TEACHERS' PERCEPTION OF CHALLENGING BEHAVIOUR AMONG LEARNERS WITH AUTISM AND ITS INFLUENCE ON CHOICE OF MANAGEMENT STRATEGIES IN PRIMARY SCHOOLS IN WESTERN KENYA

BY

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DECLARATION

Declaration by the candidate

I, Edward Khasakhala Okaya declare that this thesis is my original work. It has not been submitted, either in whole or in part, for award of another degree by Maseno University or any other university.

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ABSTRACT

Teachers working with learners with Autistic Spectrum Disorders (ASDs) often feel ill prepared to manage challenging behaviours presented by them. Quite often, when they are faced with cases of challenging behaviour, they use coping strategies that have led to delinquency and other anti-social behaviours resulting into school dropout among these learners. Education Assessment records in Busia, Kakamega, Vihiga, Bungoma, Nandi, Kisumu and Siaya counties in Western Kenya indicate that between the years 2007 and 2012, 683 learners with ASDs had been assessed and placed in public schools out of which 202 had dropped out of school. Closer analysis of the records revealed that out of 283 learners assessed in Vihiga, Kakamega and Busia counties during this period, 135 had dropped out of school. These three counties accounted for 67 % of learners who had dropped out of school in the seven counties. Reason for this dropout has not been established although a number of studies seem to point at poor challenging behaviour management strategies. The purpose of this study was therefore to determine the influence of teachers' perception of challenging behaviour on the choice of management strategies. Objectives of this study were to; analyze types of challenging behaviour presented by learners with ASDs in Western Kenya, assess strategies used in the management of challenging behaviours, determine the influence of teachers' cognitive perception of challenging behaviour on the choice of management strategies, establish the relationship between teachers' attitudes towards challenging behaviours and the choice of management strategies, establish the Relationship between teachers Perception of Causes of Challenging Behaviour and the Choice of Management Strategies. A conceptual framework was used to show the interaction of dependent and independent variables. Descriptive survey research and correlation designs were adopted for this study. Target population of the study was 106 teachers. A saturated sampling technique was used. The sample size for the pilot study was 20 teachers drawn from 2 special schools and 2 special units. The reliability coefficient was set at 0.70 and above at an alpha level of 0.05. Test-retest of three instruments namely, challenging behaviour checklist, challenging behaviour perception questionnaire and teachers' attitude questionnaire in the pilot study yielded a reliability coefficient of 0.89, 0.75 and 0.78 respectively. Experts from the department of Special Needs verified face and content validity of the research instruments. Data was collected using questionnaires, observation checklist, observation schedules, interview schedules and document analysis guide. Correlation coefficient analysis, inferential statistics and regressions were used to analyze quantitative data. Qualitative data from observation and interview schedules were collected, organized and categorized into themes, which were reported. Findings of the study indicate that all the 59 behaviours sampled occurred among learners with ASDs in Western Kenya albeit at different frequencies and magnitudes. Strategies used in management of challenging behaviours included intensive interaction, behavioural therapies and augmentative communication. Intensive interaction was the strategy that was being used by teachers and the one that they had found effective 83 (78.3%). Cognitive perception of challenging behaviour influenced the choice of management strategies, teachers who perceived challenging behaviour presented by learners with ASDs as a time line episodic chose least restrictive challenging behaviour management strategies such as behavior therapy model (r= .421 $p \leq .05$) while those who perceived it as time line chronic chose more restrictive strategies such as mental health consultation (r= 0.294 $p \leq .05$). There was a moderate relationship between positive attitudes and the choice of least restrictive management strategies such as intensive interaction (r=0.438, $p \leq 0.01$) and negative attitudes with more restrictive strategies such as experimental functional analysis, (r=0.283, $p \leq .05$). The perception of causes of challenging behaviour was moderately correlated to the choice of management strategies such as sociological factors and social stories, (r=0.521, $p \leq 0.01$) and sociological factors and The Treatment and Education of Autistic and Related Handicapped Children strategy (r=0.435, $p \leq 0.01$). Efforts to be made by schools to address the teachers' perception and attitudes towards challenging behaviour as they have an influence on their choice of management strategies.

