds light on the importance of developing tailored and adequate sex education programs and tools for the difficulties presented by autistic youth.

Keywords Autism · Intimacy · Sexuality · Relationships · Qualitative study

Ana Beato and Mariana Sarmento share the first authorship of the manuscript.

✉ Ana Beato
ana.beato@ulusofona.pt

¹ Partners in Neuroscience (PIN) clinical center, Paço de Arcos, Portugal

² Lusofona University, Lisbon, Portugal

³ Digital Human-Environment Interaction Lab (HEI-Lab), Lusófona University, Lisbon, Portugal

Introduction

Autism Spectrum Disorder (ASD) is a chronic and heterogeneous neurodevelopmental condition [1]. Approximately 1/100 children are diagnosed with ASD worldwide, and there is a global ASD median prevalence of 65/10,000 [2]. The prevalence of ASD seems to be 1% of the population, with similar rates in child and adult samples [3]. The prevalence of ASD appears to increase over time and vary within and between sociodemographic groups [2]. The diagnostic criteria for ASD in the Diagnostic and Statistical Manual of Mental Disorders – Fifth Edition (DSM-5) are divided into three levels of intensity: mild, moderate, and severe. In the present study, the emphasis was placed on mild autism (i.e., well-functioning autism or Asperger’s Syndrome, as it was called in the previous version of the diagnostic manual). ASD often cause clinically significant difficulties in social, occupational, or other important areas of current functioning [3] and is characterized by deficits in two central areas – social communication/interaction and repetitive/restricted patterns of behaviour, interests, or activities [1]. Restricted and repetitive patterns should cover at least two: highly restrictive interests, insistence on monotony, hyper or hyposensitivity to sensory stimuli, or stereotyped movements [3]. Social communication deficits usually encompass problems in reciprocity, relationship development and maintenance, and nonverbal communication [4–6]. Consequently, this difficulty can negatively affect the adequate expression of attraction and sexuality [7]. Besides the crucial role of romance and sexuality in life, the vast literature dedicated to autism is still more focused on children rather than in older developmental stages, neglecting the comprehension of several dimensions of adolescence and adulthood. In the last decade, the majority of studies dedicated to sexuality in autism were centred on sexual victimization [8, 9], sexual offending [10] and paraphilias [11, 12]. Understanding and characterizing sexuality, intimacy and romance among autistic people is fundamental, especially during developmental transitions across the lifespan [13].

Furthermore, many studies have not only shown inconsistent and unclear findings, but also emphasised the difficulties and adversities, which are not in line with contemporary positive and comprehensive approaches to sexuality. Although some previous studies have shown that there tend to exist difficulties in initiating and maintaining romantic and intimate relationships [14], autistic people exhibit similar levels of interest in relationships and in intimacy when compared with neurotypical people [15]. Several studies highlighted the importance of address specific needs and difficulties of this population, such as a delay in initiation of romantic and intimate relationships [16], an increased difficulty to maintain longer relationships, and the presence of various concerns regarding their ability to engage and adapt to romantic and intimate relationships [17]. These difficulties seem to be due to limited social and communication skills. Autistic individuals struggle with interpreting non-verbal communication, initiating and maintaining conversations, expressing and identifying interpersonal cues and emotions, recognizing boundaries, social anxiety, making is difficult to understand flirting, and intimacy in romantic relationships, and eventually leading to discomfort or boundary crossing e [e.g., 18]. Many autistic people also face challenges related to confusion associated with relationships, lack of exploration of sexual orientation, intolerance to uncertainty in relationships, fear of rejection, and not knowing how to find partners and how to initiate romantic interactions [19–21].

Regarding sexuality, seminal studies suggested that autistic individuals were perceived as predominantly “asexual” as they did not evidence significant sexual interest when ques-

tioned by researchers [21]. However, there is growing evidence that contradicts this preliminary idea. Most autistic people, especially those without cognitive impairment, are interested in sexuality and want to aspire to have intimate relationship with others [22]. Plus, concerning sexual identity, various studies have consistently shown that sexual orientation in autistic people varies significantly more than in the neurotypical population, with a predominance of non-heterosexual orientations [23]. Gender identity seems to be related to autistic traits, and this population has higher percentages of discomfort with sex at birth [24]. Knowledge about sexuality tends to be characterized by this population as selective and confusing, sometimes creating a distorted image of sexuality [18].

The increased evidence on the relevance of comprehending intimacy and sexuality in autistic people highlights the urgency to adapt sex education (SE) programs to autistic people. Prevention psychoeducational programs and interventions should include, among other issues, knowledge about sexuality and sexual rights, understanding of their bodily functions, sexual satisfaction (individual and interpersonal), expression of their needs and emotions, boundaries and assertiveness training, and practice the social skills that romantic and intimate relationships require [25, 26]. Comprehensive sexuality education (CSE), as an inclusive, affirming and positive approach to human sexuality and well-being [27], represents an effective response to the specific needs of autistic people. In the same line, evidence confirms that CSE programs prevent homophobic bullying, child sex abuse [27], intimate partner violence [28], and risk factors associated with sexual violence perpetration [29], which is particularly important to prevent in this population. Also, these programs seem to improve knowledge about gender and gender norms and the necessary skills to maintain healthy relationships [27]. Although this logical conclusion, studies rarely explore autistic people about their needs regarding sex education and intervention. In this study, voice was given to them, providing an opportunity for autistic people to express their specific needs, challenges and opinions. Literature confirms that this population has been neglected regarding SE programs, especially at younger ages [30]. There is robust evidence revealing that autistic people get less education about sexuality, both formally (through school or support services) and informally (through family or social networks). Studies show that they frequently use non-formal information, such as the internet, television, and pornography, as resources for sex education, which might reinforce distorted and unrealistic representations of sexuality [31]. In the study by Barnett and Maticka-Tyndale [16], autistic participants complained about their SE, because it tends to be thought for the heterosexual population with neurotypical development. Furthermore, young autistic people often feel confused when learning about sex and sexuality because their experience is different from the neurotypical young people. For instance, the rigidity of thought, difficulties in reading others' intentions [30], and the struggle to recognize bodily sensations, such as feeling aroused, are common problems rarely included in traditional SE programs [32]. Autistic people also reported that the current SE gives particular emphasis to information related to biological aspects and safety rather than on other issues important to them (e.g., emotions, dating, sexual orientation, and masturbation) [25]. Still, some improvements in adult sex education and sexual health have been emerging, which suggests that sexual knowledge is only being acquired after adulthood [33].

In summary, autistic people, especially those without cognitive deficits, are interested in romantic relationships and sexuality, but ASD difficulties seem to affect their individual and psychosocial well-being negatively. To better comprehend idiosyncratic needs and chal-

allenges of autistic people concerning romance, intimacy and sexuality, we have designed the present study, focusing on their perceptions, experiences, preferences and opinions about these topics. This qualitative research explored autistic adolescents' and adults' perceptions of romantic and intimate relationships, sexuality and sex education. Semi-structured interviews were conducted, aimed to respond to the following research questions: “How do autistic people perceive and define their romantic and intimate relationships?”, “How do autistic individuals perceive and express their sexuality?”, “How do autistic people perceive sex education, and which resources and interventions could be adapted to neurodivergent people?”. This study intends to improve our knowledge about the experiences and perceptions of autistic people concerning romance, intimacy and sexuality, which fosters adapted sex education, tailors counselling and intervention to autistic young people and adult's needs, and promotes positive experiences in these important areas of human life.

