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Dimensions of Object Relations in People with Autism Spectrum Disorder as a Basis for Strengthening Social Relatedness Skills

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This paper presents the results of a study focusing on the dimensions of object relations in people with autism spectrum disorder. An object relation denotes a relationship with a significant other, within which several identification processes take place through a meaningful emotional exchange. This is described by the developmental process of separation and individuation, which primarily occurs in children from birth to their third year of life. Although deficits in social relationships represent the most typical features of autism, there is still a great deal of uncertainty in this field. Based on the theoretical background, we hypothesised that differences in the characteristics of object relations in people with autism spectrum disorder compared to the characteristics of object relations in people without autism spectrum disorder are reflected in a greater expression of disturbances in object relations, especially in the more pronounced dimensions of greater social isolation and symbiotic merging. The quantitative research sample comprised 38 adults with autism spectrum disorder with normal intellectual abilities and 100 adults without autism spectrum disorder. The Test of Object Relations, which measures the individual dimensions of object relations, was used for data collection. The results show that there are statistically significant differences between the two groups of respondents, as the dimensions of symbiotic merging, social isolation and separation anxiety are more pronounced in adults with autism spectrum disorder. These findings serve as a basis for designing professional support for people with autism spectrum disorder in order to promote autonomy to strengthen the skills needed for social relatedness and social inclusion.

Keywords: object relations, people with autism spectrum disorder, social relatedness, separation-individuation process, professional support

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Dimenzije objektnih odnosov pri osebah z avtističnimi motnjami kot podlaga za krepitev veščin socialne povezanosti

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V prispevku so predstavljeni izsledki študije, ki se je osredinila na dimenzije objektnih odnosov pri osebah z avtističnimi motnjami. Objektni odnos označuje odnos s pomembno drugo osebo, znotraj katerega potekajo številni identifikacijski procesi prek pomembne čustvene izmenjave. To opisuje razvojni proces separacije in individuacije, ki primarno poteka pri otrocih od rojstva do tretjega leta življenja. Čeprav primanjkljaji v socialnih odnosih predstavljajo najbolj tipične značilnosti avtizma, je na tem področju še vedno veliko negotovosti. Na podlagi teoretičnega ozadja smo postavili hipotezo, da se razlike v značilnostih objektnih odnosov pri osebah z avtističnimi motnjami v primerjavi z značilnostmi objektnih odnosov pri osebah brez avtističnih motenj kažejo v večji izraženosti motenj v objektnih odnosih, zlasti v izrazitejših dimenzijah večje socialne izolacije in simbiotičnega zlivanja. Kvantitativni raziskovalni vzorec je obsegal 38 odraslih oseb z avtističnimi motnjami z normalnimi intelektualnimi sposobnostmi in 100 odraslih oseb brez avtističnih motenj. Za zbiranje podatkov je bil uporabljen t. i. test objektnih odnosov, ki meri posamezne dimenzije objektnih odnosov. Rezultati kažejo, da med obema skupinama anketirancev obstajajo statistično pomembne razlike, saj so dimenzije simbiotičnega zlivanja, socialne izolacije in separacijske anksioznosti izrazitejše pri odraslih z avtističnimi motnjami. Te ugotovitve služijo kot podlaga za oblikovanje strokovne podpore osebam z avtističnimi motnjami z namenom spodbujanja avtonomije za krepitev veščin, potrebnih za socialno povezanost in socialno vključenost.

Ključne besede: objektni odnosi, osebe z avtističnimi motnjami, socialna povezanost, proces separacije in individuacije, strokovna podpora

Introduction

In order to better understand the aspects of social interaction in people with autism spectrum disorder (ASD), one may rely on the Object Relations Theory, a term most commonly identified with Melanie Klein's work, while the term 'object relations' was popularised by Ronald Fairbairn. Object Relations Theory focuses on the relational structural models of a child's development, where a relationship represents a building block of the psychic structure (Mahler et al., 1975). "An object relation is defined as a relationship with a person, with whom one engages in a meaningful emotional exchange leading to the materialization of identification processes, in which the ego activates all of its abilities, thus also developing its own structure" (Praper, 1999, p. 24). The process of forming object relations and the identification process may be described by the developmental separation-individuation process, which primarily takes place during the first three years of a child's life. This paper presents research on the dimensions of object relations in people with ASD, which represent the resolutions of the separation-individuation process, in order to shed additional light on the characteristics of the relationships of such people. Based on the results, suggestions are made for designing professional support for people with ASD in order to promote social relatedness and social inclusion.

