

The Relationship between Anxiety, Social Skills Deficit and Autism Spectrum Disorder among Autistic Children in Nairobi, Kenya.

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ABSTRACT:

This paper investigates the relationship between anxiety and social skills deficit and ASD in children living with autism. Focusing on Nairobi County in Kenya, the author engaged parents and teachers of 40 children and adolescents aged between 5-21 years old. The study adopted a quasi-experimental design in two schools representing the experimental (n=20) and control (n=20) schools. Questionnaires were used for data collection. The intervention was done immediately after the baseline data was collected and followed up for six months. There was a significant decline in social skills deficits $p=0.006$ (95% C.I (4.97, 27.8)). In addition, remission of anxiety and social skills deficits is achievable by MASSI in children and adolescents with ASD in schools. The Social Responsiveness Scale (SRS-2) was used to measure the Autism Spectrum Disorder with scores ranging from 1- not accurate to 4 – almost always true. The indicator depicts reliable internal consistency of 0.90, with a higher score implying greater severity of the social deficit syndrome. The study found out that there was a correlation between the symptoms of anxiety and social skills deficits, anxiety problems in school-age children and adolescents and finally social skills with ASD among the studied population. The study recommended that Parent and caregivers of autistic children ought to adopt Skinner's contingency of reinforcement, address and support children's necessities having ASD and finally raising funds would enable the Ministry of Education to develop a curriculum that would address, prioritise and focus on the skill deficits most specific and appropriate to autism.

Key Terms: Social skills, deficit, Autism Spectrum Disorder, Anxiety.

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INTRODUCTION

Autism Spectrum Disorder (ASD) is a composite neurodevelopmental disability that significantly affects brain development, social relationships, and verbal and nonverbal communication. The precise causes of ASDs are unknown, although factors such as neurobiological, hereditary, and environmental risks are significant contributors to ASD conditions (Hallymayer et al., 2011). Individuals with ASD are well-known for communication difficulties, including inappropriate responses in conversations, misunderstanding nonverbal communications or struggling to create peer relationships. It is further indicated that the symptoms of individuals with ASD will be in various situations, with some persons presenting mild symptoms while others severe symptoms (Kumar et al., 2019).

There is a lack of embrace, meaninglessness to warmth or bodily and eye contact, absence of facial receptiveness, and responsiveness to the caregiver's voice among individuals with ASD (Boyd et al., 2010; Corsello, 2005). Their parents, on the other hand, often see deficits in giving and take communication at the initial developmental years of a child's life. This may make the parent assume that the child may be having a hearing deficit. Children with ASD might be passively ready to participate in societal relations but still, handle other people unfamiliarly. They are continually queried until an answer is given and still have minimal respect for borders and intrusion in others (Bono et al., 2004). All these are early signs of ASD in a child, for which our society lacks awareness. Children with ASD lack the skills to create social relations, which they desire to mature (Reaven, 2009; White et al., 2009). This heightens the levels of anxiety in them when they fail to have age-appropriate behaviour, as are the expectations of others. Nonetheless, individuals with ASD may only exhibit such behaviours as the restricted/repetitive patterns of

behaviour, interests, and actions during the initial periods of development (Weitlauf et al., 2014).

LITERATURE REVIEW

A positive relationship between anxiety and deficits in social skills has been observed in several scholarly works (Bellini, 2006; Kleinhans et al., 2010; Myles et al., 2001; White et al., 2009). Further, an overall social impairment in ASD can occur if the child has a comorbid anxiety disorder (Ghaziuddin, 2002; Ginsburg et al., 1998; Hadi et al., 2014). Thus, there is a strong influence on the ability to participate in home, school and community activities in these children. A study by Velting et al., (2004) found out that children with substantial symptoms of anxiety have more risks for major educational problems, future joblessness, abuse of substance and additional psychiatric disorders. Anxiety may worsen during adolescence, as young people face a progressively complex social milieu and often develop more awareness of their differences from others regarding their social performance (Reaven, 2012). Observations have been made that as these children notice their lack of social skills compared to their peers, the behaviour depicting anxiety, such as aggressiveness, takes over in them. It is, therefore, imperative to look at individual variables relative to ASD.

