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A Review of Emotional Awareness of Adolescents with Asperger Syndrome

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Abstract: ***As individuals with autism spectrum disorders are entering adolescence and adulthood, their interests focus on social interactions often increases. Nevertheless, persistent social capacity deficits may impede their ability to establish relationships. Autistic individuals who function very well are more aware of the challenges they encounter when interacting with their peers. Most individuals with ASD with intellectual disability can speak at some level, may have the ability to work, however they require daily support. Adults with average or higher intelligence, although they have no obvious symptoms of ASD they find many difficulties in employment and services support.***

Keywords: Emotional Awareness, Asperger Syndrome

1. Introduction

Autism spectrum disorder (ASD) refers to a group of neurodevelopment disorders that affect how people communicate, learn, behave, and socially interact. People may have repetitive and characteristic patterns of behaviour or narrow interests. Not everyone who has ASD may have these symptoms, which are usually present from early childhood and affect daily functioning. Both children and adults can have ASD (NIH, 2022). Autism referring to a complex and lifelong developmental disorder, which is the result of a neurological dysfunction. This specific dysfunction affects the normal functioning of the human brain and has, sometimes to a greater and sometimes to a lesser extent, serious effects on the development of those areas of the brain that are responsible for the social interaction of individuals as well as for those skills associated with the field of communication (Grynszpan, Weiss and Perez-Diaz, 2014). It is therefore characterized by a triad of disorders in social interaction, communication and imagination, while a characteristic feature of autism is the fact that atypical behaviours manifest themselves at various stages of the child's development, i.e., growing up and not suddenly and all together at a certain age (Hodges, Fealko and Soares, 2020).

2. Literature Review

According to Leo Kanner (1943), an American psychiatrist described autism as a condition that causes a brain disorder and takes place during the first two and a half years of childhood. Autism spectrum disorder is defined as a pervasive developmental disability characterized by core impairments in social communication and imagination. As defined by American Psychiatric Association (2022), basic social interaction can be difficult for children with autism spectrum disorders. Symptoms may include: Unusual or inappropriate body language, gestures, and facial expressions or lack of interest in other people or in sharing interests or achievements. Today, there is an increase in the number of children diagnosed with autism. In 2021, the Centers for Disease Control and Prevention (CDC) reported that approximately 1 in 44 children in the U.S. is diagnosed with an autism spectrum disorder (ASD), according to 2018 data. Also, according to CDC (2021), over the next decade, an estimated 707,000 to 1,116,000 teens (70,700 to 111,600 each year) will enter adulthood and age out of school-based autism services.

Nowadays, a range of diagnostic instruments exist that work well, when a parent or professional is concerned that a child might have ASD. The most common that is used is the Modified Checklist for Autism in Toddlers (M-CHAT), while others are: the Communication and Symbolic Behaviour Scales (CSBS) (McConachie et al., 2015), the Screening Tool for Autism in Toddlers and Young Children (STAT; a 20-min observation for young children) and the Autism Diagnostic Observation Schedule (ADOS; a 45-min observation done by a skilled professional, available in different formats for people of different languages and ages, from 12 months to adulthood) (Weitlauf et al., 2014). Assessment of children's symptoms can be obtained from a variety of scales, such as the Childhood Autism Rating Scale (CARS), Social Responsiveness Scale (SRS), and the Social Communication Questionnaire (SCQ) (Lord et al., 2018). Delayed diagnosis is affected by many factors such as ethnicity, multilingualism, socioeconomic status or female sex. Co-occuring problems such as hyperactivity or anxiety that mask ASD may be another factor that make parents seek professional help in later stages.

Most adult people with ASD with intellectual disability can speak at some level, may have the ability to work, however they require daily support. Adults with average or higher intelligence, although they have no obvious symptoms of ASD they find many difficulties in employment and services support (Howlin et al., 2013). In the USA, only about 25% of individuals with ASD with average intelligence live in their own households, with the remainder living with their families into at least middle age. Marriage and long-term intimate relationships are still rare (Anderson, Liang and Lord, 2014).