Autism Spectrum Disorder

Autism is a neurological condition resulting from deficits in certain brain functions, which is reflected in persistent deficits in social communication and interaction, as well as in patterns of behaviour, interests or activities (American Psychiatric Association, 2022; World Health Organization, 2018).The modern definition of autism spectrum disorder (ASD) is based on modern classifications of mental disorders, which state that autism is manifested by a spectrum of varied and complexly related deficits. The first set of deficits relates to social communication and social interaction. It manifests itself as difficulties in making contact, inadequate responsiveness to other people's initiatives, reduced interest in interacting with others, inadequate social relationship initiation, lack of reciprocity in communication, poorer integration of verbal and non-verbal communication, and poorer adaptation behaviour to different social situations. The second set of deficits relates to behaviour, interests and activities. It manifests itself as repetitive and stereotyped movements, use of objects in an unusual and repetitive way, stereotyped and repetitive speech, rigid thinking and behaviour, a tendency towards routines and rituals, preoccupation with an

area of interest that may be unusual, and unusual responses to sensory stimuli (American Psychiatric Association, 2022; World Health Organization, 2018). Today, the quest for explanations that could provide an insight into the prevalence of autism is mainly focused on genetics and the environment, whereas in the past, such explanations were more frequently pursued in the field of behavioural psychology. ASD is genetic and many authors have reported specific brain functioning in people with ASD, such as synaptic abnormalities (Gialloreti et al., 2016; Giovedi et al., 2014), abnormalities in the cerebellum (Rogers et al., 2013), and abnormalities in brain development and structure, such as an enlarged amygdala in the right hemisphere, which is the main control centre for initiating relationships (Schore, 2013). Atypical functioning of the 'social brain' in people with ASD may also indicate a disruption of social motivational mechanisms and may constitute social interaction as a primary deficit in autism (Chevallier et al., 2012). Diminished social motivation may hinder people with ASD from preferentially orienting themselves to the social world, from seeking and taking pleasure in social interactions, and from working to foster and maintain social bonds (Chevallier et al., 2012). A study investigating reward processing in people with ASD using functional magnetic resonance imaging and comparing the results with people without ASD yielded mixed results (Clements et al., 2018). This means that social motivation in people with ASD is certainly impaired to some extent, but it is not so simple. The brain function of people with ASD is undoubtedly atypical and different, but researchers are yet to determine the exact causes of these changes and how they ought to be interpreted (Nadeem et al., 2021). Ozonoff and Iosif (2019) and Parmeggiani et al. (2019) emphasise that a delay in language development, linguistic and communication features, as well as special interaction in relationships with other people represent the first signs of autism, which require a proper response in order to improve the development outcomes. Emotional problems such as anxiety and depression, and disruptive behaviour such as restlessness, tantrums, aggression, self-aggression, stereotyping behaviour, defiant behaviour, etc. are also common (Attwood, 2006; Nadeem et al., 2021). Elmose (2020) finds that anxiety management in people with ASD is an important factor in teaching social skills, which is why such an emotional condition needs to be properly addressed in order to achieve progress in the field of social interaction. The difficulties that people with ASD exhibit in social relatedness in various areas may cause social isolation and loneliness in adolescence and adulthood, which tend to be more prevalent in people with ASD than in people without ASD (Elmose, 2020). This greatly affects their quality of life and social inclusion. Therefore, it is important to know how to strengthen social relatedness skills in people with

