



Comorbidity of mental health and autism spectrum disorder: perception of practitioners in management of their challenging behaviour

Edward Khasakhala, Kennedy Bota, Godfrey Ayaga, Manson Sichari, Benard Wesonga & Donald Kokonya

To cite this article: Edward Khasakhala, Kennedy Bota, Godfrey Ayaga, Manson Sichari, Benard Wesonga & Donald Kokonya (2023) Comorbidity of mental health and autism spectrum disorder: perception of practitioners in management of their challenging behaviour, *International Journal of Developmental Disabilities*, 69:3, 386-397, DOI: [10.1080/20473869.2023.2203531](https://doi.org/10.1080/20473869.2023.2203531)

To link to this article: <https://doi.org/10.1080/20473869.2023.2203531>



Published online: 17 May 2023.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

Comorbidity of mental health and autism spectrum disorder: perception of practitioners in management of their challenging behaviour

Edward Khasakhala¹, Kennedy Bota¹ , Godfrey Ayaga¹, Manson Sichari¹, Benard Wesonga² and Donald Kokonya³

¹Department of Educational Psychology, Masinde Muliro University of Science and Technology (MMUST), Kakamega, Kenya; ²Department of Community Health and Behavioural Sciences, Masinde Muliro University of Science and Technology (MMUST), Kakamega, Kenya; ³Department of Psychiatry, Masinde Muliro University of Science and Technology (MMUST), Kakamega, Kenya

The relationship between mental health problems, Autism Spectrum Disorder (ASD) and challenging behaviour among children and adolescents is complex and multifaceted. The study investigated practitioners' perception of comorbidity of mental health and ASD in the management of challenging behaviours among children and adolescents in Kenya. Target population was 3490 practitioners. Sample size was 1047, comprising of 38 assessment staff, 27 mental health workers 548 regular teachers, 294 teachers from special schools, and 140 teachers from special units for children with ASD. Stratified and purposive sampling techniques were used. Interviews and structured questionnaires were used. Test-retest yielded a coefficient of 0.78 while Cronbachs' reliability coefficient was 0.830. There was a positive significant correlation between perception of challenging behaviours and mental health problems ($r = .415, p = .000$). Challenging behaviour perceptions have a negative significant effect on behaviour management strategies, ($\beta = -0.163, p = .000$) implying that the choice of management strategies is dependent on the perceptions. Challenging behaviours accounts for 2.7% variance in the choice of the management strategies, $R^2 = .027, F(1,1045) = 28.471, p = .000$. The practitioners' perception of mental health and comorbid ASD, showed that children with ASD, when enduring life stressors, can be at a higher risk of mental health difficulties than their peers There is need for multidisciplinary synergy in developing effective challenging behaviour programmes for children and adolescents with ASD

Keywords: ASD; challenging behaviour; comorbidity; mental health; practitioners

Autism spectrum disorder (ASD) is a complex, heterogeneous neurodevelopmental condition marked by difficulty in social communication, restricted or repetitive interests or behaviours (stereotypes), and potential intellectual or language development deficits or delays (American Psychiatric Association 2013). Children with ASD are more likely to exhibit symptoms of both ASD and mental health disorders (American Psychiatric Association 2013, Stimpson *et al.* 2021). Practitioners who work with children and adolescents with ASD frequently feel unprepared to manage the behaviours associated with distress exhibited by this population (Weiss 2020). When dealing with situations with behaviours associated with distress,

practitioners frequently employ maladaptive coping mechanisms, which frequently result in delinquency and school dropout among children with ASD. This is frequently exacerbated by a widespread misunderstanding that occurs when a typical behaviour is assigned to the diagnostic surface behaviours of ASD rather than being recognized as signs of mental health issues (Macmillan 2014). Autism is frequently accompanied by co-occurring mental health disorders, which impacts on quality of life (Stadnick *et al.* 2017).

The publication of Diagnostic and Statistical Manual, 5th Edition (DSM-5) has altered Autism classification and diagnostic criteria, defining ASD as a neurodevelopmental condition defined by behaviour. This deliberately positions difficult behaviour as the primary diagnostic indicator of ASD. Research evidence

Correspondence to: Kennedy Bota, Department of Educational Psychology, Masinde Muliro University of Science and Technology (MMUST), Kakamega, Kenya. Email: kbota@mmust.ac.ke

suggests that the type and number of symptoms clinicians look for when diagnosing autism determines how easy or difficult it is for people with ASD can access medical, social and educational services (Jabr 2012). The DSM-5 combines social and language deficits into a single measure, collapsing the three domains defined in the DSM-IV into two. This indicates that for a person to be diagnosed with ASD, an individual must have ‘deficits in social communication and social interaction’ and show restrictive and repetitive behaviours. (Jabr 2012). In an inclusive context, ASD is likely to affect children with ASD’ learning and development. The findings from studies conducted in England suggest that children with ASD are at a disproportionately high risk of being excluded from school (Department for Children, Schools and Families 2009). Several studies, though not enough to draw firm conclusions, reveal that regular school teachers often report that they lack resources and knowledge to help them effectively accommodate pupils with special needs (Humphrey and Lewis 2008, Humphrey and Symes 2011). In fact, field specialists contend that the learning methods and cognitive profile of children and adolescents with ASD challenge professional beliefs about teaching and learning for this population of students (Gómez-Marí *et al.* 2022). This is compounded by the management of behaviours associated with distress, which frequently occurs in tandem with mental health issues. While it is acknowledged that there is little evidence to suggest that many of the challenging behaviours seen in people with developmental disabilities are underpinned by problems of mental ill-health (Perry *et al.* 2008, Westling *et al.* 2010) researchers are at pains to make qualified conclusions because of limitations in the quality and scope of existing research. It is in light of this limited empirical knowledge on the comorbidity of mental health issues and challenging behaviour that this study was carried out to increase this body of knowledge.

These difficulties in treating difficult behaviours are not restricted to practitioners alone. Several studies have highlighted the difficulties parents encounter in regulating the behaviours of children with ASD (Humphrey 2008, Ennis-Cole 2019). In particular, Ennis-Cole’s study (2019) demonstrates that many parents of children and individuals with ASD experience additional parenting challenges as a result of the principal areas of impairment and sensory impairments of their child or children. Finding interventions to help their child with a range of challenges, monitoring their child’s progress, paying for interventions, creating a controlled atmosphere conducive to learning at home, and providing support based on their child’s level of comprehension and functional ability are all tasks that many parents find themselves juggling, draining their time and money.