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ABBREVIATIONS AND ACRONYMS

AD/HD - Attention Deficit/ Hyperactivity Disorder

APA – American Psychological Association

ASDs – Autistic Spectrum Disorders

ADs- Autistic Disorders

BILD - British Institute of Learning Disability

CBPQ – Challenging Behaviour Perception Questionnaire

CBRQ – Challenging Behaviour Representation Questionnaire

CDD- Childhood Disintegrative Disorders

CHABA – Challenging Behaviour Attribution Scale

DfE- Department for Education

DFES – Department for Education and Skills

DSM- Diagnostic Statistical Manual

DSM- IV – Diagnostic Statistical Manual IV

IPQ – Illness Perception Questionnaire

KESSP- Kenya Education Sector Support Programme

MOE- Ministry of Education

NCST- National Council for Science and Technology

NASUWT - National Association of Schoolmasters of Women Teachers

PDD- Pervasive Developmental Disorders

PDD-NOS - Pervasive Developmental Disorders – Not otherwise Specified

PMLD- Profound and Multiple Learning Difficulties

SEN - Special Education Needs

TEACCH- The Treatment and Education of Autistic and Related Handicapped Children

UPE - Universal Primary Education

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Autistic Spectrum Disorders (ASDs) is a developmental disorder with unknown etiology and with heterogeneous symptoms (Bailey, 2006). ASDs is defined at the behavioural level based on impairment in socialization, communication and imagination with Stereo typed repetitive interests taking the place of creative play. In addition to these core features, a range of other behaviour problems are common, such as anxiety, depression, sleeping and eating disturbances, attention issues, temper tantrums, and aggression or self-injury (American Psychiatric Association, 2012). Kanner (1943) first identified the condition in eleven children that he felt were different from others to merit a separate syndrome. He referred to this disorder as 'a disorder of affective content' and identified diagnostic criteria in terms of interpersonal development, imagination deficits and communication. Later, Wing and Gould (1979) added the other dimension that autism co-occurred with learning difficulties. Presently, the two major diagnostic systems now have common criteria for diagnosis of autism based on triad of impairment in social interaction, communication and lack of flexibility in thinking and behaviour. This same triad of impairment underpinning other autistic-like condition is said to form pervasive developmental disorders.

Although the symptoms of ASDs are often heterogeneous across individuals, the disorders are all characterized by onset in early childhood. In the USA, ASDs are officially referred to as Pervasive Developmental Disorders (PDD) which comprises five related conditions: Autistic Disorders (ADs) commonly referred to as autism, asperger syndrome, Pervasive Developmental Disorder- Not otherwise specified (PDD-NOS), Childhood Disintegrative Disorder (CDD) and Retts Syndrome (American Psychiatric Association 2012). These latter

two conditions are rare and have identifiable biological markers (Wilkins, 2008). The former three conditions are common and make up what is considered as autism spectrum which can be conceptualized as a continuum of symptoms (Bailey, 2006). Autistic disorder at one end with more severe symptoms presentation, PDD- NOS in the middle and Asperger disorders at the other end with the mildest symptoms. In educational practice, teachers may use different terms interchangeably to refer to children with similar presentations (Ospina, Krebs, Seida, Clar, Karkhaneh, Hartling & Tjosvold, 2008)

Common co-morbidities include mental disability (Intelligence quotient less than 70) and epilepsy, which are associated with 70% and 25% of autism cases, respectively (Ospina *et al.* 2008).

While no known cure for ASDs exists, the general agreement is that early diagnosis, followed by appropriate intervention can improve outcomes in later years for most individuals with ASDs (Bailey, 2006, Ospina *et. al*. 2008 & Bakare, 2012). While there are no definitive medical tests to indicate the presence of any form of ASDS (Ospina *et al.,* 2008), diagnosis can be made by three years of age based on the presence or absence of specific behaviours that are used as diagnostic criteria (Kiguta, 2010, Bakare, 2012). Consequently, the question of how teachers manage different behaviours presented by learners with ASDs in order to help them increase their abilities to function is highly relevant to families, community, other professionals, and policy makers in education.