Methods

Participants

The study included 22 people diagnosed with ASD, aged between 15 and 45 ($M=23,73$; $SD=9,89$). The participants were recruited in a clinical Centre, in conditions and autistic associations from the community. Almost half of the participants (45,5%) lived in the Lisbon district, although other districts were represented (i.e., Porto, Aveiro, Setúbal, Beja, Santarém, Leiria, Faro, Vila Real, Viseu). Most of the sample (72,7%) had secondary education (high school), and other participants had basic education or higher education (bachelor's, master's, or doctoral degree).

Regarding gender, five participants identified as male (22,7%), 14 as female (63,6%), one as non-binary (4,5%), one as undefined (4,5%) and one as demigirl (4,5%). Almost half of the participants (40,9%) do not feel completely comfortable with the sex they were born into. Concerning sexual orientation, 50% of the sample identifies as heterosexual. 10 participants (45,5%) were in a romantic. These relationships' length ranged from 4 months to 28 years. Sexual difficulties were also assessed, and 45.5% of the sample declared to struggle with different aspects of their sexual intercourse, to which the subjects attributed a mean impact in their life and well-being of 3 (range 0 to 5).

Measures

A sociodemographic questionnaire was used to gather data on age, gender, sexual orientation, location, education level, marital status, and cohabitation, among other pertinent information. A semi-structured interview script, specially created to address the goals of this study, was then used. The questions of this interview were prepared by the AB and MC and had the collaboration and consultation of a psychologist specializing in autism in adolescents and adults. This interview contained open-ended questions aimed to explore diverse areas such as the development of sexuality, aspects related to the body and nudity, the relationship with touch, experiences of intimate contacts and sexual behaviors, the development and maintenance of relationships, the characteristics of interest in a partner and the explora-

tion of aspects related to sex education (see supplementary material). The interview had an average duration of 40 min.

Procedures

The Scientific Research Ethics and Deontology Committee of the School of Psychology and Life Sciences of Lusófona University approved the study. The study was advertised in a Development Center, PIN-Partners in Neuroscience, and the Voz do Autista Association. A non-probabilistic convenience sampling was used, with the following inclusion criteria: (a) being at least 15 years old; (b) having a diagnosis of well-functioning ASD (level 1); (c) having no significant cognitive and/or language impairments. Participants were invited to collaborate in the study through their doctors and therapists or via email. Initially, the research team emailed more information about the study. Then, informed consent was sent and collected from all the participants and legal representatives, containing all essential ethical and deontological issues. Before starting the data collection, training was carried out in the application of the interviews. In turn, a pilot interview was conducted with a voluntary autistic participant to assess the eligibility and comprehension of the questions in the script's first draft. Consequently, some questions were adjusted and reformulated to include clearer, more concrete, and more inclusive language.

Two research team members, through Zoom, carried out the interviews from February to July 2021. Before starting the interview, participants were informed they could withdraw and did not have to answer all the questions. A maximum limit of participants was not defined a priori, and the collection ended when an acceptable theoretical saturation point was reached.

Data Analysis

The present empirical study has a qualitative design and is also, cross-sectional, and exploratory. Data were inductively analyzed using reflexive thematic analysis [34, 35] because we were interested in the meanings participants attributed to the experiences. This strategy made it possible to recognize trends throughout our whole data set and allowed for a theoretically informed interpretation of the results. The method allows the identification, analysis, and report of patterns in the data, organizes and minimally describes the data set in rich detail, and interprets various aspects of the topic of the investigation [36].

The first step of the analysis was to ensure the familiarization of the data, which was carried out through the transcription and repeated reading of the interviews to generate relevant initial codes of characteristics of interest in the data, which were later grouped by themes [34]. MC then coded inductively, using Microsoft Word and Excel to underline important text parts with descriptive codes. The authors coded various codes and convened regularly to evaluate and debate the codes. In addition to generating codes at the semantic (explicit) levels, such as concrete flirting experiences that influence the approach to other people, they also coded data at the latent (hidden) level, exploring implicit ways in which romantic and sexual experiences were constructed (for example, attitudes and feelings toward masturbation were sometimes completely different, generating opposite trends in responses). Following coding, the team began the collaborative process of designing, testing and reviewing

possible themes. This iterative process entailed returning to the interviews to see if the emerging themes aligned with the coded concepts [34].

It was verified if the themes worked about the excerpts and the data to create the thematic map of the analysis [34]. Themes have been improved, with clear definitions and names. That said, there was agreement in the results. A new analysis was carried out using the NVivo 12 program (QSR International Pty Ltd., 2018), confirming the chosen themes' relevance to the data.

Results

Rather than reflect discrete topics, the transcripts evidenced diverse interconnected issues. The participant's shared rich responses. Three themes (i.e., intimate relationships, sexuality, and sex education) and their subthemes emerged from the thematic analysis (see Fig. 1).

Intimate Relationships

The following subthemes emerged from Intimate Relationships: Barriers and facilitators to the approach, ASD impacts on intimate relationships, reasons why relationships work, efforts to maintain relationships, and the good and the bad of the end.

Regarding the subtheme *barriers and facilitators to the approach*, most participants struggled with the first phase because they didn't know how to express attraction and interest in another person due to the lack of the required social skills. An adolescent has said: "It's hard to show interest because I don't know how to do it" (16, male, heterosexual). Participants did not know what to say or what to do during the flirting process. The nega-