In the education sector, teachers who work with students exhibiting behaviours associated with distress have reported experiencing anger, irritation, worry, and distress (Hastings and Hatton 1996). Additionally, demanding children are a major cause of tremendous stress in the lives of educators (Hastings and Hatton 1996, Ennis-Cole 2019). Teachers may experience job discontent if they lack the knowledge and abilities to appropriately manage the behaviours associated with distress of children with ASD (Ashby *et al.* 2010, Ennis-Cole 2019).

Comorbidity between mental health issues and ASD is on the rise (Vannucchi *et al.* 2014, Schulte-Körne 2016). For instance Schulte-Körne (2016) study shows that 10–20% of school aged children have some kind of mental health problems. As a result, academic achievement is negatively affected by issues with attention, cognition, motivation, and mood. Psychopathology is prevalent among children with ASD. When a child is experiencing a crisis, these indicators constitute a risk of self-injury. Despite this concern, few researches have been conducted in Africa or specifically Kenya on children with ASD who are at risk for mental health issues. It is not always obvious what factors at school affect children’s cognitive growth or what kinds of preventative measures and treatments could work best in the classroom (Cloete and Obaigwa 2019, Luther *et al.* 2018).

In rare instances, behaviours associated with distress may suggest the presence of a mental disorder, particularly in children with ASD who have more severe intellectual deficits (Kiriakos *et al.* 2001, Peña-Salazar *et al.* 2022). Practitioners who work with children with ASD are placed in a difficult position when it comes to managing the challenging behaviours exhibited by children with an ASD diagnosis (Perry *et al.* 2008, Karim *et al.* 2014, O’Reilly *et al.* 2015, Khasakhala 2018). A limited but persuasive body of data suggests that behaviours associated with distress can occur in the absence of mental illnesses (Ashby 2010, Karim *et al.* 2014, Peña-Salazar 2022) and that not all children with ASD exhibit challenging behaviour (Hattier *et al.* 2011, Macmillan 2014).

High rates of psychiatric comorbidity have been found among individuals with ASD (Buck *et al.* 2014, Vannucchi *et al.* 2014) with more males than females exhibiting comorbidity (Loomes *et al.* 2017). The mental health profile of children with autism is believed to differ from that of typically developing children, necessitating interventions and support services (Westling *et al.* 2010, Rydzewska *et al.* 2019). Therefore, understanding the prevalence and health profile of children with ASD is vital for the design and delivery of interventions. The most common co-occurring disorders are mood disorders (Buck *et al.* 2014), anxiety disorders (Hofvander *et al.* 2009a, Hofvander *et al.* 2009b),

attention deficit hyperactivity disorder (Vannucchi *et al.* 2014) and obsessive compulsive disorder (Brugha *et al.* 2011). While these studies addressed specific disorders, the current study examined perception of practitioners on comorbidity of mental health and ASD without addressing specific mental disorders.

Currently, numerous therapies for both challenging behaviour and general education claim to be successful for children with ASD. Their goals, justifications, and methods are all different. For instance, Augmentative Communication (Brownie 2013) Social Understanding (Buell 2009); Social Stories (Collins 2008); Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) (Riccio 2011); Gentle Teaching McGee *et al.* 1987, Mesibov *et al.* 2006) and Experimental Functional Analysis (Mesibov *et al.* 2006, Najdowski *et al.* 2008) development of social skills (Wilkins 2008) are some of the methods of managing behaviour among children and adolescents with ASD.

Due to the wide variety of symptoms and impairments associated with ASD, it is doubtful that a uniform treatment strategy or set of behavioural models will be effective for all children. Studies emphasize the importance of basing interventions on evidence and expert knowledge about children with ASD if they are to be effective (Williams 2008, Williams and Rose 2007, O'Reilly *et al.* 2012). They need to be grounded in the idea that improving conditions at school for children and adolescents with ASD will help all of them to achieve their academic and holistic development.

Available research supports the use of a combination of positive behavioural supports and behavioural analysis in the treatment of challenging behaviour in the community context. There is a lack of research into the long-term cost-effectiveness of specialist behaviour services for managing more severe or chronic difficult behaviour (Stimpson *et al.* 2021). Some children and adolescents with ASD may not respond well to ecological or behavioural interventions for challenging behaviours (Perry *et al.* 2008, McQuire *et al.* 2015). For some scientists, medication is necessary when a functional analysis of a behaviours associated with distress in a person with ASD does not reveal any underlying contextual factors (Campbell 2012, McQuire *et al.* 2015).

Materials and methods

Descriptive survey design was used in this study because it facilitated collection of relatively small amount of standardized information from a large number of respondents within short period (Creswell 2009). The study was conducted in Western Kenya. This area was selected for this study because it has more than 40% of children with ASD who have dropped out of

school after having been assessed and placed (Ministry of Education 2016)

The target population was 3490 practitioners. Sample size consisted of 1047 practitioners; comprising of 38 assessment staff, 27 mental health workers, 548 regular teachers, 294 teachers from special schools, and 140 teachers from special units for children with ASD from Western Kenya. Stratified and purposive sampling techniques were used. Semi-structured interviews and questionnaires were used to gather the data. It was possible to establish internal consistency, construct validity, criterion validity, and convergent validity. Reliability was ascertained through Test-retest method. Reliability coefficient was set at 0.75 and above which yielded 0.78 indicating that the instruments were reliable (see Tables 1–3).

All the respondents with the knowledge on children with ASD were eligible for the study. Inclusion criteria that was observed in this research protocol included demographic, clinical, and geographic characteristics of respondents. All the practitioners working within the stipulated areas such as hospitals, mental health centres, inclusive schools that have children with ASD special schools and units were included in the study. On the other hand, exclusion criteria used consisted of potential respondents who were eligible but did not have evidence of knowledge of working with people or children with ASD. This included regular teachers, teachers who had trained in special education but were not working directly with children with ASD, mental health workers who were not working directly with people or children with ASD.