ASDs are considered the most prevalent forms of the PDD (Wilkins, 2008). They were the first of these disorders to be recognized as a distinct disorder (Wings, 1997). Learners with ASDs share a cluster of impairment in reciprocal social interaction, communication and have stereotype behaviour interests and activities (Wilkins, 2008). These complex behaviours are of lifelong duration and affect multiple aspects of development, learning and adaptation in the

community. The etiologies of these disorders are poorly understood (Bailey, 2006) but are believed to include genetic, (Edward, Owen & Jamie, 2007) metabolic and immunological (Tsakanikos, Costello, Holt, Sturmey & Bourous, 2007) and other environmental influences (Bailey, 2006). They are highly variable in their clinical presentation. Only recently have efforts been directed towards a meaningful subtype of this disorder (American Psychiatric Association, 2012). Despite the current state of ASDs, little has been done to establish the teachers' perception of challenging behaviour presented by this group of learners.

In 1970s, ASDs were believed to be quite rare (Wing & Gould, 1979). Approximately the prevalence was put at 4 out of 10,000 people. Currently, the prevalence is reported to be about one person with ASDs to every 150 in a given population (Gilberg *et al.*, 2006 & Wilkin, 2008). Earlier studies (Longe, 1976 & Lotter 1978) had reported ASDs prevalence at 1% of the population in African countries. Seif- Eden *et al*. (2008) report the prevalence of ASDs at 11.5% and 33.6 of the population among children in Tunisia and Egypt respectively. A hospital based population study in Nigeria found prevalence at 11.4% of the population consisting of people with ASDs (Bakare, 2012). Prevalence in Kenya is currently put at 4% of Kenyan population (Autism Society of Kenya, 2007; & Kiguta, 2010) Reasons for this prevalence have been attributed to the broadening of ASDs and changes in diagnostic criteria (Wilkins, 2008). Gilberg *et al.,* (2006) add several other reasons for the high prevalence. They cite reasons such as variability across studies in methods of diagnosis; increased awareness of ASDs among professionals and parents; recognition that ASDs can occur in persons at all levels of intellectual functioning ; ASDs occurring concomitantly with other handicapping conditions; increased development of specialized services for ASDs and a possible true increase in number. The Autism Society of Kenya (2008) attributes high prevalence of ASDs in Kenya to diet consisting of artificial colouring and food flavouring.

There is small but steadily growing body of research evidence which suggests that the best methods to manage challenging behaviour is to carry out assessment of functional relationship between the challenging behaviour and the environmental consequences sustaining the behaviour by experienced professionals such as psychologists (Wilkins, 2008 & Williams, 2008). These experienced professionals are however in short supply and are prohibitively expensive for most families in Kenya (Awuor & Karume, 2014). Furthermore, experience and expertise are factors that have not been quantified in the literature making them nearly impossible for parents with learners with ASDs to single out in a professional. Without effective intervention, core symptoms of ASDs and accompanying challenging behaviour and comorbid psychopathology can become lifelong concern (Wilkins, 2008). It was due to these reasons that the present study was carried out with an aim of developing good challenging behaviour management strategies.

Learners with ASDs like other learners need to be treated with respect and supported by the society's institutions and services in order for them to realize their potentials (Autism Society of Kenya, 2009). They are among the most vulnerable group and often depend on teachers, parents and other members of society to a greater degree than other learners (Williams, 2008). They may be more susceptible to mistreatment, exclusion from services and less able to lobby for services and support which they need compared to other groups in society (Bailey, Hare, Hatton & Limb, 2006). A study carried out by Awuor and Karume (2014) in Kenya on learners with ASDs found that these learners especially those who are high functioning can achieve much but this can be lost when the disorder is not understood and the challenging behaviour that they present is not well managed.