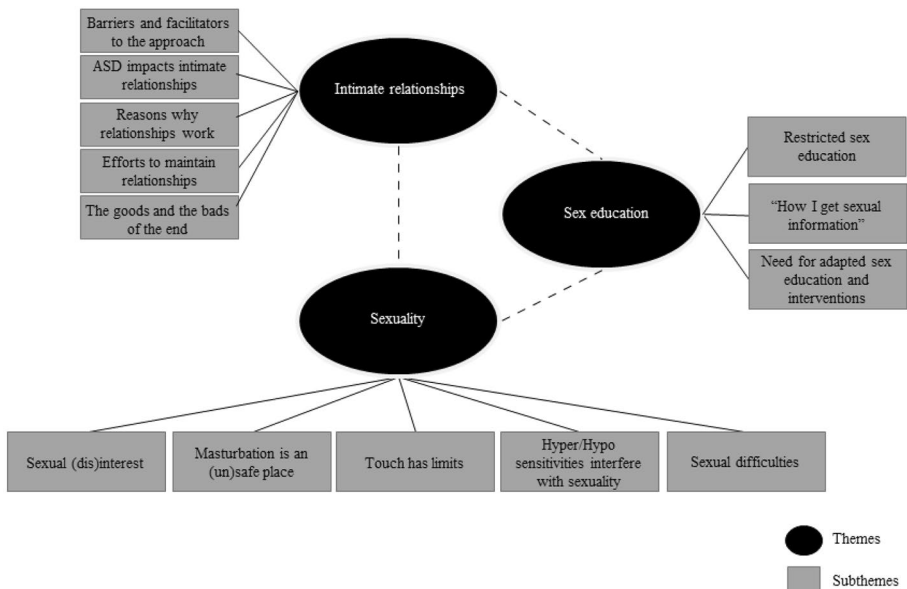


Fig. 1 Thematic Map Analysis. Note: ASD=Autism Spectrum Disorder

tive expectations associated with approaching another person and the fear and anxiety felt increased this difficulty. As said by a heterosexual male participant (23 years old), “It’s a little difficult because I get very nervous; I think they will not like me or will not want to be with me”. The strategies to foster the approximation varied between direct and face-to-face approaches (i.e., behavioral and verbal strategies) and indirect and non-face-to-face approaches, as resorting to social networks, “What’s tricky is making the first contacts... Lately, the people I’ve been talking to are on social media and that kind of stuff” (19, female, biromantic lesbian). Several participants highlighted the benefits of using social networks to approach and communicate with others. A determining factor for use of technological devices was associated with the facilitation of the process the information (i.e., they can read, interpret, and calmly think about what they would answer). Another factor was the lack of pressure to interpret non-verbal communication during the interactions and less interference of social anxiety.

Curiously, some people revealed the opposite tendency. They didn’t know how to hide their interest and not be too obvious, “I’m not very good at masking that I don’t like someone or that I like someone. I tend to spend more time with them or talk to them” (17, female, asexual). Regarding the interpretation of the other’s interest, there seemed to be a consensus that this task is difficult. They struggle to interpret expressions of attraction and emotional/sexual (des)interest. Most of the time, they only understand what is going on when the other person behaves or reveals information in a completely explicit way. Additionally, several participants also struggled to identify and interpret their feelings towards other people and establish and detect others boundaries, which produced some negative experiences (e.g., “I have trouble figuring out what kind of interest I have, whether it’s more sexual, more like a friendship, more romantic or more of all”; 21, female, queer non-labelled).

Although the limitations related to approach potential partners, the results also revealed resistance to the proximity initiated by them. In most cases, they adopted a passive approach, waiting for the other person’s initiatives and approaches. Some do it indirectly, using friends as facilitators. A young man explained: “Either I let them get closer to me, or I get closer when they are talking to my friends because I cannot do it alone” (23, male, heterosexual).

The second subtheme was named *ASD impacts intimate relationships*. Most participants agreed that ASD and its symptoms negatively affected their romantic relationships. This interference was attributed to diverse typical difficulties of ASD framework, such as lack of communication skills, difficulty in identifying one’s emotions and needs, insistence on monotony, sensory problems, limited reciprocity, lowflexibility or need for rigid routine and rituals. An adolescent has mentioned:

I have a particular routine, and if I don’t, I get anxious. I may have a fixed, perfect schedule of what I will do during the day. That person calls me, “Hi, do you want to go out now?” and I get anxious... I wouldn’t have time or space for that person because I already have everything together. Also, sometimes, I can get distracted by those hyper-fixing things and feel I’m not giving the attention that person wants. (17, female, asexual)

However, being diagnosed was a positive factor, as it helped them to understand and communicate about their difficulties: “I started to read more about autism and its symptoms.

I began to understand myself, my difficulties and how to get better. I was able to connect more with other people and to know what led to my maladjustment” (15, female, lesbian).

The third subtheme was named *reasons why relationships work*. Several participants reported having been in at least one significant relationship until now. Some described these relationships as unstable: “Not serious; I think it was always ‘unofficial’. So, just to know how it was, to experience it...” (15, female, heterosexual). However, the intimate relationship seemed to be seen as a protective factor that produced benefits for individual well-being. The most prominent benefits of a romantic relationship were stability, companionship and higher self-esteem. An autistic man has said, “I always had my self-esteem very low, nobody wanted me. The best thing was, after all, there was someone who wanted to be with me. It greatly improved my self-esteem” (45, male, heterosexual).

The participants have also identified preferences towards certain characteristics in their partners. They felt more attracted to other neurodivergent people and who are flexible and can adapt to them. Participants seemed to look for similarities or differences in partners that helped them to overcome day-to-day adversities: “He helps me a lot, for example, with my anxiety attacks, and I help him with his...” (19, non-binary, non-labelled). They also highlighted the importance of having common interests with their partners. An autistic woman argued: “He reads a lot, which I like because I can talk to him. I also read a lot, and I like being able to talk to a person who knows about what I’m talking about” (45, female, heterosexual).

The fourth subtheme was entitled *efforts to maintain relationships*. Many participants realized they did little or nothing to maintain their relationships. A young woman said: “If I come across this now, I’ll have one of those spiralling thoughts, in which I’ll realize I’ve never done anything. I act normally, and I say and ask for what I want” (21, female, queer non-labelled). Some actions or strategies to maintain relationships were focused on shared routines and on small gestures from everyday life, such as having meetings, giving affection and improve communication, “One of the things we always do is communicate and try to understand what the other person is feeling.” (30, female, bisexual). Nevertheless, participants recognized that accepting the differences between their partners was a huge challenge. A woman has stated: “I think it’s really about being able to accept the characteristics of the other, which for me are flaws.” (45, female, heterosexual).

The last subtheme was called *the good and the bad of the end*. The end of relationships was seen as a difficult period for many of the participants. The most frequent feelings revealed were sadness and instability. A young woman said: “What was more difficult was the instability, because it was a big part of my life, it was very, very stable, it kept me very safe, and it helped me with almost everything daily” (21, female, queer non-labelled). Another difficulty was the struggle to identify the reasons for the termination, especially when the other was not clear enough. Participants reported that it was difficult to get over breakups, and it took about a week to a month to do so. What helped in the separation process were their interests, which they put the attention focus on and ended up overcoming the end of the relationship, “I felt deficient. But I easily recovered with the distraction of other things, the fact that we weren’t in the same school also helped” (15, female, heterosexual).

Sexuality

On the topic of sexuality, the following subthemes emerged: Sexual (dis)interest, masturbation is a (un)safe place, touch has limits, hyper/hypo sensitivities interfere with sexuality and sexual difficulties.

Regarding the first subtheme, “*sexual (dis)interest*”, most participants recognized that they have significant sexual interest. However, it should be noted some evidence of opposite tendency, that is, in-existent or low sexual interest. An adolescent as mentioned: “If I imagine myself having sex, I’m like, ‘Ugh, no! Ugh, no!’ I’m repulsed by it. I don’t think I’ve ever experienced anything sexual or sexual desire. Zero, not interested.” (17, female, asexual). It was difficult for them to identify feelings and sensations associated with sexual interest, excitation and desire. Some participants relied on their concrete physical reactions to recognize these feelings. For several, there is a clear link between sexual interest and mood, as their emotional states directly influence sexual interest or disinterest in everyday life. Several individuals said their sexual interest/arousal was elicited by specific external stimuli, such as being with a partner or seeing explicit sexual material, “Only if someone makes me feel aroused. Otherwise, no. It’s scarce, only if I see, for example, a series or a movie that includes sexual relations” (25, female, heterosexual).