2.1. Co-occuring disorders along with ASD

ASD can be accompanied by genetic disorders (e.g. fragile X syndrome) and psychiatric conditions. Attention-deficit hyperactivity disorder (ADHD) is the most common psychiatric comorbidity in people with ASD and considerably affects children with ASD who have average intelligence or intellectual disability (Hartman et al., 2016). The most common comorbid anxiety disorders include social phobia (17–30%), specific phobias (30–44%), generalized anxiety disorder (15–35%), separation anxiety disorder (9–38%) and obsessive-compulsive disorder (17–37%). In individuals with ASD, anxiety is also associated with sleep problems, self-injurious behaviour and parental stress, insistence on sameness (Zaboski and Storch, 2018; Mazurek and Petroski, 2015; Kerns et al., 2015; Lidstone et al., 2014). Irritability and aggression may co-occur with ASD, taking many different forms, such as minor physical aggression in very young children to verbal aggression in adults (Campisi et al., 2018).

2.1.1. Risk factors for ASD

The following risk factors for ASD have been found:

Environmental Risk factors:

Many risk factors for ASD have been suggested. Advanced maternal age (≥40 years) and paternal age (≥50 years) have been independently associated with ASD risk in several studies (Lyall et al., 2017; Idring et al., 2014). Maternal metabolic conditions, weight gain, and hypertension during pregnancy as well as bacterial or viral infections of the pregnant woman, have also been associated with an increased risk of ASD (Lyall et al., 2017). Some medication during pregnancy, such as prenatal valproic acid exposure has been associated with increased risk of ASD (Christensen et al., 2013). Children born <32weeks, with low birthweight (<1500 g) should be monitored for ASD during later infancy and early toddler years. There is also a link with air pollutants during pregnancy, but variable results across countries make interpretations difficult. Associations between ASD and vaccinations are not found (Zerbo et al., 2017).

Genetic factors:

A meta-analysis published in 2016 reported that 74–93% of ASD risk is heritable, although non-genetic factors are also important. ASD occurs in 7–20% of subsequent children after an older child is diagnosed with ASD and this prevalence is increased in children with two older siblings with ASD. Risk is 3–4 times higher in boys than girls (Campisi et al., 2018; Sandin et al., 2014).

Neurobiology factors:

ASD results from early altered brain development and neural reorganization (O'Reilly, Lewis and Elsabbagh, 2017). Results from neuroimaging generally show a pattern of global brain connectivity, coupled with local over-connectivity in specific regions, often reorganization of frontal and occipital regions (O'Reilly, Lewis and Elsabbagh, 2017; Rane et al., 2015).

2.1.2. Pharmacology treatments in ASD

Medication is currently limited to the treatment of co-occurring behaviours and not ASD itself. The drugs that are used are antagonists of dopamine-receptor and serotonin-receptor atypical antipsychotics. Risperidone and aripiprazole have alleviated symptoms of irritability, aggression, agitation, self-injury and other disruptive behaviours in children and adolescents with ASD (Fung et al., 2016; Kent et al., 2013; Owen et al., 2009). Both drugs can also cause adverse effects, including sedation and weight gain, increasing risk of later health problems. Methylphenidate, atomoxetine and guanfacine are also used to treat ADHD symptoms which co-occurs in many children with ASD (Sturman et al., 2017; Scahill et al., 2015). Further investigation is needed for some supplements, such as sulforaphane (Singh et al., 2014).

2.2. Emotional intelligence

Emotional intelligence describes the ability, capacity, skill, or self-perceived ability to identify, assess, and manage the emotions of one's self, of others, and of groups. People who possess a high degree of emotional intelligence know themselves very well and are also able to sense the emotions of others. They are affable, resilient, and optimistic. Surprisingly, emotional intelligence is a relatively recent behavioural model. Specifically, it was not until the publication of Emotional Intelligence: Why It Can Matter More Than IQ by Daniel Goleman (2013) that the term became popular.