ASD. Other disorders and deficits in different areas are an important factor in people with ASD when overcoming social deficits. Such disorders and deficits include attention deficit hyperactivity disorder, cognitive disorders, impaired abilities and developmental delays, motor movement and coordination problems, neurological problems, obsessive-compulsive disorder, etc. (American Psychiatric Association, 2022; World Health Organization, 2018). Nadeem et al., 2021) and must also be addressed if social skills are to be improved. Estimates as to the prevalence of ASD vary, but it is understood to be on the rise. Prevalence estimates range from 1% to 2.6% of children in the general population (Hansen et al., 2015). According to DSM-5-TR (2022) data, between 1% and 2% of the global population has ASD. Based on statistical data published by the Centers of Disease Control and Prevention (USA), 1 in 150 children were diagnosed with ASD in 2000, while the rate increased in 2010, as the diagnosis was identified in 1 in 68 children (Christensen et al., 2019). The most recent data for 2018 show that, when comparing diagnostic records of 8-year-old children, 1 in 44 children in the US was estimated to have ASD (Maenner et al., 2021). Now and in the future, the increasing prevalence of autism poses and will continue to pose a number of challenges related to professional support provided to people with ASD in the fields of education, healthcare and social services. A good understanding of the way people with ASD function in the social domain will remain crucial for devising a proper response to the need for support in social relatedness. The challenge of how to support children with ASD who show basic social relatedness deficits needs to be addressed so that social inclusion of children with ASD at schools can be made a reality. The need for proper professional support, the empowerment of professionals, relevant research and the cooperation of various disciplines to promote social inclusion and reduce inequality at all levels of the Slovenian education system, from preschool to university education, is often highlighted, as stated by Kovač Šebart et al., 2021, and Marjanovič Umek, 2021.

Factors Contributing to Effective Professional Support for People with ASD

Professional support provided to people with ASD focuses on different areas and depends on the various deficits, e.g., teaching different types of behaviour, reducing anxiety, social and communication skills, emotional support, coping with disturbing sensory stimuli, etc. Several types of interventions are based on teaching skills (e.g., ABA – Applied Behaviour Analysis) and structuring the social environment (e.g., TEACCH – Treatment and Education of Autistic and

Related Communication Handicapped Children), while different types of interventions focusing on relationships also represent an important aspect of support (McInnis et al., 2020; Rehberger, 2018). It is important to choose the appropriate intervention based on the area of difficulty exhibited by people with ASD, while at the same time adapting to the individuals concerned and their entire families, as well as adopting a personalised approach taking into account the individual's social environment (Christensen et al., 2019; Crowell et al., 2019; Galpin et al., 2017; Gardiner et al., 2014; Lord et al., 2020; Nadeem et al., 2021; Rehberger, 2018). The question, therefore, is not whether professional support ought to be based on relationships or skills or other areas, and one should not adopt a one-size-fits-all approach. Rather, the support needs to be adapted and dynamic, and should respond to the multitude of characteristics typical of individuals with ASD; furthermore, specialists should integrate every tool available to them at different stages of development, in order for the support to be more effective (Lord et al., 2020). When planning professional support promoting social relatedness in people with ASD, it is important to note that child-parent interactions may exacerbate deficits in the social domain and threaten developmental outcomes (Crowell et al., 2019), so planning is important for the application of interventions addressing this area. When planning professional support for the interaction between a child with ASD and their parent, attention should be paid to stress and depression in such families, which may significantly impede the effectiveness of such interventions (Rehberger, 2018; Van Esch, 2019). Also important are other parental traits that represent a distinctive phenotype due to genetic autism deficits passed from parents to children (Crowell et al., 2019). There is no effective intervention that is able to address the issues of all people with ASD, nor is there a treatment that would cure autism, but there are professional support models being developed that adapt to the needs of the individual and their social environment. Over the last twenty years, new-generation professional support has been developed, such as integrative intervention models combining behavioural psychology and developmental science. These models focus on the early stages of child development in the areas of initiating relationships and learning in a naturalistic setting by considering the requirements of each stage of development (Prizant et al., 2003; Rogers & Dawson, 2010; Schreibman et al., 2015). Such interventions are referred to as Naturalistic Developmental Behavioural Interventions (NDBI). The understanding of the more specific features related to the individual dimensions of object relations and developmental processes may provide new insights in this field and complement the existing developmental behavioural models from early childhood onwards in order to meet every challenge that lies ahead in the field of social relatedness of people with ASD.