The second subtheme was named “*masturbation is a (un)safe place*”. The participants evidenced that the frequency of masturbation was related to their sexual interest. Participants who reported not feeling sexual interest do not masturbate or do it infrequently. Additionally, only half of the participants reported masturbating commonly. Participants listed some motivations for masturbating, highlighting the search for sexual pleasure (“To help me fall asleep or when I am with a partner to reach orgasm... for both of us to have more pleasure”; 15, female, bisexual), and as an attempt at emotional regulation.

Although some participants expressed a preference for masturbation to reach orgasm (e.g., “I like the masturbation part, to do it alone... I end up preferring it. Even if it’s with another person, I can only finish it alone”; 45, male, heterosexual), several associated masturbation to intense and negative feelings, such as shame, discomfort and dissatisfaction. Regarding this topic, a participant said, “I must admit I have some feelings of shame and that it’s enough for me. I would rather not do it. I would prefer to engage in sexual relationships than to masturbate by myself.” (25, male, heterosexual).

In the third subtheme, “*touch has limits*”, the relation between general and more intimate touch was addressed. The participants reported their discomfort with touch in general, but also reveal a differentiation of discomfort associated with touch in specific places on the body. As said by a participant, “Especially the neck area, I don’t let anyone... It’s very complicated, it must be the worst area for someone to touch me. I feel a great rejection” (45, male, heterosexual). Some participants enjoyed being touched by their partners, but sometimes had to interrupt that contact due to feelings of irritability or suffocation. Touch predictability, intentionality, and mood seemed to influence their response. The participants tended to withstand touch or to avoid or escape from situations where touch is possible, “As soon as I feel someone touching me, the first thing I do is move away” (45, male, heterosexual). Their behavior towards touch was not easily accepted by other people, describing misunderstanding and reactivity attitudes. In intimate relations, there still was some discomfort, but where touch was felt as more “natural” and framed, it was reported as more tolerated.

The fourth subtheme evidenced the impact of *hyper/hypo sensitivities in sexuality*. Most participants said they had hyper or hypo sensitivities, which proved to interfere with sexuality and romantic/intimate relationships.

The smell affects me during sexual relationships because sometimes I use a certain lubricant or scented condoms, and it troubles me a lot. If I have something around me that is making noise, I can't concentrate on what I'm doing. Therefore, I usually have to turn off everything around me because otherwise, it will affect the ability to reach orgasm or to be interested in what is happening. (30, female, bisexual)

The last subtheme, "*sexual difficulties*", highlighted that participants struggle with diverse sexual problems during sexual intercourse, as decreased or absent sexual desire, decrease ability to reach the orgasm, persistent pain in the genital or pelvic area during sexual intercourse, difficulty tolerating the penetration, insufficient vaginal lubrication, low vaginal relaxation, difficulty achieving and maintaining erections, etc. Some of them are intensified by ASD characteristics, such as hyposensitivity to sensory stimuli. A man argued, "I felt horrible. I had those autistic questions when my head was always spinning. I had difficulty penetrating, and I said several times, 'I can't penetrate you; I can't feel you'. Despite having pleasure, I couldn't feel it" (44, male, heterosexual). The identification of sexual desire and needs was considered a huge difficulty: "Sometimes when I'm with my husband, I feel like my body reacts... my head doesn't, but the body reacts" (45, female, heterosexual). Regarding contraception, some said it has a negative impact on their sexual function (e.g., lubrication) due, for instance, to genital hypersensitivities. Furthermore, this was intensified by common unwanted sexual experiences, which they regretted or that were perceived as unpleasant ("I did not want to have sex at all. But he wanted, and tried to get me turned on so I would just accept...that's usually what happens"; 25, female, heterosexual).

Sex Education

On the topic of sex education (SE), the subthemes of restricted sex education, "how I get sexual information", and the need for adapted sex education and interventions emerged.

The first subtheme, *restricted sex education*, revealed a consensus about the lack of knowledge about sex and sexuality. A teenager said: "There's a lot I don't know. As my colleagues talk, I realize that I don't understand anything about the subject" (16, female, heterosexual). Information was normally acquired in sex education taught at school or via digital media/family, or friends. Still, their were considered as completely insufficient to respond to autistic people's needs. An adolescent stated: "If I don't understand something, my friends can tell by my facial expression and then explain it adequately. Also, sometimes my mother talks about that kind of stuff." (16, female, heterosexual). Participants from the LGBT community also complained about little and unreliable knowledge they had related to their sexuality and sexual orientation due to the non-inclusive and non-specific sex education taught at schools, which led them to alternative and unclear sources.

Participants seemed to have or had at some point in their lives, doubts and challenges related to sexuality. In the second subtheme, "*How I get sexual information*", it was evidenced that the sources of information used to answer their questions are insufficient and frequently obtained in non-formal sources, such as internet, "Google. A woman explained: I've

always struggled talking about intimate subjects with people. I think it's not a comfortable subject to talk about. So I usually search until I found an answer to my uncertainties" (30, female, bisexual).

The last subtheme evidenced the *need for adapted sex education and interventions*. Participants were asked if SE should be adjusted to neurodivergent to respond to common difficulties in neurodivergent people, such as sensory issues and difficulties in relationships, and the majority answered affirmatively. However, there was no total consensus, as some disagreed with SE aimed at people with ND. These participants were against the focus on the distinction between neurodivergent and neurotypical people to be negative, because it represents a subtle way of discrimination and stigma.

According to the participants, the most important topic that should be addressed in adaptedSE was social and interpersonal dynamics. Learning to interpret, to accept and to express sexual and intimate needs/desires, training boundaries and sexual consent, ensuring security in sexuality and guided discovery of sexuality were considered a priority. An autistic woman said: "Consent, masturbation, social dynamics, such as how to do the flirting and dating part, and how to start a relationship and sensory management, when there is hypersensitivity to touch." (30, female, bisexual).

The participants consider that SE programs should be applied along the development, but are particularly pertinent in adolescence, between 11 and 15 years old. Also, they argued that psychologists and other specialists should be more trained in neurodivergence, and consider that sexologists and physicians are the most qualified to deliver these programs. One participant suggested that neurodivergent people should be part of the teams that deliver SE programs. "A mix between a specialist and an autistic person. We need specialists who have the neurotypical vision and the scientific knowledge, and then we also need people who understand what the students are feeling", said an autistic woman (30, female, bisexual).