The attribution of challenging behaviour by respondents was measured by an adapted Challenging Behaviour Attribution Scale (CHABA) developed by Hastings (1997). CHABA has been found to be an effective tool for teasing out respondents' perception of causes of challenging behaviour among people with ASD (Gifford and Knott 2016, Nah and Tan 2020). Hastings (1997) suggested that attributions interact with a number of other factors to determine staff behaviour. These factors include staff emotional responses to challenging behaviour, staff beliefs about effective intervention strategies, formal aspects and informal aspects of service cultures. In this study, CHABA has however been used to determine the practitioners perception of comorbidity of mental health and ASD given its wide flexibility and adaptability. For instance, Gifford and Knott (2016) used it to determine causal beliefs and suggestions as to why children with ASD were engaging in challenging behaviour. The study found internal consistency of the CHABA subscales reliable with Cronbach's alpha range of 0.65 to 0.87. To supplement CHABA researchers developed a tool to elicit Practitioners views on characteristics of people with ASD. Challenging behaviour management questionnaire

Table 1. Challenging behaviour attribution scale.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.885	.884	22

Table 2. Choice of challenging behaviour management strategies.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.795	.795	11

Table 3. Practitioners views on characteristics of people with Autistic spectrum disorder.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.734	.793	15

Table 4. Demographic characteristics of respondents.

Demographics	Categories	Frequency (f)	Percentage (%)
Age	18–30	91	8.7
	30–42	509	48.6
	42–54	392	37.4
	Above 54	55	5.3
Gender	Female	599	57.2
	Male	448	42.8
Workplace	Assessment Centre	38	3.6
	Hospital	27	2.6
	Regular School	548	52.3
	Special School	294	28.1
	Special Unit	140	13.4
Service length	1–6 years	483	46.1
	7–12 years	342	32.7
	13–18 years	171	16.3
	19–24 years	44	4.2
	25–32 years	7	.7
Experience	1 year	67	6.4
	2 years	92	8.8
	3 years	583	55.7
	4 years	130	12.4
	5 years	175	16.7

was also developed by researchers to find out the practitioners' choice of management strategies of challenging behaviour. Part one of the questionnaire on challenging behaviour attribution scale consisted of 21 questions and was scored using a Four Point Likert Scale ranging from 1 to 4 where 1 represented Very Unlikely, 2-Unlikely, 3-Likely and 4-Very Likely. In part two, the researchers were also interested in respondent's personal views on challenging behaviour. There was a total of 11 questions scored on a Four Point Likert Scale ranging from 1 to 4 where 1 represented Strongly Disagree, 2-Disagree, 3-Agree and 4-Strongly Agree. In [Appendix 2](#), the instrument sought strategies arranged from A-F with A having more weight (6) and F having less weight (1). In total, there

were 11 strategies employed. Finally, in [Appendix 3](#), the instrument consisted of 15 questions measured on a Four point likert scale ranging from 1 to 4. These were 1 = extremely uncharacteristic of the client, 2 = somewhat uncharacteristic of my clients, 3 = somewhat characteristic of my clients and finally 4 = extremely characteristic. These instruments are presented in [Appendix 1–3](#).

Information generated from the choice of management of challenging behaviour was correlated with responses on the perception of challenging behaviour and demographic factors of the respondents. It revealed factors that determine the choice of challenging behaviour management strategies.

Reliability of the instruments

To determine reliability of instruments, challenging Behaviour attribution questionnaire, Practitioners views on characteristics of people with ASD questionnaire and choice of management strategies were subjected to Cronbach's Alpha Reliability Coefficients tests. Their results are tabulated in [Tables 1–3](#).

For the challenging behaviour attribution questionnaire for practitioners, reliability coefficient for the 11 items was 0.714, which was above the threshold value of 0.7. The items on choice of challenging behaviour management strategies shows a reliability coefficient of 0.795 which is also above the threshold value of 0.795. It can thus be concluded that all the sub scales had a high Cronbach's reliability coefficient thus implying that the instrument was reliable. The summary of the three instruments yielded Cronbach's Alpha value of .793, Cronbach's Alpha Based on Standardized value of .830 at the significance value of .000 indicating that instruments were reliable

Results and discussion

The demographic characteristics that were investigated in this study were gender, age, workplace, length of service and experience of working with children and adolescents with ASD. This is summarised in [Table 4](#).

The findings in [Table 4](#) indicates that respondents aged 30–42 were the majority, 509 (48.6%), followed by those aged 42–54, 392 (37.4%) and those aged 18–30, 91 (8.7%). Respondents aged above 54 years were the least, 55 (5.3%). The findings show that majority of the respondents were middle aged between 30 and 54 years. These represent the right subject target that would give the most appropriate feedback. This study compares well with Elliot study in Kenya that investigated prevalence and understanding of ASD which had a survey population of 1354 respondents drawn from 45 counties out of 47 in Kenya. Respondent's age was 18–35, with 48% in the 18–25 age range and 52% in the 26–35 age range.

This finding has a direct impact on management of challenging behaviour exhibited by children and

adolescents with ASD. Majority of respondents were aged between 30 and 42 years and those aged above 54 years were the least. This indicates that many young people are working in programmes that support people with ASD unlike earlier research (Hastings and Hatton 1996) that had revealed high staff turnover in people working in disability professionalism. Concerted efforts should be made to retain this younger professionals and empower them with appropriate skills to manage challenging behaviour presented by children and adolescents with ASD.

Data on gender of respondents indicates that majority were female, 599 (57.2%) while the male recorded 448 (42.8%). This indicates that there was considerable variance in gender disparity. This study does not compare well with Elliot study that had 50% male and 50% female respondents. Major reason for the differences may be due to the fact that Elliot study was not limited to practitioners working in institutions for children with ASD while the present study was limited to practitioners who included teachers, mental health workers, and assessment staff. This modest gender gap may have ramifications for the management of behaviours associated with distress in children with ASD. Based on Bandura's (1980) theory of social learning, which children learn by modelling, it is probable that male children with ASD lack models to imitate acceptable behaviour, which may cause them to display more behaviours associated with distress. Research findings indicates that there are more male children and adolescents with ASD than female at the ratio of 4:1 (Loomes et al. 2017). Therefore there is need to have more male teachers to act as role models since there are more male learners with ASD.

Findings from workplace revealed that majority, 548 (52.3%) of them were regular teachers, followed by 294 (28.1%) who are specialist teachers, 140 (13.4%) who work in special units and finally 27 (2.6%) who work in hospitals. Due to professionalism, the attained different categories were sufficient for the required information. This finding is consistent with Rael (2015) study that had many professionals who work with children with ASD. The professionals included social workers, speech and language therapists, occupational therapists, certified behavioural therapists, special educators and educational aides/para-educators. This multidisciplinary approach is vital as it leads to a synergy where issues affecting children and adolescents with ASD are given multi-sectorial approach leading to holistic development of this group of children.