Object Relations Theory and the Separation-Individuation Process

The Object Relations Theory is an important area of psychoanalytic developmental psychology focusing on the relationship as the building block of psychic structure. Margaret Mahler and colleagues (1975) made an important contribution to the development of the Object Relations Theory by defining the separation-individuation process, which culminates in achieving psychological autonomy. Psychological autonomy may be understood as the result of the consolidation of individuality and uniqueness developed by an individual when the developmental separation-individuation process runs smoothly (Jones et al., 2003). Achieved psychological autonomy allows for reciprocity in social relationships between equal partners and is the foundation of satisfying relationships (Praper, 1999). The separation-individuation process takes place in the following sequence of phases during the child's early development: the autistic phase (the first six weeks of life), the symbiotic phase (from six weeks to six months of age) and the separation-individuation phase (from six months to three years of age), which comprises the following four sub-phases: differentiation, practising, rapprochement and object constancy. The process ends in a psychological birth at the age of three. Mahler (1987) describes the period between the child's birth and up to their first four weeks of life as a period during which infants are protected from external stimuli and operate in a closed system, concentrating on satisfying their needs. This is why this period of time is called the autistic phase. Upon reaching two months of age, the infant enters a symbiotic phase with the object, who acts as his or her caregiver. During this phase, the infant experiences oneness with the object and is unable to differentiate between the self and the object (Mahler, 1987). The mother, who is close to the child and takes care of it, encourages the child to establish contact and form a relationship. The first smile, which typically occurs at two months of age, is an indicator of development signalling that the infant is leaving the autistic phase and moving towards the symbiotic phase. This marks the beginning of an important internalisation process leading to the creation of the psychic structure (Praper, 1999). At six months of age, children first begin to differentiate between themselves, others and their mothers, and at ten months of age, the newly acquired abilities in the field of motor movement mean that children are able to gain new experiences. Children explore their environment, separate themselves from the object and experience separation anxiety. This phase is succeeded by the practising phase, during which the child's active role comes to the fore. By gaining new experience and obtaining reassurance and encouragement from the object, children build on the basic trust

in themselves and in others that they acquired during the symbiotic phase, and are able to develop their ego functions and identity in terms of acquiring a sense of their own abilities. When children practise, explore and experiment in their immediate environment, they need their mother to be present in their field of vision and available to them, as and when needed. The quest for the mother's support and the renewed closeness to the mother, which occurs when children reach the state of symbiosis once again, results in a sense of satisfaction and provides children with a new energy to continue practising. This period is known as the phase of rapprochement and is marked by the occurrence of separation anxiety, which happens when the child experiences the fear of losing the object and its affection (Praper, 1999). If the object provides emotional support and simultaneously creates a supportive environment conducive to new social interaction, children are able to develop their autonomy. At the same time, children develop their individuality, which reaches constancy at the age of three when they become an individual (Mahler et al., 1975). As an individual, the child initiates reciprocal relationships being aware of his or her own identity, which results in social relatedness and satisfying relationships, without fear of losing their sense of self (Praper, 1999).

Factors in the Resolution of the Separation-Individuation Process

Cognitive development, which largely enables object constancy (Praper, 1999), and environmental influences in terms of the child's interaction with the environment in early childhood (Tierney & Nelson, 2019) play a key role in the process of separation and individuation. Optimal parenting represents an appropriate supportive environment that offers secure attachment and manifests itself as sensitivity to the child's needs, especially on the part of the mother. It plays an important role in socio-emotional development, behaviour regulation, emotion and social functioning, and is an important determinant of appropriate symbiosis, attachment and the derived separation-individuation process (Beckwith et al., 1999; Ong et al., 2018; Pallini et al., 2018). Psychosocial experiences in early childhood, which occur in the mother-child interaction and are marked by the child's neurological predispositions and the active participation of both mother and child, influence the separation-individuation process and the formation of brain structure, which explains problems in adulthood (Tierney & Nelson, 2019). Parenting styles such as affectionate constraint, affectionless control and neglect, which are also manifested in unresponsiveness to the child's needs, are factors that retard development (Mayuri et al., 2015). Overprotection, reflected in too