Additionally, most participants thought that they would not benefit from counselling or intervention in the area of sexuality, at least at the present moment. However, there was a minority who felt that they would benefit from specialized monitoring fortnightly, especially because of their difficulties to approach and develop relationships, understand non-verbal communication, and have a healthy sexuality. An autistic man explained: "Training some relevant skills, guidance for achieving an intimate and sexual relationship and sexual satisfaction. Also, training for practices to reduce social anxiety and anxiety in general and to learn how to read non-verbal signals" (25, male, bisexual). Regarding the formats of SE or related programs preferred the online approach in theoretical modules, and face-to-face in practical modalities to perform role-plays, for instance. Lastly, the participants would like to be part of programs that integrate both individual and group moments.

Discussion

This study intended to explore the perceptions of autistic people regarding romance, intimacy and sexuality, including the need for SE for neurodivergent people. Three main themes were derived from the narratives and will now be discussed.

Intimate Relationships

Romance and intimacy present unique challenges for autistic individuals due to a variety of factors. As previously shown in literature, autistic and neurotypical people have similar needs, motivation, and appreciation of romance and intimacy, perceiving them as essential elements to their quality of life [33]. Most participants were willing to engage in romantic and intimate relationships; however, approach the approach usually has several barriers and facilitators. Weak social skills, difficulty in reading and understanding social cues, struggle to express and detect emotions, limited ability to interpret their own and the others' preferences and (dis) interests, and problems in reciprocity were some of the obstacles to intimate relationships identified by the participants. These findings are in line with previous qualitative studies, showing that autistic individuals have a different understanding of the processes and mechanisms associated with social interactions [17], which reduces their proximity to peers and, consequently, to the opportunity to engage in romantic and intimate relationships [18, 37]. Comprehending social cues, such as nonverbal communication (e.g., body language and facial expressions), is a fundamental component of a romantic relationship. Autistic people often complain that they do not fully understand flirting, subtle hints of interest, or discomfort. Misunderstanding, direct and "excessively sincere" opinions, and literalism might also difficult communication in romantic contexts and cause tensions, regrets and conflicts. Plus, recognizing boundaries, both their own and those of others, was perceived as a challenge to autistic people, which can lead to unintentional discomfort or crossing boundaries. Participants were completely aware of their difficulties, especially related to showing or hiding interest in another person while flirting and dating, which was attributed also to anxiety [38]. This result is consonant with a preliminary study that compared autistic people with neurotypical individuals, evidencing that the neurodivergent group presented considerable higher levels of concern with the ability to develop and maintain romantic relationships, experiencing increased levels of anxiety and stress in dates and when during the initial phase of romantic relationships, [33]. Anxiety seems to be interfering in the romantic and intimate relationships of autistic people, reducing the attempts at loving approximations. Small talk and the unspoken rules of dating conversations can be confusing and challenging. As suggested by Glickman and Le Greca [39], making it imperative to develop an intervention aimed at anxiety and flirting and dating processes to help this population in the processes of development of romantic and intimate relationships. Some facilitators were also indicated by participants, who related being the ones who got approached by others on the flirting process or resorting to social networks to low levels of anxiety.

In the subtheme *ASD impacts intimate relationships*, participants revealed to be aware of the impact that their ASD-associated characteristics, such as lack of communication skills, difficulty in identifying one's emotions and needs, flexibility and need for rigid rituals and sensory problems, had on romantic and intimate relationships. Nevertheless, some had successful relationships characterized by stability, companionship, and increased self-esteem, as assessed in the subtheme *reasons why relationships work*. In line with the literature, participants indicated their partner's reciprocal likes and interests as an important factor [40]. Also, participants pointed out that having a neurodivergent partner, or people who are flexible and who can adapt to them, could be a facilitator. This evidence suggests that autistic people may look for characteristics in romantic partners like their own (e.g., shared

narrow interests and routines), contributing to the maintenance, duration, and satisfaction of the romantic and intimate relationship, even if it does not guarantee its longevity [33].

Another difficulty was the ability to maintain romantic and intimate relationships. Autistic people may have repetitive and restricted patterns of interests, behavior, or activities, which can lead to a monotonous lifestyle [1, 3] and to difficulties in maintaining relationships. Participants were aware of their difficulty in decentering themselves, and their peculiar and repetitive activities, tastes, and routines. Society in general, and partners on particular might not understand autism and its impact in relationships, causing frustration and disappointment. Consequently, the acceptance and integration of the other represents a huge challenge. Strategies and *efforts to maintain relationships* were mainly related to having meetings, giving affection, and communicating.

As assessed in *the good and bad of the end*, separation is often a complex and hard moment, especially when partners were not clear enough about their reasons to end the relationship or to disengagement. This process increases feelings of sadness and instability. In sum, since ASD is associated with deficits in social communication and interaction, including difficulties in reciprocity and in interpreting and responding to verbal and nonverbal communication [4–6, 18], understanding the reasons that lead to the end of a romantic relationship may be a challenge, confusing and particularly stressful for this population. Still, many participants identified coping mechanisms to deal with these harsh moments. For instance, focusing on their interests was considered a facilitator to overcome the separation process.

Sexuality

Most participants showed sexual interest, which is in accordance with recent findings [22]. Previous studies revealed no significant differences in sexual interest between autistic individuals and neurotypical individuals [41]. Plus, similar to neurotypical, external stimuli seemed to lead to sexual arousal. Mood was perceived as a crucial element in sexual desire and *sexual (dis)interest*. In a qualitative study done by Barnett and Maticka-Tyndale (2015), autistic individuals complained that regular and generalized anxiety and overstimulation were a barrier to sexual interest [16]. It can be hypothesized that emotional states may impact autistic people differently. For instance, sensory dysregulation can be associated with overthinking and with emotional and/or physical discomfort [16], interfering with sexual function.

Masturbation was a topic addressed by the participants. Only half of the participants reported masturbating frequently. Two opposite attitudes were evidenced in discourses, that is, *masturbation was perceived as both a safe place and an unsafe*. Some individuals manifested negative feelings associated with masturbation, such as shame, discomfort, and dissatisfaction. Hypothetically, masturbation can be perceived by several individuals as a socially non-acceptable, undesirable or even pathological behavior [42]. Scientific literature has also put a great focus on inappropriate masturbation with autistic people [43]. The research focused on advantages or positive impacts on sexual health have been less studied. Despite the general stigma related to masturbation, research indicates that this behavior is linked to improved sexual health, as sexual functioning and satisfaction in relationships and orgasmic capacity [42]. Some participants revealed masturbation as a facilitator to reach

orgasm and an opportunity to enjoy sexual desire and have a sexual experience in a non-social, controllable and less demanding context.

The results also demonstrate that, for autistic individuals, *touch has limits*. The most frequent behavioral responses to touch were avoidance or strategies to withstand touch. These responses were influenced by touch (un)predictability, (un)intentionality, and (negative) mood. These results are consistent with the literature, showing that avoidance and aversion to social touch are associated with ASD traits. This discomfort seems to be a consequence of sensory sensitivities, causing physical aversion to touch and stereotyped behaviors [44]. However, touch might be well accepted, in an intimate context probably due to their underlying social expectations and norms.