The term 'challenging behaviour' gained its international fame in late 1980s when it was used to describe a group of people with desperate range of behaviours (Emerson, Robertson &

Wood, 2005). The strength of the term 'challenging behaviour' lies on its focus on the relationship between the portrayed behaviour and the environment. It further focuses on the importance of understanding the influence of the environment on the portrayed challenging behaviour (Emerson *et al.*, 2005). A widely used and accepted definition of challenging behaviour suggested by Emerson (1998) states that challenging behaviour is a culturally abnormal behaviour of such intensity, frequency or duration that the physical safety of the person or others is likely to be placed in a serious jeopardy, or behaviour which is likely to seriously limit use of, or result in the person being denied access to ordinary facilities. In the same vein the Royal College of Psychiatrists, British Psychological Society and the Royal College of Speech and Language Therapists (2007) built upon this definition and adopted the modified definition of challenging behaviour. They defined it as behaviour of such intensity, frequency or duration as to threaten the quality of life and / or the physical safety of the individual or others and likely to lead to responses that are restrictive and aversive. The prevalence of challenging behaviour in learners with ASDs has been reported at 25-65% (Mills 2010). This is a high prevalence that can impact on the quality of life for these learners and present numerous difficulties for teachers working with them.

Challenging behaviour is a descriptive concept, which is largely socially constructed, and its meaning is subject to changes in social norms and service delivery patterns over time and across geographical areas (Kiriakos, Russell & Murphy 2007). The term itself carries no diagnostic significance, and makes no inferences about the etiology of the behaviour (Bailey, 2006). It covers a heterogeneous group of behavioural phenomena across different groups of people; for example, oppositional behaviour in children, faecal smearing by those with a severe learning disability and deliberate self-harm by adults with mental illness. Challenging behaviour may be unrelated to psychiatric disorder, but can also be a primary or secondary manifestation of it (Kiriakos *et al.*, 2007). Thus, the study investigated the teachers'

perception of the causes of challenging behaviour and how their perception influences the choice of challenging behaviour management strategies.

Challenging behaviour engaged in by learners with ASDs can result into negative consequences for these learners such as being excluded from services or neglected by teachers (Hastings, 1997). Challenging behaviour can have a wide variety of personal and social consequences for the learner who engages in it and for other people. It may hinder the learner and other learners from learning, endanger the learners life and that of other learners, cause great strain and stress to the learner who presents the challenging behaviour, other learners and teachers working with the learner. It may also be inappropriate for age or developmental level of the learner and may put the learner on high-risk category for later social problems, school failure or drop out. A case study carried out in USA by Michail (2011) which investigated cases of school exclusion found that school exclusion was becoming an acceptable direction in USA for a range of behaviours that were considered to put the school community at risk such as aggression. It clearly emerged from Michail (2011) study that the highest number of learners who were being excluded from school were those with ASDs who presented challenging behaviour. The Mansell report (2007) in United Kingdom (UK) identified problems faced by people with ASDs whose behaviours were challenging. The problems identified in Mansell (2007) report faced by people with ASDs included breakdown in community placement, increased rejection by community members and poor quality of institutional care.

According to Department for Education and Skills (2013) in UK the number of learners who dropped out of school increased from 50080 during 2011-2012 to 51700 during 2012 -2013 periods. This indicated that 1620 learners were dropping out of school in United Kingdom. In the same vein, Stamou, Edwards, Daniels and Ferguson (2014) study carried out in UK

established that learners with ASDs were six times more likely to drop out of school due to problems related to challenging behaviour that they presented. The office of Children's commissioner (2012) in UK established that ¾ of learners with ASDs who present challenging behaviour were dropping out of school due to ineffective management strategies used by teachers.

Assessment records from western Kenya comprising of Busia, Kakamega, Vihiga, Bungoma, Nandi, Kisumu and Siaya indicate that 683 learners had been assessed and placed in schools between the year 2007 and 2012 .Records show that 202 learners had dropped out of school.

Table: 1 Learners who dropped out of Schools in Western Kenya between 2007 and 2012

County	Number placed	Number Dropped	% Drop
Kakamega	102	44	43.14
Vihiga	69	37	53.62
Busia	112	54	48.21
Bungoma	125	16	12.8
Nandi	57	9	15.78
Kisumu	115	17	14.78
Siaya	103	25	24.27
Total	683	202	

Source: Sub Counties Education Assessment and Resource services (2012)

Further analysis of assessment data revealed that Kakamega, Busia and Vihiga counties had the highest number of learners with ASDs who had dropped out of school after assessment and placement as shown in table 2.