frequent warnings, keeping the child in symbiosis and preventing practising, is also a common obstacle to the completion of the separation-individuation process (Žvelc, 2011; Kins et al., 2012). If inadequate parental care is compounded by the child's biological predispositions, the developmental outcome can be significantly compromised. Symbiotic merging, separation anxiety, narcissism, egocentrism, fear of engulfment and social isolation are dimensions of object relations that can be identified in people when there are complications in the separation-individuation process (Žvelc, 2010; Žvelc & Berlafa, 2015). Such complications can jeopardise mental health and lead to a pathological personality structure. If developmental complications arise when a child enters the developmental period of symbiosis, they can lead to psychotic personality organisation, while complications when the child moves out of symbiosis can result in borderline personality organisation and complications in the separation-individuation process can result in neurotic personality organisation (Mahler, 1987). Such problems hinder interpersonal cooperation and social integration, which have a significant impact on quality of life.

The Separation-Individuation Process in People with Autism Spectrum Disorder

The separation-individuation process in people with ASD is sometimes combined with aggravating factors on the part of the child and in the environment. The aggravating factors on the part of the child include deficits in social communication and interaction (American Psychiatric Association, 2022; World Health Organization, 2018), which in themselves suggest the possibility of complications in the developmental separation-individuation process. Research shows that children with ASD do develop early attachment, but to a lesser extent. This attachment is established with the mother, but the quality of the attachment may be unusual, different and sometimes even poor. This attachment type has more signs of insecure attachment with children being less socially responsive (Crowell et al., 2019; Dissanayake and Crossley, 1997; Grzadzinski et al., 2014; Kobayachi, 2000; Schore, 2013; Volkmar et al., 2005). The biological predispositions of people with ASD should not be ignored here, as they have a detrimental effect on social motivation for social relatedness (Chevallier et al., 2012), which can also hinder attachment and object relations, as well as the separation-individuation process itself. Aggravating factors can also be found in the environment in terms of parental reactions to the child. Responsiveness to the needs of the child with ASD and direct verbal communication relating to the child's interest are the two key factors that influence social

and communicative abilities (Ginn et al., 2017; Zlomke, et al., 2019), thus fostering separation and individuation in people with ASD. Parents find it difficult to meet the above two conditions because they are hindered by the stress and depression that are typical in parents of children with ASD and related to the general characteristics of people with ASD and their disruptive behaviour (Rehberger, 2018; Van Esch, 2019; Zaidman-Zait et al., 2014; Zlomke et al., 2019). Doussard-Rousevelt et al. (2003) state that early communication between a mother and a child with ASD is rather directed away from the child's attention and does not meet the child's interest. Kobayashi (2000) also highlights the mother's inability to recognise and respond to the child's desire for attachment, as the child's responses are different and less intense than those of other children. Different parental characteristics, which to some extent indicate that the parents themselves have ASD, may further complicate bonding with the child (Crowell et al., 2019). The characteristics of a child with ASD have a significant impact on the interaction with the mother and father in early childhood, while parental behaviour has a significant impact on the child's behaviour and development (Crowell et al., 2019). Here, the characteristic functioning of the child with ASD is coupled with unconstructive parental responses, which are mutually reinforcing and result in dysfunctional dynamics that can undermine object relations and the separation-individuation process (Burrell & Borrego, 2012; Crowell, et al., 2019). The fact that the separation-individuation process and the establishment of object relations is impeded in people with ASD can be indirectly inferred from a study by Lugnegård et al. (2012), which showed that half of people with ASD have personality disorders, further confirming that the separation-individuation process is impeded in people with ASD. According to Mahler (1987), the pathology of personality structures, which includes personality disorders, is the result of an impeded separation-individuation process, in which development is hindered at the moving-out-of-symbiosis phase. Mahler et al. (1975) suggest that symbiosis and attachment alone are clearly not enough to promote the development of separation and individuation in people with ASD towards the formation of their own identity and autonomy for adequate social relatedness, because, as Elmose (2020) notes, adolescents and adults with ASD are more socially isolated. The World Health Organization (2018) also noted that people with ASD typically find it more difficult to initiate relationships outside the family, whereas attachment within the family or a couple is not as problematic. Thus, symbiosis is established. However, complications arise when moving out of symbiosis, which may explain the social isolation and difficulties in establishing relationships in social groups. Based on the above theoretical background, we hypothesised that differences in the characteristics of object