Anxiety and ASD

Responding to an intimidating state or stimuli with anxiety is normal and fit. However, when such responses are excessively used, they can damage one's daily operations, and the individual is classified to have an anxiety disorder (APA, 2013). Signs of anxiety disorders include obsessions and repetitive behaviours, avoidance, especially the social situations and, speech problems such as disfluency. These symptoms are commonly noticed in children with ASD (Hartley & Sikora, 2009; Wood & Gadow, 2010). Several

documented kinds of anxiety disorders, according to APA (2013), are summarised as:

- (i) Panic disorder - individuals with this condition have feelings of terror that strike suddenly and repeatedly with no warning. Other symptoms are palpitations (unusually strong or irregular heartbeats) and a feeling of choking, which may make one feel like he is having an attack "going crazy."
- (ii) Social anxiety disorder -also called social phobia, involves an overwhelming worry and self-consciousness about everyday social situations. The centre is on fear of being judged by others or behaving in a way that might cause embarrassment or lead to ridicule.
- (iii) Specific phobias -this is an intense panic of a specific item or condition, such as reptiles or elevations. The level of panic generally fits the condition, which may cause one to evade ordinary situations.
- (iv) Generalised anxiety disorder –this encompasses extreme, impractical fear and pressure when there is trivial or no cause to aggravate the nervousness. Depending on the type of anxiety, there is a variation of symptoms, which include fear, restlessness, panic feelings, trouble sleep, wet feet or hands, rapid breathing, rapid heart rate, numbness of hands, or feet, muscle tensed muscles, feeling of dizziness and dryness of the mouth.

There is a higher number of children with ASD anxiety disorders reported and of concern in treatment (Costello et al., 2004; White et al. 2009). A study by White (2013) presented an occurrence of anxiety in a group born at the same time that increased with age as 11years old had 7.5 per cent of anxiety while 21 years old had 20.3 per cent in the USA. A similar report confirmed that anxiety augmented by stage of development, between 12-13years old, had 14.7 per cent while 16-17 years old had 22.0 per cent Costello et al., 2004; Essau et al., 2000).

The occurrence of anxiety difficulties in ASD children of schooling age ranges between 40–45 per cent in the USA (White et al., 2009). The studies on epidemiology are remarkably greater than the prevalence of children's anxiety in the common populace, which was at 5–10 per cent to 31.9 per cent (Costello et al., 2004; Merikangas et al., 2010). Further, studies have confirmed higher anxiety levels in children with ASD than typically developing children (Bellini, 2004; Gillot et al., 2001; Pine et al., 2008; Towbin et al., 2005).

Children and adolescents, who experience anxiety, may be predisposed to information processing, unhelpful thoughts, and physiological hyper arousal (Harkema & Coffee, 2014). Some symptoms, however, may look different from typical children. To offer necessary support in treatment, this awareness is crucial for practitioners. Anxiety impacts children with ASD in various ways. Among the adolescence with ASDs, anxiety can be marked in excess inflexibility, extreme intolerance, and excess avoidance of the numerous causes related with nervousness (Storch et al., 2012). In individuals with ASD, anxiety can cause additional difficulties with concentration, fatigue, disturbed sleep and excessive irritability (Reaven, 2009). Other symptoms include social mix-up, delicate, sensual defensiveness, and faulty perception of emotions, adverse or angry social interactions, and intense struggle with adjustment (Ollendick & White, 2012). Lastly, youth may exhibit an amplified persistence on rules and routines, involve in high intensities of repetitive activities, or present with high silly or volatile behaviours (Dasari, 2012).

The association of anxiety and ASD are diverse and may require further probing. Bakare and Munir (2011) brought out different characteristics in the manifestation of ASD in African children. However, symptoms seen in varying anxiety disorders are similar behaviours seen in children with ASD. For instance, behaviours like impulses of an

obsessive-compulsive disorder and the obsessions could appear similar to stereotyped and repetitive behaviours in children with ASD. For this reason, there is an assumption as to what psychologists would consider symptom overlap, which is a remarkably different condition (Van-Steensel et al., 2011).

The most common disorders which are reported among children is Anxiety (AACAP 2007). Higher levels of anxiety conditions are reported in adolescence compared to childhood among the ASD populace (Kuusikko et al., 2008; Weisbrot et al., 2005; White et al., 2009). This creates awareness for those working with younger and older children. Further, it alerts the practitioners that adolescents may have an extremely tough time expressing their anxiety. An upsurge in concern may manifest itself as an increase in challenging behaviour (Minahan & Rappaport, 2013). This means that children may have difficulty expressing their emotion. Therefore to offer a responsive intervention most needed, early identification of needs by screening for anxiety symptoms is recommended (Mayes et al., 2011).