The findings in Table 4 on length of service indicates that majority of the respondents, 484 (46.1%) had served for a period of 1–6 years, 342 (32.7%) have served for a period of 7–12 years, 171 (16.3%) have served for a period of 13–18 years, 44 (4.2%) have served for a period of 19–24 years and only 7 (0.7%) had served for a period

of 25–32 years. Therefore, this finding indicates that majority of the respondents had not worked for long in this area of teaching with children with ASD. This lack of prior work experience could impair their management of challenging behavior, as research has shown that effective management of challenging behavior requires exposure to a variety of work situations (Macmillan 2014). This finding may have immediate implications on management of behaviours associated with distress in children and adolescents with ASD. Institutions that serve children with ASD must offer competitive salaries to attract more experienced personnel who can manage the behaviours associated with distress exhibited by children with ASD. This conclusion is supported by interview data indicating that the majority of respondents who lacked experience working in other fields had a limited understanding of conventional strategies used to manage challenging behavior, such as discrete trial training, incidental teaching, positive behavior support, and picture exchange communication.

Comorbidity of mental health problems and ASD

This study sought to establish practitioners' perception of comorbidity of mental health problems and ASD by determining how typical and atypical the statements best describe their perception of behaviours presented by children and adolescents with ASD based on CHABA. The findings are presented in Table 5.

The findings in Table 5 indicates that practitioners perceived children with ASD preference to display physical aggression to protect their own rights as an extreme character of mental health as revealed by majority, 348 (32.2%) as well as 346 (33%) who saw it as somewhat characteristic. Other choices that were highly related to violence and were rated as extreme characteristics of children with ASD were 'can't control the urge to strike another person, 460 (43.9%); 'are even tempered' 393 (37.5%). These findings could be an indication of practitioners' perception of signs of comorbidity between mental health problems and ASD. These signs are likely to lead to anti-social behaviours such as physical aggressive behaviour towards others and self-injury. If these behaviours are not well managed, they are likely to lead to mental health problems such as depression, anxiety, withdrawal or obsessive compulsive disorders (Carr and Owen-Deschryver 2007).

This may also affect teachers and mental health workers as they are likely to experience burnout and emotional exhaustion. The ineffective coping mechanisms are likely to aggravate the situation when they are used, hence they may reinforce children and adolescents challenging behaviour. Children with ASD are not the only ones who may be negatively affected by these aggressive behaviours; teachers and counsellors may also experience burnout and emotional exhaustion from

Table 5. Comorbidity of mental health problems and ASD.

Respondents view on characteristics of clients with ASD	SD	D	A	SA
They prefer to display physical aggression to protect their rights	213 (20.3)	140 (13.4)	346 (33.0)	348 (33.2)
They tell their friends openly when they disagree with them	224 (21.4)	210 (20.1)	404 (38.6)	209 (20.0)
When upset they become so mad that they break	142 (13.6)	156 (14.9)	299 (28.6)	450 (43.0)
Once in a while, they can't control the urge to strike another person.	81 (7.7)	164 (15.7)	342 (32.7)	460 (43.9)
They are even-tempered people.	183 (17.5)	191 (18.2)	280 (26.7)	393 (37.5)
They flare up quickly but get over it quickly.	187 (17.9)	242 (23.1)	365 (34.9)	253 (24.2)
Given enough provocation, they may hit another person.	96 (9.2)	123 (11.7)	370 (35.3)	458 (43.8)
They are sometimes eaten up with jealousy.	178 (17.0)	283 (27.0)	414 (39.5)	172 (16.4)
At times they feel they have gotten a raw deal out of life.	142 (13.6)	257 (24.5)	486 (46.4)	162 (15.5)
They have trouble controlling their temper.	60 (5.7)	175 (16.7)	330 (31.5)	482 (46.0)
If somebody hits them, they hit back	81 (7.7)	164 (15.7)	421 (40.2)	381 (36.4)
They sometimes feel like a powder keg ready to explode.	67 (6.4)	219 (20.9)	458 (43.7)	303 (28.9)
When frustrated, they let their irritation show.	47 (4.5)	169 (16.1)	388 (37.1)	443 (42.3)
They sometimes feel that people are laughing at them behind their backs.	114 (10.9)	303 (28.9)	298 (28.5)	332 (31.7)
They get into fights a little more than the average person.	83 (7.9)	224 (21.4)	347 (33.1)	393 (37.5)

Key.

SD-Strongly Disagree.

D-Disagree.

A-Agree.

SA-Strongly Agree.

dealing with them using ineffective coping mechanisms, which may only serve to reinforce the child's challenging behaviour. This is supported by interview data from one special education teacher who lamented

It is so frustrating to teach these children and when they start fighting you have to be very careful since they can bite you ... they just get into your nerves

This finding is in line with research by Holden and Gitlesen (2009), which found a high degree of overlap between the symptoms considered to be signs of mental illness and those considered to be a behaviour associated with issues by professionals. Further study is needed to examine the repercussions of challenging behaviour in children and adolescents with ASD.

The practitioners' perception of mental health and comorbidity with ASD as shown in Table 5 indicate that children with ASD 'become so mad that they break when upset', 450 (43.0%) and they 'flared up quickly but got over it quickly' again as revealed by majority, 253 (24.2%) are related and could be an indication of mental health problems. This finding is supported by research evidence on comorbidity of mental health and ASD (Matson and Williams 2014, Foley and Trollor 2015). For example, Foley and Trollor (2015) found that young children with ASD are disproportionately affected by depression, anxiety, and other mental health issues however this study did not investigate specific mental health disorders.

In related studies, (Humphrey and Lewis 2008, Humphrey and Symes 2011) found that when people with ASD and mental health problems live together, they have less access to resources and less help to learn how to deal with their problems. This increases the likelihood that children with ASD would face adverse outcomes, such as social rejection and exclusion from services, as a result of their disability. Schulte-Körne (2016) suggests making modifications to the school

environment and implementing evidence-based school programmes to lessen the likelihood of children experiencing mental health issues.