relations in people with ASD compared to the characteristics of object relations in people without ASD are reflected in a greater expression of disturbances in object relations, especially in the more pronounced dimensions of greater social isolation and symbiotic merging.

Method

The research was conducted using quantitative descriptive analysis and the causal-non-experimental method.

Sample

The experimental group sample included 38 adults aged from 18 to 58 years with normal intellectual abilities and with ASD, and 100 adults aged from 18 to 52 years with normal intellectual abilities and without ASD. The sample was drawn from educational programmes for people without intellectual disabilities. The questionnaire itself included a question on the presence or absence of ASD. The experimental and control groups were matched for age, gender and intellectual ability, which was ensured by capturing the sample in comparable social environments and assisted by a general data survey. Nevertheless, there were some differences between the two groups in the age and gender structure. The sample representing the control group was therefore weighted accordingly so that its gender and age structure (two age groups) is comparable to that of the experimental group. Table 1 shows the gender and age structures of the two samples before weighting. Also shown are the values with which the sample of subjects without ASD was weighted. The analysis below is based on the weighted data. Due to the rounding of the weighted data to whole numbers, small discrepancies may arise in the sums of frequency values.

Table 1

Weighting of the control group by age and gender

GENDER AND AGE	Persons with ASD		Persons without ASD		Weighting used for the control group
	Number	Percentage	Number	Percentage	
Men aged up to 20 years	13	34.2%	26	26.0%	1.316
Men aged 21 years and over	10	26.3%	24	24.0%	1.096
Women aged up to 20 years	4	10.5%	31	31.0%	0.340
Women aged 21 years and over	11	28.9%	19	19.0%	1.524
Total	38	100.0%	100	100.0%	1.000

In the experimental group, after weighting, 23 (60.5%) of the subjects were men and 15 (39.5%) were women. Their mean age was 24.47 years, with a standard deviation of 9.942. In the control group, after weighting, 61 (61.0%) of the subjects were male and 39 (39.0%) were female. Their mean age was 25.02 years, with a standard deviation of 9.923. The experimental group consisted of 20 (52.6%) secondary school students, four (10.5%) university students, six (15.8%) employed persons and eight (21.1%) unemployed persons. The control group consisted of 48 (48%) secondary school students, 22 (22%) university students, 29 (29%) employed persons and one (1%) unemployed person.