Among anxiety disorders such as generalised and social anxieties, there is a low prevalence of separation anxiety disorder in adolescence compared to childhood (Reaven, 2011; Westenberg et al., 2007). Preferably, the assessment of anxiety in the ASD populace, several informers and modalities should be used because persons with ASD usually fail to show age-related signs of nervousness (White et al., 2009). This also reduces any possibility of bias or over-reporting of informants. This may strengthen findings, especially in countries where assessment services have not been established, such as Kenya, using multiple informants for validating the outcome.

Social Skills and ASD

Social skills difficulties are not solely limited to children with ASD but many with other mental health matters such

as Attention Deficit Hyperactivity Disorder (ADHD). Deficits in social skills include apparent damage in the use of nonverbal, social behaviours, inability to have proper peer relations, a lack of natural fun sharing, lack of interest, and failing to have mutual exchange (White et al., 2009). It has been noted that individuals with ASDs display observable social skills deficits by their first birthdays (Clifford & Dissanayake, 2008; Volkmar et al., 2005; Wetherby et al., 2007).

In particular, individuals with ASD exhibit numerous noteworthy social behaviour shortfalls such as deficits in social reciprocity, introducing social relations and being able to respond naturally to social circumstances (APA, 2013). Lack of social skills is associated with problems such as negative responses to social conditions with hostility, irritabilities, destruction of tools (Scattone et al., 2002). Due to these early social skills deficits, a gap develops between children with and without ASDs as they enter elementary school. Children with ASDs struggle to adjust to the complex routines, demands, and social interactions of school and thus, the social gap widens (Church et al., 2000). This creates a reason to address this need that contributes to adverse outcomes, such as social isolation, behaviour problems, academic difficulties, anxiety, and depression (Bellini, 2006; Church et al., 2000; Seltzer Shattuck, et al., 2004).

Cognitive Behaviour Therapy (CBT) is also known to help children with ASD deal with social skills deficits. Social problems in children with ASD are intensified by deficits in social skills contributed by the experience of anxiety (White et al., 2010). Focusing on social skills, CBT can be delivered in variations which include individual, family, and group. One benefit children with ASD get from CBT group therapy is that they learn from the struggles others go through with similar issues as them, which encourage them to work hard and overcome the problems altogether. The social

support and relationships attained in this manner might be curative in them (Wood et al., 2009).

In CBT, parents and caregivers are psychologically trained on the difficulties their children experience. They are taught how CBT skills can be used when real-life circumstances threaten their children. This makes them feel more hopeful and confident in their ability to contribute to positive change in their children's lives (Sofronoff et al., 2005). The concept of family involvement is applicable, especially in African culture, where the well-being of a person is a mutual effort.

Programmes established to address overall social impairments does not adequately target the social skills deficits specific to ASD (Rao et al., 2008). Thus, when choosing social goals for intervention, it is necessary to prioritize and focus on the skill deficits most specific and appropriate to autism. For instance, eye contact is probably of a greater priority for children with ASD than manners or negotiation skills, given its significance to social interactions such as reading and interpreting social cues and gauging interest or engagement. To achieve adequate skill mastery and generalisation, teaching social skills require frequent practice and need to be taught sequentially while building on previous skills.

Skills and behaviours addressed across the curriculum should be relevant to each other and build on each other. While more complex higher-order skills are learned, the basic skills acquired early must continually be practised. This practice not only promotes skill maintenance but also integrates individual skills into more fluid social competence. Complex pro-social skills are broken down into individual components taught sequentially and integrated (Krasny et al., 2005).

RESULTS AND DISCUSSIONS

Prevalent Symptoms for Anxiety from Child and Adolescent Symptom Inventory (CASI).