The results showed that *hyper/hypo sensitivities interfere with sexuality* (e.g., intimate contact and masturbation) and intimate/sexual relationships (e.g., contraception). Heightened sensory sensitivities to touch or specific textures usually make intimacy more challenging. In the relational context, sensory overload might limit some experiences, such as being in environments like crowded parties and intimate settings, which can be felt as overwhelming. In the *sexual difficulties* subtheme, participants shared multiple difficulties in sexual intercourse and problems associated with sexual desire and expression of sexual needs. For instance, hyper or hyposensitivity to sensory stimuli, commonly present in autism [3] lead to interpersonal and sexual difficulties reported, such as recognizing bodily sensations of desire and arousal [16, 32]. Furthermore, according to some participants, these problems lead to unwanted or unpleasant romantic and sexual sexual experiences.

Sex Education

Promoting social skills and sex education results in better decision-making, a stronger feeling of identity and autonomy, and fewer negative experiences, such as violence and sexual abuse/harassment [45]. However, according to our findings, autistic people have *restricted sex education*. SE programs are not tailored for neurodivergent people and are still excessively focused on the mechanics of sex (e.g., reproduction), sexual function and contraception rather than on socio-emotional components, skills training and intimacy. As evidenced in the subtheme “How I get sexual information”, the intimate and sexual information autistic people had was mostly acquired through non-formal sources (e.g., internet), which led to unreliable knowledge. Previous studies also revealed this tendency for use unreliable and not adapted resources, such as the internet, television, and pornography, as “sex education resources” [31]. These results shed light on the *need for adapted sex education and interventions* adapted to this population. Required needs identified by autistic people suggest that comprehensive and adjusted SE and counselling are urgent and crucial. Most in-need topics were social communication, interpretation of non-verbal language, decodification of non-verbal cues, expression and detection of reciprocity and rejection, knowledge of the processes underlying flirt, strategies to reduce social anxiety during dates and intimate encounters, training abilities to initiate a romantic relationship, engage in sexual and healthy interactions, and understanding sexual orientation and gender identity. These results reflect previous literature, highlighting that autistic people often feel confused and unsatisfied with traditional SE curricula [18, 30]. In summary, integrative and comprehensive sexuality education (CSE) must be adequate not only for neurotypical people, but also for people with special needs and neurodivergence. Addressing these needs might enhance their knowledge

about romance, intimacy, sexuality, sexual orientation and gender norms, improve necessary skills to maintain healthy relationships, prevent romantic and sexual violence [27] and contribute to empowerment and greater well-being among autistic people.

In line with several studies that described a predominance of non-heterosexual orientations in the autistic population [23], only 50% of our participants identified as heterosexual. Consequently, SE programs must also integrate inclusive, affirmative, and sex-positive approaches to sexuality [27], providing tools to respond to autistic people from the LGBT community, who have been largely neglected in the access to reliable and specific sex education.

Finally, most participants agreed with tailored SE programs to people with ND and provided practical suggestions for their implementation (e.g., they should be promoted by psychologists specialized in the field of ND, sexologists, and physicians; they should address several ages and teenagers in particular; could include hybrid formats with online format for the theoretical modules and face-to-face format to train skills through techniques, such as role-plays; and providing both individual and group moments of learning and counselling).

Limitations and Future Directions

This study has some limitations that must be addressed. First, recruitment was limited to two institutions, which might have restricted the eventual diversity of results and the participants' characteristics. The small sample included only participants with autism, Level 1, representing better adaptation and adjusted functioning. Second, the age range was large and included teenagers and adults, reflecting diverse developmental experiences. Third, disclosure about intimacy and sexuality might have been difficult for some participants, given the sensitive topic and the administration of the face-to-face interview. Future studies should focus on the experiences of adolescents and adults in specific developmental levels and from diverse backgrounds (e.g., participants living in rural areas, racial/ethnic minorities, LGBT community, autistic people with increased difficulties, participants with more verbal limitations). Studies should also include other relevant informants, such as partners, parents, friends, educators, stakeholders and specialists. Another possible avenue of research is to examine how symptoms and other comorbidities (e.g., anxiety, depression) and treatments for these diseases may affect relationships and sexual attraction in this population. Diaries and written narratives could also help with the disclosure. Advocacy, empowerment and positive characteristics of autism should also be included in the literature.

Contributes of the Study

Our study shed light on how young autistic people perceive romance and sexual and intimate experiences. Most young autistic people were interested in romantic and sexual interactions but felt largely unprepared to engage or maintain such. Few young people in their adolescence or early adulthood have had romantic or sexual relationships recently or in the past, which may be related to their later sexual initiation and affect the efficacy of early sex education and/or partner accessibility.

The present study allowed to gather information about the importance of screening and assessment dedicated to intimacy and sexuality in clinical contexts beyond the usual topics (e.g., communication problems, sensory sensitivities, inflexibility). An individualized

approach and an adjusted treatment should meet each autistic person's needs, contexts, and characteristics. Plus, there are large gaps in the knowledge of how autistic people develop sexual health literacy, which might increase negative experiences such as sexual victimization, relational violence, STD contraction, etc. [46] Autistic people often experience feelings of loneliness or sadness because of their difficulty affirming and comprehending their sexuality and emotions. It is crucial to learn and put sexual health information into practice, support the development of sexual identity, provide guidance when relationships start, and give psychoeducation and help during engagement in sexual activity and romantic relationships, including when they end and afterwards.

By focusing on both sexuality and romance, the current study offered an overview of intimacy experienced by autistic people in different developmental stages. This topic represents a novel and urgently required field of research. Qualitative designs from teenagers and young autistic adults [47] seem a promising method to gather insights and useful information about how autistic individuals perceive love, relationships and sexuality, which will increase our understanding of their needs for sex education, counselling and sexual intervention.

Implications of the Study

In a preventive context, working on these topics at younger ages, but also with teens and adults with more limitations, seems crucial. These comprise, among other things, communicating about public touching and masturbation as well as differentiating between private and public sexual behavior. Thorough, concrete, and straightforward explanations of where and how to touch or not touch other people are more important than implicit training regarding the types of touching that may be utilized in public, with family and friends, and with a significant other [48]. The results also evidence the importance of focusing particularly on teenagers and include multidisciplinary teams dedicated to sex education and intervention specialized in neurodiversity and intimacy.

The study explored the unique experiences and challenges faced by autistic individuals in navigating their sexuality, aiming to improve their understanding and self-awareness. It highlights the importance of social support in fostering a supportive environment for autistic individuals and the importance of including romantic partners in counselling sessions and interventions. Plus, it is also evidenced by the potential for raising societal awareness about the intersection of autism and sexuality, reducing stigma and discrimination, and the need for tailored educational strategies and materials for educators. Lastly, this study suggests that healthcare professionals should improve their understanding of the sexual health needs of autistic individuals, leading to more inclusive and effective practices.