Research instrument

For the study, we used an online survey consisting of nine demographic questions and the Test of Object Relations (*Test objektnih odnosov*, Žvelc, 1998). The Test of Object Relations is consistent with the theory of Margaret Mahler et al. (1975). It measures relationships with significant others and shows the specific resolutions of the separation-individuation process that are manifested in interpersonal relationships during adulthood. The survey is a self-assessment tool, in which respondents rate the following six dimensions of object relations on a five-point scale: symbiotic merging, which refers to the weak differentiation between self and others (an example of a statement in the test: "Sometimes in relationships with others I begin to lose my sense of self"); separation anxiety, which indicates difficulty in tolerating separation from significant others (example : "If the person I love left me, my life wouldn't have any meaning anymore"); narcissism, which describes an individual's grandiose and omnipotent experience of the self (example: "I am going to achieve more in life than other people"); egocentrism, which refers to using and exploiting other people for one's own needs (example: "In a relationship I expect my partner to always accommodate me"); fear of engulfment, which refers to individuals who fear they will lose their own identity (example: "Sometimes I am afraid of another person getting too close to me"); and social isolation, which refers to avoidance and lack of relationship with others (example: "I am not close to anyone"). A version of the test consisting of 48 items was used in the study. It has satisfactory internal consistency and construct validity (Žvelc, 2007, 2008, 2011; Žvelc & Berlafa, 2015) and has been used in several studies in different countries (Barkhuizen, 2005; Dajčman, 2014; Kobal, 2002, 2008; Nettmann, 2013; Pahole, 2006; Pavšič Mrevlje, 2006; Restek-Petrović et al., 2012; Rogič Ožek, 2004; Štirn, 2002; Uršič, 2014; Žvelc, 2007, 2010b, 2011; Žvelc & Berlafa, 2015).

Research procedure

The data collection took place from May 2021 to the end of 2021 using an online survey. The average time to complete the survey was 15 minutes. The data collection for the control group was carried out by sharing the survey link using the snowball method: we primarily targeted principals, secondary school counsellors and teachers, boarding school staff, university professors and faculty student office staff, asking if they could share the survey among their students and other adults. We asked them to approach individuals who were willing to take part in the study, were of legal age and had normal intellectual abilities. In addition, we asked participants to share the survey with their friends, acquaintances, partners and others.

When collecting data for the experimental group, we turned to institutions for people with special needs, employees of healthcare institutions and associations for people with ASD. We asked their staff to approach adults with ASD and ask if they would like to take part in our survey. Diagnoses of people with ASD and other information were obtained from their documentation (expert opinions, statements for guidance of people with special needs and medical records). With their consent, we visited institutions for people with special needs and administered the questionnaire electronically, while remaining available to clarify any questions they did not understand. Employees of healthcare institutions and associations for people with ASD were given detailed instructions on how to administer the questionnaire and how to be available for any questions.

The data obtained from the survey were processed using SPSS statistical software. In cases where a small number of responses were missing (one missing response), the missing value for each unit was replaced by the average of the other indicators. The reliability coefficient or internal consistency of each measurement tool was calculated for each test. Differences between the experimental and control groups, as well as other differences taken into consideration, were tested with a t-test for two independent samples.

Results

First, Levene's test was performed to verify the hypothesis of equality of variances. All of the variances were equal except in fear of engulfment. For this dimension, the appropriate t-test correction was applied, which gives a result identical to the corresponding non-parametric test (Welch test). The results of the t-test are shown below (Table 3). We first present the reliability of the measurement scale and then the results obtained for the object relations dimensions.

Table 2

Reliability of the basic measurement scales for the basic dimensions in the Test of Object Relations

BASIC DIMENSION	Total number of respondents (N)	Number of items (I)	Cronbach's alpha
Symbiotic merging	138	8	0.806
Separation anxiety	138	8	0.825
Narcissism	138	8	0.874
Egocentrism	138	8	0.804
Fear of engulfment	138	8	0.816
Social isolation	138	8	0.885

Table 2 shows that the Test of Object Relations is reliable, i.e., internally consistent across all basic and aggregated measurement scales (all Cronbach's alpha coefficients calculated are greater than 0.8).

Table 3

Differences between the two groups in the basic dimensions of the Test of Object Relations, calculated using the t-test

BASIC DIMENSION	Persons with ASD (N)	Persons without ASD (N)	Average (A)	Standard deviation (SD)	t-test	
					t	sig.
Symbiotic merging	38		2.51	0.734	3.058	**0.00**
		100	2.10	0.682		
Separation anxiety	38		3.09	0.882	3.432	**0.00**
		100	2.54	0.810		
Narcissism	38		2.19	0.866	-0.762	0.45
		100	2.31	0.815		
Egocentrism	38		2.12	0.641	1.085	0.28
		100	1.99	0.675		
Fear of engulfment	38		2.21	0.866	0.937	0.35
		100	2.06	0.652		
Social isolation	38		2.57	0.852	1.945	**0.05**
		100	2.25	0.876		

The abbreviation 'sig.' stands for 'significance' and represents the level of statistical significance in Table 3. Where the test values are statistically

significant (sig. is less than or equal to 0.05), the sig. value is underlined and in bold type.