This necessitates adequate detection and treatment of these significant occurrences in order to prevent morbidity among children with ASD. According to meta-analyses and randomized and non-randomized controlled trials conducted in Germany by Schulte-Körne (2016), the prevalence of hyperkinetic disorder ranges from 1% to 6%. This expressed itself through motor hyperactivity, a lack of concentration, and impulsive behaviour. This study however did not investigate specific mental health problems manifested by children and adolescents with ASD but rather the perception of practitioners of mental health and ASD based on challenging behaviours presented by these children and adolescents. There is need to carry out a study on specific mental health problems presented by children and adolescents with ASD and how practitioners perceive them. In conclusion, these findings may support the contention that the comorbidity between mental health disorders and ASD is complex and poorly understood.

Correlation between perception of challenging behaviour and mental health problems

The current research sort to find out the connection between challenging behaviour and mental disorders. Although not all people with mental disorders engage in challenging behaviour, there is a limited but persuasive body of research demonstrating that such behaviour can occur in the absence of mental disorders (Ashby 2010, Karim et al. 2014, Hattier et al. 2011). The practitioners' understanding of difficult behaviours and mental health issues was determined using Pearson product moment correlation based on CHABA and practitioners view of challenging behaviour Results are displayed in Table 6.

Table 6. Correlation between perception of challenging behaviour and mental health problems.

Correlations		Perception	Mental health problem
Perception	Pearson Correlation	1	.415**
	Sig. (2-tailed)		.000
	N	1047	1047
Mental health problem	Pearson Correlation	.415**	1
	Sig. (2-tailed)	.000	
	N	1047	1047

**Correlation is significant at the 0.01 level (2-tailed).

Table 7. Correlation between mental health problems and the management strategies used in challenging behaviour.

Correlations		Char Mean	Strategy Mean
char mean	Pearson Correlation	1	-0.163**
	Sig. (2-tailed)		.000
	N	1047	1047
strategy mean	Pearson Correlation	-0.163**	1
	Sig. (2-tailed)	.000	
	N	1047	1047

**Correlation is significant at the 0.01 level (2-tailed).

The findings in Table 6 shows a positive significant correlation between perception of challenging behaviours and mental health problems ($r = .415$, $p = .000$). This implies that practitioners perceived challenging behaviours presented by children and adolescents with ASD to be mainly caused by mental health problems. Their perception of effects of challenging behaviour was closely related to their perception of negative effects of mental health problems. Such perception is not only likely to increase the occurrence of challenging behaviour but it is likely to lead to practitioners developing negative attitudes towards children and adolescents who present this behaviour. This would definitely lead to the choice of negative challenging behaviour management strategies. The practitioners' perception that challenging behaviour is as a result of mental health problem is likely to lead to burn out and emotional stress. This conclusion is corroborated by Luther *et al.* (2018) study, which looked at the psychometric characteristics of mental health and found good internal consistency (Total Scale Cronbach's $\alpha = .88$) with a strong positive correlation between measures of family distress ($r = .56$), parental stress and frustration ($r = .48$), and usage of emergency psychiatric services (OR = 24.2, 95% CI: 8.6–68.2), demonstrating convergent validity of the measure (all $p < .05$). This can be concluded that the mental health crisis in children and adolescents with ASD is real and its effect spills over to practitioners and parents who also experience mental health problems. There is an urgent need to address this problem in schools and communities through curriculum or other trainings for these children to realize their full potential

Practitioners must understand that behaviour associated with distress is not just an issue with the person but rather the result of their relationship with their

surroundings. It could be the person's unconscious way of trying to tell the practitioners that they are not meeting their need. Therefore, service providers can lessen the prevalence of challenging behaviour by assessing the efficacy of the interventions they use with children who have ASD. These programmes need to be adaptable, pro-active, and focused on the needs of the children they serve.

Practitioners need to conceptualize the behaviour model proposed by Emerson (2001) in order to make sense of the complex interplay between behaviours associated with distress and mental health issues. For instance, behaviours associated with distress may be an unusual manifestation of the main symptoms of a mental condition (self-injurious behaviours, compulsions, and stereotypies, for instance, may be an abnormal manifestation of obsessive-compulsive disorder); Secondly, mental disorders can manifest as difficult behaviour (violence and self-injurious behaviour might manifest as secondary features of an affective illness); thirdly, mental health issues can offer a motivational basis for pre-existing behaviours associated with distress (depressive disorder characteristics, such as social disengagement and poor motivation, may amplify, for instance, an unwillingness to participate in social activities).

To effectively manage mental health and challenging behaviour issues, there is need to have mental health practitioners working in collaboration with teachers in developing partnership as a multidisciplinary team.

Mental health problems and the management strategies used in challenging behaviour

"This study additionally examined practitioners' perceptions of ASD and the relationship between mental health issues and the selection of challenging behaviour control tactics. The management strategies were divided into least restrictive and most restrictive categories. A Pearson product moment correlation was performed in order to determine how practitioners perceive the relationship between mental health issues and challenging behaviour management tactics. This finding was based on CHABA practitioners' views of challenging behaviour and behaviour management strategies tools. The results are shown in Table 7.

Table 8. Model summary of mental health problems and the management strategies used in challenging behaviour.

Model Summary										
Mode L	R	R Square	Adjusted d R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.163a	.027	.026	.97898	.027	28.471	1	1045	.000	

a. Predictors: (Constant), challenging behaviour mean.

Table 9. Impact of challenging behaviour management strategies coefficients.

Model		Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.
		B	Std. Error			
1	(Constant)	3.558	.161		22.152	.000
	Mental health problems	-0.290	.054	-0.163	-5.336	.000

a. Dependent Variable: strategy mean.

According to Table 7, there is a statistically significant and negative association between the perceived impacts of challenging behaviour and strategies used to address challenging behaviour ($r = -0.163$, $p = .000$). This suggests that the selection of challenging behaviour management solutions is contingent upon the practitioner's view of the effects of challenging behaviour (Singh *et al.* 2007).

Following a negative association between perception of challenging behaviour effects and management techniques, a simple linear regression model was applied to assess if perception of the effects of challenging behaviour had a significant impact on the selection of management tactics. The model summary results are displayed in Table 8. The information was derived from CHABA, practitioners' views on challenging behaviour and challenging Behaviour Management strategies.