The benefits by developing their emotional intelligence individuals can become more productive and successful at what they do, and help others become more productive and successful too. The process and outcomes of emotional intelligence development also contain many elements known to reduce stress—for individuals and therefore organizations—by moderating conflict, promoting understanding and relationships, and fostering stability, continuity, and harmony. Last but not least, it links strongly with concepts of love and spirituality (Goleman, 2013).
Individuals have different personalities, wants, needs, and ways of showing their emotions. Navigating through this requires tact and shrewdness—especially if one hopes to succeed in life. This is where emotional intelligence theory helps. In the most generic framework, five domains of emotional intelligence cover together personal (self-awareness, self-regulation, and self-motivation) and social (social awareness and social skills) competences (Goleman, 2013). More precisely for:

A) Self-Awareness
(i) Emotional awareness: Recognizing one's emotions and their effects.
(ii) Accurate self-assessment: Knowing one's strengths and limits.
(iii) Self-confidence: Sureness about one's self-worth and capabilities.

B) Self-Regulation
(i) Self-control: Managing disruptive emotions and impulses.
(ii) Trustworthiness: Maintaining standards of honesty and integrity.
(iii) Conscientiousness: Taking responsibility for personal performance
(iv) Adaptability: Flexibility in handling change.
(v) Innovativeness: Being comfortable with and open to novel ideas and new information.

C) Self-Motivation
(i) Achievement drive: Striving to improve or meet a standard of excellence.
(ii) Commitment: Aligning with the goals of the group or organization.
(iii) Initiative: Readiness to act on opportunities.
(iv) Optimism: Persistence in pursuing goals despite obstacles and setbacks.

D) Social Awareness
(i) Empathy: Sensing others' feelings and perspective, and taking an active interest in their concerns.
(ii) Service orientation: Anticipating, recognizing, and meeting customers' needs.
(iii) Developing others: Sensing what others need in order to develop, and bolstering their abilities.
(iv) Leveraging diversity: Cultivating opportunities through diverse people.
(v) Political awareness: Reading a group's emotional currents and power relationships.

E) Social Skills
(i) Influence: Wielding effective tactics for persuasion.
(ii) Communication: Sending clear and convincing messages.
(iii) Leadership: Inspiring and guiding groups and people.
(iv) Change catalyst: Initiating or managing change.
(v) Conflict management: Negotiating and resolving disagreements.
(vi) Building bonds: Nurturing instrumental relationships.
(vii) Collaboration and cooperation: Working with others toward shared goals.
(viii) Team capabilities: Creating group synergy in pursuing collective goals.

In brief, the five domains relate to knowing your emotions, managing your emotions, motivating yourself, recognizing and understanding other people's emotions, and managing relationships, i.e., managing the emotions of others.

3. Emotional Awareness

Emotion awareness has been defined as "an attentional process that serves to monitor and differentiate emotions, locate their antecedents, but ignore the physical arousal that is part of the emotion experience" (Rieffe et al., 2011). Alexithymia is often used in the literature to denote "a limited ability to recognise, differentiate, and verbalise an individual's own emotions" (Kooiman et al., 2002). It is estimated that 1% of children and young people have ASD (Baird et al., 2006). Studies of typically developing young people suggest that alexithymia and impaired emotion awareness (e.g. differentiating between emotions, communicating them to others, identifying their causes and a focus on bodily arousal) are related to increased depression and anxiety (Rieffe et al., 2011).

Emotion awareness consists of individual differences in the way people differentiate, express, analyze, and pay attention to their own and others' emotions. Emotion awareness appears as an important feature of emotional competence (EC) (Lahaye et al., 2011). The first investigations studying children and adolescents reveal associations between self-reported EC and social behaviours (e.g., Petrides et al., 2004; 2006), physical and psychological health (e.g., Mavroveli et al., 2007; Rieffe et al., 2010). The concept of emotional competence is used as an umbrella term, including all different aspects of emotional functioning (e.g., identification of the emotions, regulation of emotions, emotion expression, understanding others' emotions, empathy, etc.). Other terms (such as emotional intelligence or alexithymia) are frequently used to capture individual differences in emotional functioning. However, it prefers to use the term of emotional competence because alexithymia concept is underinclusive and EI is overinclusive. Indeed, alexithymia refers to an inability to identify the own emotions, verbalize them, and an externally oriented thinking style (Nemiah et al., 1976) but does not include aspects of analysis or regulation of emotions. On the contrary, the EI concept, defined as a constellation of emotion-related self-perceptions and dispositions comprising the affective aspects of personality (Petrides & Furnham, 2001), includes more than emotional competence (main dimensions of the emotional intelligence are well-being, self-control skills, emotional skills, and social skills). To date, many studies have emphasized associations of emotional competence with physical and mental health (e.g., Mikolajczak et al., 2006; Schutte et al., 2007).