Table 3 shows that there are statistically significant differences between the experimental and control groups in the dimensions of symbiotic merging (sig. = 0.00), separation anxiety (sig. = 0.00) and social isolation (sig. = 0.05). There are no statistically significant differences in the other dimensions. It follows that one can state with certainty that people with ASD are more likely to experience symbiotic merging, separation anxiety and social isolation than people without ASD.

Discussion

The results confirm the hypothesis that people with ASD are characterised by greater disturbances in object relations compared to people without ASD in the dimensions of symbiotic merging and social isolation. In addition to the dimensions defined in the hypothesis, the results also show that another dimension, separation anxiety, is more characteristic of people with ASD. The characteristic relationship dynamics of people with ASD can be described as follows. Compared to people without ASD, people with ASD are more likely to differentiate poorly between themselves and other people, to merge and feel one with others, to lose themselves in relationships, to desire and yearn to establish symbiotic relationships, or to fear being abandoned by a significant other, while being distrustful, avoidant and alienated. These findings are consistent with and complement the findings of other authors (Crowell et al., 2019; Dissanayake & Crossley, 1997; Grzadzinski et al., 2014; Kobayachi, 2000; Volkmar et al., 2005) who suggest that people with ASD develop early attachment, but to a lesser extent. This attachment is established with the mother, but the quality of the attachment may be unusual or different, and sometimes even poor. This attachment type has more signs of insecure attachment, and people with ASD who exhibit this attachment type are less socially responsive. With the description outlined above, the present research defines the relationships of people with ASD more precisely, suggesting that the separation-individuation process is disturbed when moving out of symbiosis, as proposed by Mahler et al. (1975) and, indirectly, by Lugnegård et al. (2012). Thus, the separation-individuation process in people with ASD is not carried through to the point of identity formation and autonomy, but rather stalls and stagnates when moving out of symbiosis during the sub-phases of differentiation, practising and rapprochement. That said, the results should be interpreted with caution, as one cannot conclude that the parents or the mother are solely responsible for

the relationship characteristics of people with ASD described above. Today, the psychoanalytic theories of the 1960s claiming that autism is caused by 'refrigerator mothers' have been definitively refuted (Crowell et. al., 2019) and we now know that the typical functioning of individuals with ASD is an interplay of many factors based in biology. These biological predispositions influence social motivation and thus social interaction (Chevallier et al., 2012), attachment, and the separation-individuation process described in the results of our study.

Conclusion

The findings of the present study provide an additional perspective and show the characteristic relationship dynamics in people with ASD, who can be described as being trapped in dependent relationships, fearing the loss of a significant other, and being more alienated in relationships. The results serve as a basis for specific additions to developmental-behavioural support services in order to aid the separation-individuation process and promote autonomy to strengthen the skills needed for social relatedness and social inclusion, thus providing equal opportunities to all, including to people with ASD. In line with the results of the research, there is a need to promote development when moving out of symbiosis in the sub-phases of differentiation, practising and rapprochement, which can complement existing professional support at pre-schools and schools. One limitation of the study was that a single test was used to measure both the object relations and the resolution of the separation-individuation process. To substantiate the findings, it would be reasonable to carry out a study on a larger sample and to examine parenting styles to further confirm and explain the complications when moving out of symbiosis. Another limitation was that the data collection procedure was slightly different for the control and the experimental group, which was a consequence of the need to help the people with ASD to better understand the test. It would also be useful to examine first-hand what people with ASD experience when initiating relationships, in order to gain a holistic insight into their specific social functioning. In this way, one could better design professional support fostering social relatedness and social inclusion and plan educational strategies accordingly.

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