The findings in Table 8 indicates that perception effects of challenging behaviours accounts for 2.7% variance in the choice of the management strategies, $R^2 = .027$, $F(1,1045) = 28.471$, $p = .000$. Although the percentage is small, the findings show that it is significant. This implies that the remaining percentage could be explained by other factors other than effects of challenging behaviours.

Based on the findings presented in Table 8 it was considered imperative to investigate the impact of challenging behaviour presented by children with ASD on practitioners by use of model coefficient. The finding of the impact of challenging behaviour is presented in Table 9.

The findings in Table 9 indicates that challenging behaviour perceptions have a negative significant effect on challenging behaviour management strategies, ($\beta = -0.163$, $p = .000$) implying that the choice of management strategies is dependent on the perceptions. This implies that the more the practitioners perceived challenging behaviour as having negative effect on children and adolescents with ASD, the more they use negative behaviour management strategies. This finding

is congruent with the findings of Westling (2010), who found out that majority of teachers did not employ many effective solutions, did not receive adequate support, and perceived challenging behaviour as having a negative impact on them and their children. Still, the majority of respondents stated that the majority of challenging behaviours are acquired and can be improved. Although they believed they had learnt how to handle "most" tough behaviour through experience, majority said their professional preparation was insufficient."

This demonstrates that practitioners viewed challenging behaviour exhibited by children and adolescents with ASD as a mental health or special needs concern. This perception had a stronger impact on the management tactics used. In this context, therapies mostly consisted of behavioural therapy, sensory assessment and implementation of a sensory diet, environmental modifications, and medication. The practitioners' perception of causes of challenging behaviour exhibited by children and adolescents with ASD might impact the selection of a particular method. In essence, this finding supports earlier studies (Bailey 2006, Crossland 2009, Williams 2008) that had demonstrated that practitioners' negative attitudes toward challenging behaviour exhibited by children with ASD frequently contribute to the development and maintenance of challenging behaviour, whereas positive attitudes lead to a reduction in challenging behaviour.

Conclusion

In conclusion results underscore the need for multidisciplinary work between mental health workers and teachers to improve on care for children and adolescents with ASD. This can be best achieved through whole-school approach where changes to the curriculum can be made including teaching skills and networking with mental health workers emphasising on improving school ethos. Additionally, focus should be placed on teacher education, liaising with parents, community involvement and coordinated work with stakeholders

involved in care, habilitation and rehabilitation of children and adolescents with ASD.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by University Research Fund (URF), Masinde Muliro University of Science and Technology.