The results in Table 1 reveal that 10 key symptoms were moderately correlated with anxiety disorders among children with autism. The key indicators of the condition included: difficulty in controlling worries ($r = 0.441$, $P\text{-value} = 0.0001$), complaining about physical problems (headaches, upset stomach, etc.) for which there is no apparent cause ($r = 0.434$, $P\text{-value} = 0.0001$), frequency of these behaviours interfering with the child's ability in doing homework or getting along with various people ($r = 0.428$, $P\text{-value} = 0.0001$), children being overly fearful of (or trying to avoid) specific objects or situations (animals, heights, storms, going places alone, being "trapped", etc.) ($r = 0.339$, $P\text{-value} = 0.002$) and excessive shyness with peers ($r = 0.335$, $P\text{-value} = 0.002$).

Table 1. Highly Prevalent Symptoms for Anxiety

Indicators	Pearson's coefficient	p-value
Has difficulty controlling worries	0.441	0.001
Acts restless or edgy	0.283	0.011
Has difficulty falling asleep or staying asleep	0.294	0.008
Is completely fearful of (or in an attempt to avoid) specific situations or objects (going places alone, heights, storms, animals, being "trapped", etc.)	0.339	0.002

Cannot get distressing thoughts out of his/her mind (worries about germs or doing things perfectly, etc.)	0.255	0.022
Complains concerning physical problems, for instance (headaches, upset stomach, etc.) for which there is no ostensible cause	0.434	0.001
Is more anxious in social situations than most other youths	0.293	0.008
Is excessively shy with peers	0.335	0.002
Afraid to go to sleep unless the near parent	0.316	0.004
How often do these behaviours interfere with your child's ability to do schoolwork or get along with other people?	0.428	0.001

Correlation prevalent Indicators for Social Skills Deficits from SRS-2

Table 2 presents 19 indicators that were moderately correlated with social skills deficit. The p-value was between $p=0.005$ and $p=0.048$. The other indicators were dropped since Pearson's coefficient was low. The main indicators were: exhibits pronoun reversal, that is 'you' for 'I' ($r=0.317$, $P\text{-value}=0.004<0.05$), often will not

blink when a bright light is directed towards their eyes ($r=0.316$, $P\text{-value}=0.004<0.05$), cannot point to more than five named objects ($r=0.313$, $P\text{-value}=0.005<0.05$) and Seems not to hear (despite normal hearing tests) ($r=0.302$, $P\text{-value}=0.007<0.05$).

Table 2. Social Responsive Scale Correlation Indicators

Indicators	Pearson's coef.	p-value
Not following simple directions (sit down, stand up, come here) given once	0.244	0.029
Visual discrimination is poorly used when learning (fixates on objects parts such as position, colour, size...)	0.286	0.010
Exhibits pronoun reversal (you for I...)	0.317	0.004
Seems to have hearing disabilities (despite having normal hearing tests)	0.302	0.007
Strong reactions to small changes in environment/routine	0.258	0.021
Seldom uses "yes" or "I"	0.229	0.041
Resists being touched or held	0.227	0.043
Is (or was as a baby) hard and stiff to hold	0.271	0.015
Gets desired objects by gesturing	0.254	0.023
Walks on toes	0.263	0.018
Hurts others by biting, hitting, kicking...	0.232	0.038
Does not imitate other children at play	0.243	0.030
Often will not blink when a bright light is directed towards eyes	0.316	0.004
Unable to wait in order meet their (wants immediate things)	0.257	0.021

Cannot point to more than five named objects	0.313	0.005
Repeats sounds or word over and over again	0.261	0.019
“Looks through” people	0.263	0.018
It is highly destructive (toys and household objects are pronto breakages)	0.242	0.030
Uses a minimum of 15 but utmost 30 casual phrases daily, which enhance communication	0.275	0.014

Table 3 presents results of anxiety in both experimental and control at follow-up one and two. The experimental group shows a reduction in the mean Anxiety Disorder scores over the study period from the mean at baseline of 8.550 to a standard of 6.57. The control group had remained relatively constant from the mean of 5.950 to 6.35. The reduction of anxiety levels was not statistically significant at $p=0.128$.