Conclusion

Both autistic adolescents and adults want to have loving and intimate relationships, as these bring them various benefits at an individual and social level. However, there are obstacles in the development and maintenance of relationships as a product of ASD symptoms. Flirting and dating processes may entail a lot of worry and anxiety, which makes it difficult for autistic people to develop loving and intimate relationships. Aiming to overcome these dif-

difficulties, they resort to the Internet to be more successful and less anxious. Regarding the maintenance of relationships, ASD symptoms are perceived as risk factors for relational satisfaction. As such, these individuals seek partners with similar characteristics to their own to overcome these difficulties. Concerning sexuality, although most autistic adolescents and adults show sexual interest, there is a minority who report few or in-existent willing to have sexual approaches and encounters. The Sexual attraction is often affected by emotional states. Furthermore, social touch led to discomfort, which is tolerated through behavioral techniques, whereas intimate touch seems more straightforward to accept. Masturbation was frequently accompanied by shame, discomfort, and dissatisfaction, even though it is used as an attempt to promote pleasure and emotional regulation.

The present study also focused on SE, aiming to respond to the difficulties experienced by young autistic people and adults in their love relationships and sexuality. Suggested topics to be covered in tailored SE programs are social communication, interpretation of non-verbal language, processes underlying flirting, reduction of anxiety in approaching a potential partner, initiation of a romantic relationship, moving on to the intimate/sexual phase, the discovery of sexuality, sexual orientation and gender identity.,

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11195-024-09838-x>.

Author Contributions The authors Ana Beato (AB) and Mariana Correia (MC) carried out the study's conception, design, and construction of the interview script. The data collection was carried out by the authors Mariana Correia and Mariana Reis Sarmiento (MS). MC and AB performed data analysis. MC and all authors who wrote the first version of the manuscript commented on previous versions. All authors read and approved the final manuscript.

Funding Open access funding provided by FCT|FCCN (b-on). This work was supported by the Portuguese Foundation for Science and Technology (FCT) in the Strategic Funding UIDB/05380/2020 framework. The authors have no relevant financial or non-financial interests to disclose.
Open access funding provided by FCT|FCCN (b-on).

Statements and Declarations The Scientific Research Ethics and Deontology Committee (CEDIC) of the University Lusófona approved the study. Informed consent was requested in writing from young people, their legal representatives, and adults who participated in the study.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

1. Hosseini, S.A., Molla, M.: Síndrome de asperger. StatPearls Publishing. (2021). <https://pubmed.ncbi.nlm.nih.gov/32491480/> (2022). Accessed 22 June 2022
2. Zeidan, J., Fombonne, E., Scolah, J., Ibrahim, A., Durkin, M.S., Saxena, S., Yusuf, A., Shih, A., Elsabagh, M.: Global prevalence of autism - a systematic review update. *Autism Res.* (2022). <https://doi.org/10.1002/aur.2696>

3. American Psychiatric Association (APA): DSM-5 - Manual Diagnóstico E Estatístico De Transtornos Mentais. Artmed Editora, Washington (2014)
4. Beffel, J.H., Cary, K.M., Nuttall, A.K., Chopik, W.J., Maas, M.K.: Associations between the broad autism phenotype, adult attachment, and relationship satisfaction among emerging adults. *Pers. Individ. Differ.* (2021). <https://doi.org/10.1016/j.paid.2020.110409>
5. Cresswell, L., Hinch, R., Cage, E.: The experiences of peer relationships amongst autistic adolescents - a systematic review of the qualitative evidence. *Res. Autism Spectr. Disorders.* (2019). <https://doi.org/10.1016/j.rasd.2019.01.003>
6. Tierney, S., Burns, J., Kilbey, E.: Looking behind the mask - social coping strategies of girls on the autistic spectrum. *Res. Autism Spectr. Disorders.* (2016). <https://doi.org/10.1016/j.rasd.2015.11.013>
7. Pecora, L.A., Mesibov, G.B., Stokes, M.A.: Sexuality in high-functioning autism - a systematic review and meta-analysis. *J. Autism Dev. Disord.* (2016). <https://doi.org/10.1007/s10803-016-2892-4>
8. Dike, J.E., DeLucia, E.A., Semones, O., Andrzejewski, T., McDonnell, C.G.: A systematic review of sexual violence among autistic individuals. *Rev. J. Autism Dev. Disorders.* (2022). <https://doi.org/10.1007/s40489-022-00310-0>
9. Trundle, G., Jones, K.A., Ropar, D., Egan, V., Abuse: <https://doi.org/10.1177/15248380221093689> (2022)
10. Higgs, T., Carter, A.J.: Autism spectrum disorder and sexual offending - responsivity in forensic interventions. *Aggress. Violent. Beh.* (2015). <https://doi.org/10.1016/j.avb.2015.04.003>
11. Kellaher, D.C.: Sexual behavior and autism spectrum disorders - an update and discussion. *Curr. Psychiatry Rep.* (2015). <https://doi.org/10.1007/s11920-015-0562-4>
12. Kolta, B., Rossi, G.: Paraphilic disorder in a male patient with autism spectrum disorder - incidence or coincidence. *Cureus.* (2018). <https://doi.org/10.7759/cureus.2639>
13. Kasari, C., Lawton, K.: New directions in behavioral treatment of autism spectrum disorders. *Curr. Opin. Neurol.* (2010). <https://doi.org/10.1097/WCO.0b013e32833775cd>
14. Bennett, M., Webster, A.A., Goodall, E., Rowland, S.: Intimacy and romance across the autism spectrum - unpacking the not interested in sex myth. *Life Autism Spectr.* (2019). https://doi.org/10.1007/978-981-13-3359-0_10
15. Soares, L.S., Alves, A.L.C., Costa, D.D.S., Malloy-Diniz, L.F., Paula, J.J.D., Romano-Silva, M.A., Miranda, D.M.D.: Common venues in romantic - relationships of adults with symptoms of autism and attention deficit/hyperactivity disorder. *Front. Psychiatry.* (2021). <https://doi.org/10.3389/fpsy.2021.593150>
16. Barnett, J.P., Maticka-Tyndale, E.: Qualitative exploration of sexual experiences among adults on the autism spectrum - implications for sex education. *Perspect. Sex. Reprod. Health.* (2015). <https://doi.org/10.1363/47e5715>
17. Hogan, M.S., Micucci, J.A.: Same-sex relationships of men with autism spectrum disorder in middle adulthood - an interpretative phenomenological study. *Psychol. Sex. Orientat. Gen. Divers.* (2020). <https://doi.org/10.1037/sgd0000372>
18. Parchomiuk, M.: Sexuality of persons with autistic spectrum disorders (ASD). *Sex. Disabil.* (2019). <https://doi.org/10.1007/s11195-018-9534-z>
19. Cheak-Zamora, N.C., Teti, M., Maurer-Batjer, A., O'Connor, K.V., Randolph, J.K.: Sexual and relationship interest, knowledge, and experiences among adolescents and young adults with autism spectrum disorder. *Arch. Sex Behav.* (2019). <https://doi.org/10.1007/s10508-019-1445-2>
20. Sala, G., Hooley, M., Stokes, M.A.: Romantic intimacy in autism - a qualitative analysis. *J. Autism Dev. Disord.* (2020). <https://doi.org/10.1007/s10803-020-04377-8>
21. Sala, G., Pecora, L., Hooley, M., Stokes, M.A.: As diverse as the spectrum itself - trends in sexuality, gender and autism. *Curr. Dev. Disorders Rep.* (2020). <https://doi.org/10.1007/s40474-020-00190-1>
22. Pecora, L.A., Hancock, G.I., Hooley, M., Demmer, D.H., Attwood, T., Mesibov, G.B., Stokes, M.A.: Gender identity, sexual orientation and adverse sexual experiences in autistic females. *Mol. Autism.* (2020). <https://doi.org/10.1186/s13229-020-00363-0>
23. Dewinter, J., Vermeiren, R., Vanwesenbeeck, I., Lobbetael, J., Van Nieuwenhuizen, C.: Sexuality in adolescent boys with autism spectrum disorder: Self-reported behaviours and attitudes. *J. Autism Dev. Disord.* (2015). <https://doi.org/10.1007/s10803-014-2226-3>
24. Turban, J.L., van Schalkwyk, G.I.: Gender dysphoria and autism spectrum disorder - is the link real? *J. Am. Acad. Child. Adolesc. Psychiatry.* (2018). <https://doi.org/10.1016/j.jaac.2017.08.017>
25. Sala, G., Hooley, M., Attwood, T., Mesibov, G.B., Stokes, M.A.: Autism and intellectual disability - a systematic review of sexuality and relationship education. *Sex. Disabil.* (2019). <https://doi.org/10.1007/s11195-019-09577-4>
26. Solomon, D., Pantalone, D.W., Faja, S.: Autism and adult sex education - literature review using the information-motivation-behavioral skills framework. *Sex. Disabil.* (2019). <https://doi.org/10.1007/s11195-019-09591-6>