ORCID

Kennedy Bota  <http://orcid.org/0000-0002-2006-7478>

References

- American Psychiatric Association, 2013. *Diagnostic and statistical manual of mental disorders*. 5th ed. Washington, DC: American Psychiatric Association.
- Ashby, F. G., Turner, B. O. and Horvitz, J. C. 2010. Cortical and basal ganglia contributions to habit learning and automaticity. *Trends in Cognitive Sciences*, 14, 208–215.
- Bailey, K. 2006. *Methods of social research*. New York-Simon and Schuster: Simon and Schuster.
- Bandura, A. 1980. *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Brownie, S. 2013. Effects of person-centered care on residents and staff in aged-care facilities: A systematic review. *PMC*, 8, 1–10.
- Brugha, T.S., McManus, S., Bankart, J., Scott, F., Purdon, S., Smith, J., Bebbington, P., Jenkins, R. and Meltzer, H. 2011. Epidemiology of autism spectrum disorders in adults in the community in England. *Archives of General Psychiatry*, 68, 459–465.
- Buck, T.R., Viskochil, J., Farley, M., Coon, H., McMahon, W.M., Morgan, J. and Bilder, D.A. 2014. Psychiatric comorbidity and medication use in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 44, 3063–3071.
- Buell, S. 2009. Summary of plenary discussion: Research- where next? *Journal of Research in Special Educational Needs*, 2, 113–114.
- Campbell, S. 2012. The impact of student Retention strategies: An empirical study. *Journal of Intellectual Disabilities*, 141–153.
- Carr, G. E. and Owen-Deschryver, J. 2007. Physical illness, pain and problem behaviour minimally verbal people with developmental disabilities. *Journal of Autism and Developmental Disorders*, 37, 413–424.
- Cloete, L. G. and Obaigwa, E. O. 2019. Lived experiences of caregivers of children with autism spectrum disorder in Kenya. *African Journal of Disability*, 8, 435.
- Collins, K. D. 2008. Increasing on task behaviour through the use of social story. Unpublished Master's Thesis, Mount Vernon Nazarene University, USA.
- Creswell, J. W. 2009. *Research design: Qualitative, quantitative and mixed methods approaches*. Los Angeles: SAGE.
- Crossland, T. R. 2009. Care staff perception of challenging behaviour in adults with Autism and learning disabilities. PhD. University of Hull, UK.
- Department for Children, Schools and Families, 2009. *Every child matters: Primary capital programme strategy for change*. London: Queens Stationery.
- Emerson, E. 2001. *Challenging behaviour: Analysis and intervention in people with severe intellectual disabilities*. Cambridge: University Press.
- Ennis-Cole, D. 2019. Creating a positive learning environment. In: *Seeing Autism through parents' feedback, sketchnotes, technology, and evidence-based practices*. Cham: Springer, 71–82.
- Foley, K. and Trollor, J. 2015. Management of mental illhealth in people with Autism Spectrum Disorders. *Aust. Famphysician*, 44, 784–790.
- Gifford, C. and Knott, F. 2016. The effect of diagnostic label on care staff's perceptions of cause of challenging behaviour in individuals with learning disabilities. *British Journal of Learning Disabilities*, 44, 322–328.
- Gómez-Marí, I., Sanz-Cervera, P. and Tárraga-Mínguez, R. 2022. Teachers' attitudes toward Autism spectrum disorder: A systematic review. *Education Sciences*, 12, 138.
- Hastings, R. P. 1997. Measuring staff perception of challenging behaviour: The challenging behaviour attributional scale (CHABA). *Journal of Intellectual Disability Research*, 41, 495–501.
- Hastings, R. P. and Hatton, C. 1996. Staff training and management in services to people with learning disabilities. *The British Journal of Clinical Psychology*, 35, 480–482.
- Hattier, M. A., Matson, J. L., Belta, B. C. and Horovitz, M. 2011. The occurrence of challenging behaviours in children with autism spectrum disorders and atypical development. *Developmental Neurorehabilitation*, 14, 221229.
- Hofvander, B., Delorme, R., Chaste, P., Nydén, A., Wentz, E., Ståhlberg, O., Herbrecht, E., Stopin, A., Anckarsäter, H., Gillberg, C., Råstam, M. and Leboyer, M. 2009a. Psychiatric and psychosocial problems in adults with normal-intelligence autism spectrum disorders. *BMC Psychiatry*, 9, 35.
- Hofvander, B., Ossowski, D., Lundström, S. and Anckarsäter, H. 2009b. Continuity of aggressive antisocial behavior from childhood to adulthood: The question of phenotype definition. *International Journal of Law and Psychiatry*, 32, 224–234.
- Holden, B. and Gitlesen, J. P. 2009. The overlap between psychiatric symptoms and challenging behaviour: A preliminary study. *Research in Developmental Disabilities*, 30, 210–218.
- Humphrey, N. 2008. Including pupils with autism spectrum disorder in mainstream schools. *Support for Learning*, 23, 41–47.
- Humphrey, N. and Lewis, S. 2008. 'Make me normal' The views and experiences of pupils on the autistic spectrum in mainstream secondary schools. *Autism: The International Journal of Research and Practice*, 12, 23–46.
- Humphrey, N. and Symes, W. 2011. Peer interaction patterns among adolescents with autism spectrum disorder (ASD) in mainstream school settings. *Autism: The International Journal of Research and Practice*, 15, 397–419.
- Jabr, F. 2012. Redefining Autism: Will new DSM-5 criteria for ASD exclude some people? *Scientific American*, 6, 3–115.
- Karim, K., Cook, L. and O'Reilly, M. 2014. Diagnosing autistic spectrum disorder in the age of austerity. *Child: Care, Health and Development*, 40, 115–123.
- Khasakhala, E. O. 2018. Relationship between teachers' attitudes and towards challenging behaviours and choice of management strategies among learners with Autistic spectrum disorders. *International Journal of Current Innovations in Advanced Research*, 13, 1–15.
- Kiriakos, X., Russell, A. and Murphy, D. 2001. Management of people with challenging behaviour. *Advances in Psychiatric Treatment*, 7, 109–116.
- Loomes, R., Hull, L. and Mandy, W. P. L. 2017. What is the male-to-female ratio in autism spectrum disorder? A systematic review and meta-analysis. *Journal of the American Academy of Child & Adolescent Psychiatry*, 56, 466–474.
- Luther, G., Louis, K., Hogopian, P., Gross, P. and Vasa, R. 2018. Psychometric characteristics of the mental health crisis assessment scale in youth with autism spectrum disorder. *Journal of Child Psychology and Psychiatry*, 59, e1.
- Macmillan, K. M. 2014. "Challenging behaviors in children with comorbid Autism spectrum disorder and attention-deficit/hyperactivity disorder" (2014). LSU Master's Theses. 1734. https://digitalcommons.lsu.edu/gradschool_theses/1734
- Matson, J. L. and Williams, L. W. 2014. Depression and mood disorders among persons with autism spectrum disorders. *Research in Developmental Disabilities*, 35, 2003–2007.
- McGee, J. J., Menolascino, F. L., Hobbs, D. and Menousek, P. E. 1987. *Gentle teaching: Non-aversive approach to helping persons with mental retardation*. New York: Human Science Press.
- McQuire, C., Hassiotis, A., Harrison, B. and Pilling, S. 2015. Pharmacological interventions for challenging behaviour in children with intellectual disabilities: A systematic review and meta-analysis. *BMC Psychiatry*, 15, 1–13.
- Mesibov, G. B. Chapman, S. M. and Schopler, E. 2006. TEACCH transition assessment profile (TTAP) Austin pro-ed Inc. (TEACCH).
- Ministry of Education, 2016. *SNE policy review data collection report (2016)*. Nairobi: Government Printer.
- Nah, Y. and Tan, J. W. 2020. The effect of diagnostic labels on teachers perceptions of behaviours of students with Autistic spectrum disorders. *British Journal of Educational Psychology*, 67, 359–370.F.
- Najdowski, A. C., Wallace, M. D., Penrod, B., Tarbox, J., Reagon, K. and Higbee, T. S. 2008. Caregiver-conducted experimental functional analyses of inappropriate mealtime behavior. *Journal of Applied Behavior Analysis*, 41, 459–465.

- O'Reilly, M., Cook, L. and Karim, K. 2012. Complementary or controversial care? The opinions of professionals on complementary and alternative interventions for Autistic Spectrum Disorder. *Clinical Child Psychology and Psychiatry*, 17, 602–615.
- O'Reilly, M., Karim, K. and Lester, J.N. 2015. Should autism be classified as a mental illness/disability? Evidence from empirical work. In: M. O'Reilly, J. N. Lester, eds. *The Palgrave handbook of child mental health*. London: Palgrave Macmillan.
- Peña-Salazar, C., Arrufat, F., Santos, J., López, F., Roura-Poch, P. and Gil-Girbau, M. 2022. Intellectual disability, autism spectrum disorders, psychiatric comorbidities and their relationship with challenging behavior. *African Journal of Disability*, 8, 77–94.
- Perry, D. F., Dunne, M. C., McFadden, L. and Campbell, D. 2008. Reducing the risk of preschool expulsion: Mental health consultation for young children with challenging behaviour. *Journal of Child and Family Studies*, 17, 44–54.
- Rael, P. 2015. *What types of professionals who work for Children with ASD*. London: Brooke House.
- Riccio, A. 2011. *Autism in Kenya: A social, educational and political perspective*. Independent Study Project (ISP) Collection.
- Rydzewska, E., Hughes-McCormack, L. A., Gillberg, C., Henderson, A., MacIntyre, C., Rintoul, J. and Cooper, S.-A. 2019. Age at identification, prevalence and general health of children with autism: Observational study of a whole country population. *BMJ Open*, 9, e025904. 21st December 2020
- Schulte-Körne, G. 2016. Mental health problems in a school setting in children and adolescents. *DeutschesArzteblatt International*, 113, 183.
- Singh, N. N., Lancioni, G. E., Winton, A. S. W., Singh, J., Curtis, W. J., Wahler, R. G. and McAleavey, K. M. 2007. Mindful parenting decreases aggression and increases social behaviours in children with developmental disabilities behaviour. *Behavior Modification*, 31, 749–771.
- Stadnick, N., Chlebowski, C., Baker-Ericzen, M., Dyson, M., Garland, A. and Brookman-Frazee, L. 2017. Psychiatric comorbidity in autism spectrum disorder: Correspondence between mental health clinician report and structured parent interview. *Autism*, 21, 841–851.
- Stimpson, N.J., Hull, L. and Mandy, W. 2021. The association between autistic traits and mental well-being. *Journal of Happiness Studies*, 22, 287–304.
- Vannucchi, G., Masi, G., Toni, C., Dell'Osso, L., Marazziti, D. and Perugi, G. 2014. Clinical features, developmental course, and psychiatric comorbidity of adult autism spectrum disorders. *CNS Spectrums*, 19, 157–164.
- Weiss, J. 2020. *The relationship between mental health and Autism*. Surreyplace: York University Department of Educational Psychology.
- Westling, D. L. 2010. Teachers and challenging behavior: Knowledge, views, and practices. *Remedial and Special Education*, 31, 48–63.
- Westling, D. L., Trader, B. R., Smith, C. A. and Marshall, D. S. 2010. Use of restraints, seclusion, and aversive procedures on students with disabilities. *Research and Practice for Persons with Severe Disabilities*, 35, 116–127.
- Wilkins, J. 2008. The relationship between social skills and challenging behaviour in 176 children with ASD. PhD. Louisiana State University.
- Williams, A. I. 2008. Cognitive emotional analysis of support workers reaction to challenging behaviour in adults with learning disabilities. PhD. University of Edinburgh.
- Williams, R. J. and Rose, J. L. 2007. The development of a questionnaire to assess the perceptions of care staff towards people with intellectual disabilities who display challenging behaviour. *Journal of Intellectual Disabilities: JOID*, 11, 197–211.