Table 3. Correlation between Autism, Anxiety and Social Skills Deficits

	Autism	Autism	p-value	Anxiety	p-value	SSD	p-value
Baseline	Autism					-0.211	0.06
	Anxiety	-0.127	0.262				
	Social Skills	0.384	0.000				
Midline	Autism						
	Anxiety	-0.15	0.184				
	Social Skills	0.41	0.000	0.13	0.252		
Post	Autism						
	Anxiety	-0.114	0.316			0.136	0.226
	Social Skills	0.458	0.000				

Table 4. Bivariate Correlation between Child's Age, Autism, Anxiety and Social Skills Deficiency

		Child's Age	p-value
Baseline	Autism	-0.11	0.329
	Anxiety	0.121	0.284
	Social Skills	-0.146	0.198
Midline	Autism	0.105	0.352
	Anxiety	0.139	0.22
	Social Skills	-0.069	0.546
Endline	Autism	0.158	0.161
	Anxiety	-0.111	0.329
	Social Skills	-0.13	0.251

The researcher explored the relationship between social skills deficits, anxiety and ASD symptoms among 40 children presenting with Autism in two schools in Nairobi, Kenya. One school was the experimental group that

received MASSI treatment, while the second school was used as a controlling group not receiving a MASSI treatment. The results indicate a correlation between anxiety and social skills and ASD in the studied population. This is in agreement with the majority of studies that show that there is a correlation between ASD and anxiety /social skills deficits (Ghaziuddin, 2002; Ginsburg et al., 1998; Hadi et al., 2014). Although the two variables are core features in ASD, anxiety strongly affects the children's social skills. Other studies have found elevated scores of ASD in children with anxiety (Pine et al., 2008; Towbin et al., 2005). Furthermore, as children advance in age and become more aware of their environment, the problem escalates (Bellini, 2006; Chang et al., 2012; Reaven, 2009; Strang, et al. 2012; White, 2013). However, other findings vary in presentation, indicating that social and emotional reciprocity is a poor pointer for ASD (Hartley & Sikora, 2009). The neurological functions in ASD individuals might confirm this fact and the limitation of their brain functioning (Herbert, 2005; Just et al., 2004; Shriber, 2010). However, restructuring of thought processes has been proved successful.

This study found out that there was a correlation between the symptoms of anxiety and social skills deficits and ASD among autistic children. However, it was not easy for the caregivers to pick the characteristics, especially of anxiety. This may be aggravated by the low awareness of the ASD condition in this region (Bakare & Munir, 2011; Riccio, 2011). Other scholars agree that assessment is complex in the ASD population (White et al., 2010).

Further, this study found out that there was a correlation in the prevalence of anxiety problems in school-age children and adolescents with ASD. The levels may be high in the United States of America compared to Africa (White et al., 2009). This may be contributed by the difference in cultures, and that little is documented about the African population on ASD (Bakare & Munir, 2011). Earlier studies

confirm certain differences in the frequency of specific behaviours between African children and children from Western Europe and the USA (Bakare & Munir, 2011). A study by White (2013) states that an age relationship on the growth of anxiety in a group born same time rose from 7.5 per cent in 11 years old and 20.3 per cent in 21 years old, increased from 14.7 per cent of ages 12–13 to 22.0 per cent of ages 16–17 olds Essau et al., 2000 cited in (White 2013). The study was conducted in primary and secondary schools, and the findings depicted a positive correlation.

CONCLUSION AND RECOMMENDATIONS

Conclusion: School age children and the adolescence are mostly affected by the anxiety disorders, therefore, creating awareness to the individuals living with those suffering from anxiety problems. This anxiety normally affect the children social skills, the problem escalates as they grow and become more aware of their environment.

Recommendations: Parent and caregivers of autistic children ought to adopt Skinner's contingency of reinforcement. When observing a behaviour, the professional needs to identify what precedes the behaviour, the behaviour needing to be modified, and the consequences caused by the behaviour. To effectively address and support children's necessities having ASD, parents and caregivers need to identify these three aspects of the behaviour correctly. Pinpointing the behaviour function would help identify the behaviour and the modification of the undesired behaviour. In other words responding precisely, quickly, and without hesitation would help to reinforce the appropriate behaviour. Public awareness campaigns like the "Walk for Autism" in Kenya to raise funds for research and education would ease the burden on parents and schools and alleviate the stigma caused by ignorance of the cause of ASD. Raising funds would enable the Ministry of Education to develop a curriculum that would address, prioritise and focus on the skill deficits most specific and appropriate to autism. There is no curriculum known to the author now that adequately

targets the social skills deficits specific to ASD. With this measure, young and older adults with ASD would be assisted. What is more, while educating the children with ASD, the system would be preparing them to be

independent in the future by equipping them with the necessary skills that would help them to adjust to environmental changes.

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