27. Goldfarb, E.S., Lieberman, L.D.: Three decades of research - the case for comprehensive sex education. *J. Adolesc. Health.* (2020). <https://doi.org/10.1016/j.jadohealth.2020.07.036>
28. Makleff, S., Garduno, J., Zavala, R.I., Barindelli, F., Valades, J., Billowitz, M., Márquez, V.I.S., Marston, C.: Preventing intimate partner violence among young people - a qualitative study examining the role of comprehensive sexuality education. *Sexuality Res. Social Policy.* (2019). <https://doi.org/10.1007/s13178-019-00389-x>
29. Schneider, M., Hirsch, J.S.: Comprehensive sexuality education as a primary prevention strategy for sexual violence perpetration. *Trauma, Violence, Abuse:* (2018). <https://doi.org/10.1177/1524838018772855>
30. Hannah, L.A., Stagg, S.D.: Experiences of sex education and sexual awareness in young adults with autism spectrum disorder. *J. Autism Dev. Disord.* (2016). <https://doi.org/10.1007/s10803-016-2906-2>
31. Teti, M., Cheak-Zamora, N., Bauerband, L.A., Maurer-Batjer, A.: A qualitative comparison of caregiver and youth with autism perceptions of sexuality and relationship experiences. *J. Dev. Behav. Pediatr.* (2019). <https://doi.org/10.1097/DBP.0000000000000620>
32. Dewinter, J., Van Parys, H., Vermeiren, R., van Nieuwenhuizen, C.: Adolescent boys with an autism spectrum disorder and their experience of sexuality - an interpretative phenomenological analysis. *Autism: Int. J. Res. Pract.* (2017). <https://doi.org/10.1177/1362361315627134>
33. Hancock, G., Stokes, M.A., Mesibov, G.: Differences in romantic relationship experiences for individuals with an autism spectrum disorder. *Sex. Disabil.* (2020). <https://doi.org/10.1007/s11195-019-09573-8>
34. Braun, V., Clarke, V.: Using thematic analysis in psychology. *Qualitative Res. Psychol.* (2006). <https://doi.org/10.1191/1478088706qp063oa>
35. Braun, V., Clarke, V.: Conceptual and design thinking for thematic analysis. *Qualitative Psychol.* (2022). <https://doi.org/10.1037/qp0000196>
36. Souza, L.K.D.: Pesquisa com análise qualitativa de dados - conhecendo a análise temática. *Arquivos Brasileiros De Psicologia.* (2019). <https://doi.org/10.36482/1809-5267.ARB2019v71i2p.51-67>
37. Stokes, M., Newton, N., Kaur, A.: Stalking, and social and romantic functioning among adolescents and adults with autism spectrum disorder. *J. Autism Dev. Disord.* (2007). <https://doi.org/10.1007/s10803-006-0344-2>
38. Mehzabin, P., Stokes, M.A.: Self-assessed sexuality in young adults with high-functioning autism. *Res. Autism Spectr. Disorders.* (2011). <https://doi.org/10.1016/j.rasd.2010.07.006>
39. Glickman, A.R., La Greca, A.M.: The dating anxiety scale for adolescents - scale development and associations with adolescent functioning. *J. Clin. Child. Adolesc. Psychol.* (2004). https://doi.org/10.1207/s15374424jccp3303_14
40. Yew, R.Y., Samuel, P., Hooley, M., Mesibov, G.B., Stokes, M.A.: A systematic review of romantic relationship initiation and maintenance factors in autism. *Personal Relationships.* (2021). <https://doi.org/10.1111/per.12397>
41. Gilmour, L., Schalomon, P.M., Smith, V.: Sexuality in a community based sample of adults with autism spectrum disorder. *Res. Autism Spectr. Disorders.* (2011). <https://doi.org/10.1016/j.rasd.2011.06.003>
42. Coleman, E.: Masturbation as a means of achieving sexual health. *J. Psychol. Hum. Sex.* (2003). https://doi.org/10.1300/J056v14n02_02
43. Mann, L., Travers, E.: A systematic review of interventions to address inappropriate masturbation for individuals with autism spectrum disorder or other developmental disabilities. *Rev. J. Autism Dev. Disorders.* (2019). <https://doi.org/10.1007/s40489-019-00192-9>
44. Ujiie, Y., Takahashi, K.: Associations between self-reported social touch avoidance, hypersensitivity, and autistic traits - results from questionnaire research among typically developing adults. *Pers. Individ. Differ.* (2022). <https://doi.org/10.1016/j.paid.2021.111186>
45. Koller, R.: Sexuality and adolescents with autism. *Sex. Disabil.* (2000). <https://doi.org/10.1023/A:1005567030442>
46. Thomas, V.: Sexual health literacy of autistic young women - a qualitative systematic review [Master's thesis, College of Nursing and Health Sciences, Flinders University]. Flinders University (2019). <https://flex.flinders.edu.au/file/e65bc9d6-113a-4d75-997b-05c1a72c0a27/1/ThesisThomas2019OA.pdf>
47. Kaehne, A., O'Connell, C.: Focus groups with people with learning disabilities. *J. Intellect. Disabil.* (2010). <https://doi.org/10.1177/1744629510381939>
48. Attwood, S.: *Making Sense of Sex - A Forthright Guide to Puberty, Sex, and Relationships for People with Asperger's Syndrome.* Jessica Kingsley, London (2008)