Appendix 1

Challenging behaviour attribution scale practitioners

Part one

The researchers are interested in what you think about challenging Behaviour presented by learners with ASD. Consider how likely it is that each of the following statements are reasons as to why people with ASD engage in challenging Behaviours. Simply think the most likely reason for challenging behaviour

Please give your response to each of the possible reasons by ticking in the box provided against each reason to indicate your opinion.

S/N	Learners with ASD engage in Challenging Behaviour when:	Very unlikely	Unlikely	Likely	Very likely
1.	They are given tasks that are too difficult for them				
2.	They are physically ill				
3.	They are tired				
4.	They cannot cope with high levels of stress				
5.	Their environment is too crowded with people				
6.	They are given medication				
7.	They are unhappy				
8.	They don't get what they want				
9.	They live in unpleasant surrounding				
10.	They enjoy the effect of behaviour on others				
11.	They are in bad moods				
12.	They are worried about something				
13.	There is some biological process in their bodies				
14.	They are hungry or thirsty				
15.	There is nothing for them to do				
16.	They feel let down by somebody				
17.	They are angry				
18.	They are often left on their own				
19.	They want to avoid uninteresting task				
20.	They are rarely given activity to do				
21.	They want attention from other people				

Part two

The Researchers are interested in your own personal views on challenging behaviour presented by people with ASD.

Please indicate how much you agree or disagree with the following statements about challenging Behaviour by ticking in appropriate box

Serial No.	Views about challenging Behaviour	Strongly Disagree	Disagree	Agree	Strongly Agree
1.	Challenging Behaviour has had a major consequence on the lives of learners with ASD				
2.	Learners with ASD find challenging behaviour easier to live with				
3.	Challenging behaviour doesn't have an impact on their lives				
4.	Challenging Behaviour has a serious financial consequence to families of learners with ASD				
5.	Challenging behaviour is very disabling for learners with ASD				
6.	Learners with ASD challenging behaviour sometimes affect the way I see myself as a person				
7.	There is a lot that I can do to control the behavior				
8.	What I do determines whether their behaviour gets better or worse				
9.	Learners with ASD challenging behaviour is likely to be permanent rather than temporary				
10.	Learners with ASD challenging behaviour would last for a long time				
11.	There would be periods of lots of challenging behaviours and periods for improvements				

Appendix 2

Choice of challenging behaviour management questionnaire for teachers and health workers

Below are some of the behaviour management strategies that are being used to manage challenging behaviour presented by learners with ASD. Please reflect on your own management strategies and tick the item that best describes the management strategy that you are using to manage challenging behaviour, strategies you are not using, those that you may use in future and those that you have no idea about them

Strategies	A	B	C	D	E	F
Behavioural Therapy models						
Augmentative Communication						
TEACCH						
Development of social Understanding						
Experimental functional ANALYSIS						
Social stories						
Mental health consultation						
Social stories						
Mindfulness training						
Structured teaching						
Pharmacology/medical						

KEY:

- A- I know about the strategy, I have tried it and I have found it effective
- B- I know about the strategy, I have tried it and I have not found it effective
- C- I know about the strategy, I have not tried it but I may try it in future
- D- I know about the strategy, I have not tried it and I don't intend to try it
- E- I don't know about the strategy, I intend to know about it and try it in future
- F- I don't know about the strategy, I don't intend to try it in future

Appendix 3

Practitioners views on characteristics of people with Autistic spectrum disorder

Instructions:

Using the 4 point scale shown below, indicate how uncharacteristic or characteristic each of the following statements is in describing your clients with ASD. Place your rating in the box to the right of the statement

SN	Respondents view on characteristics of clients with ASD	1	2	3	4
1.	They prefer to display physical aggression to protect their rights				
2.	They tell their friends openly when they disagree with them				
3.	When upset they become so mad that they break				
4.	Once in a while, they can't control the urge to strike another person.				
5.	They are even-tempered people.				
6.	They flare up quickly but get over it quickly.				
7.	Given enough provocation, they may hit another person.				
8.	They are sometimes eaten up with jealousy.				
9.	At times they feel they have gotten a raw deal out of life.				
10.	They have trouble controlling their temper.				
11.	If somebody hits them, they hit back				
12.	They sometimes feel like a powder keg ready to explode.				
13.	When frustrated, they let their irritation show.				
14.	They sometimes feel that people are laughing at them behind their backs.				
15.	They get into fights a little more than the average person.				

KEY:

- 1 = extremely uncharacteristic of the clients
- 2 = somewhat uncharacteristic of my clients
- 3 = somewhat characteristic of my clients
- 4 = extremely characteristic of my clients