In addition, EC facilitates many social, academic and professional performances (e.g., Van Rooy and Viswesvaran, 2004). Despite the importance of EC in adulthood, there are only a few recent studies investigating the role of EC on children's and adolescents' adaptation to their environment. Considering the importance of individual differences in emotional competence across the lifespan in clinical and research perspectives, it seems essential to have reliable and valid instruments to capture this variability. Although the two existing self-report questionnaires for adults on trait emotional intelligence and alexithymia have been adapted for children and adolescents with reasonably good results (the Trait Emotional Intelligence Questionnaire-Adolescents Short-Form; Petrides et al., 2006 and the Alexithymia Questionnaire for Children; Rieffe et al., 2006), it is still preferable to use a questionnaire especially designed for such a young population, taking into account children's contextual factors such as the family, the peers' group, and the classroom (e.g., Matza et al., 2004). The Emotion Awareness Questionnaire for children (EAQ30; Rieffe et al., 2008) is indeed such a questionnaire. It is a newly self-report questionnaire, especially designed for children and adolescents, that aims to identify what children

feel and think about their own emotions and the emotions of others.

Emotional awareness consists of individual differences in the way that people differentiate, express, analyze, and pay attention to their own emotions and the emotions of others (Lahaye et al., 2011). Emotional awareness is an important feature of emotional competence. The term 'emotional competence' is used to capture all of the different aspects of emotional functioning, such as identification of emotions, regulation of emotions, emotion expression, and empathy (Avramova-Todorova, 2018). The EAQ30 is composed of 6 dimensions. Differentiating Emotions is the ability to differentiate discrete emotions and locate their antecedents. Bodily Awareness is the cluster of physical sensations of emotions. The EAQ subscales Analyses of Emotions and Attending to Others' Emotions identify children's interest to face their own and others' emotions respectively. Finally, the EAQ subscale Not Hiding Emotions refers to the tendency not trying to conceal your feelings and Verbal Sharing of Emotions refers to verbal aspects of communication.

1) Differentiating Emotions is the ability to differentiate discrete emotions and locate their antecedents.
2) Bodily Awareness is the cluster of physical sensations of emotions.
3) Analyses of Emotions.
4) Attending to Others' Emotions identify children's interest in facing their own and others' emotions, respectively.
5) Not Hiding Emotions refers to the tendency to not attempt to conceal personal feelings.
6) Verbal Sharing of emotions refers to verbal aspects of communication (Avramova-Todorova, 2018).

4. Conclusions

The literature suggest that autism symptoms are improved with age, due to maturation and stabilization of disease processes and to age-related changes in brain structure and function (Courchesne, 2004; Kleinhans et al., 2016; Redcay and Courchesne, 2005). For future research, the use of a video camera is suggested, which allows the recording of non-verbal behaviour (Tickle-Degnen and Gavett, 2003). The participation of people with and without disabilities in intervention programs contributes to the prevention of illegal drug use, conduct disorders and school failure (Block et al., 1988; Dishion et al., 1996), crime (Moffitt, 1993; Tremblay et al., 1995) as well as early smoking initiation (Kellam et al., 2008; Patterson et al., 1997). Also, the intervention can contribute to increasing social competence (Ozer et al., 2012; Rothwell et al., 2006), self-regulation ability (Webster-Stratton et al., 2008), perceived physical ability and in reducing anxiety and worry (Cotugno, 2009).

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