Table: 2 Learners Placed and dropped out in Schools in Kakamega, Vihiga and Busia Counties between 2007 - 2012

County	Number placed	Number dropped	% drop
Kakamega	102	44	43.14
Vihiga	69	37	53.62
Busia	112	54	48.21
Total	283	135	

Source: Sub Counties Education Assessment and Resource services (2012)

The table indicates that out of 283 learners with ASDs who had been assessed and placed in public primary schools in these three counties 135 had dropped out of schools. This indicates that out of 202 learners with ASDs who had dropped out of public primary schools in the seven counties of Western Kenya, Vihiga, Kakamega and Busia accounted for 67 % while the other four counties had 33%. This indicates that Vihiga, Kakamega and Busia had the highest number of learners with ASDs who dropped out of public primary schools. Reasons for this dropout is not known but there is a small but steadily growing body of research evidence which indicates that poor management of challenging behaviour leads to dropout of learners with ASDs from schools (Michail, 2011; Department for Education & Skills, 2013; Stamou *et al*.,2014).

This high dropout rate is not in line with the Kenya government policy on Education. The government of Kenya (2009) recognizes the importance of education as a crucial subsector for National development. The government of Kenya (2005) outlines the vision of education as an enabler of our youth that needs to be achieved through the provision of quality education that is accessible and relevant to the lives of learners. It is envisaged that this education would improve the participation of Learners with Special Needs in Nation

development. The government of Kenya (2009) points out that learners with SNE who may not access education may be exposed to a host of problems. It would make them live in hostile bleak environment where their safety and security may be compromised and their future jeopardized. They are also likely to be disempowered with no opportunity for advancement making them to remain voiceless because of inbuilt socio-cultural and economic prejudices.

There is a small but convincing body of research evidence which indicates that effective management of challenging behaviour can lead to retention of learners with ASDs in schools (Marzano & Marzano 2003; Leeds, Campbell, Baker, Ali Brawley & Crisp, 2013). Marzano and Marzano (2003) study in USA that involved 700 learners found out those teachers who established appropriate dominance by setting clear acceptable behaviour and putting in place realistic behaviour expectations recorded high retention rate of learners than more permissive teachers. In a related study done in Australia, Male, (2004) that investigated challenging behaviour management strategies found out those teachers who developed whole school behaviour policies, supportive school culture and school level initiatives recorded high learner retention than teachers who used reactive strategies to manage challenging behaviours. Leeds *et al*., (2013) study based in USA on learner retention found out that effective communication between teachers and learners and positive behaviour management strategies led to high learner retention at school. Relatively little is known in Kenya on effect of management strategies on learners' with ASDs school retention.

Within the care sector, teachers working with learners who show challenging behaviour have reported feelings of anger, annoyance, anxiety and being upset (Hastings, 2008). In an educational setting challenging behaviour may cause severely restricted access to the curriculum or exclusion of the pupil from school (Male, 2004) Learners displaying

challenging behaviour are also a major source of intense stress in the lives of teachers (Hastings, 2008). Job dissatisfaction may result when teachers are not well equipped with knowledge and skills of dealing effectively with challenging behaviour presented by learners with ASDs. A synthesis study carried out in Canada (Montgomery, Martin, Shooshtari, Stoesz & Heinrichs, 2014) that analyzed peer reviewed journals published between 2000 - 2013 addressing challenging behaviour presented by learners with ASDs found out that teachers identified challenging behaviour presented by learners with ASDs as a primary reason for leaving their profession. In particular school administrators reported high rate of teachers' attrition in special education area and identified difficulties in filling this specific positions. Montgomery *et al* (2014) study and the present study addressed challenging behaviour presented by learners with ASDs Montgomery *et al.* (2014) synthesis however relied on secondary source of information of reviewing reports, which may have high degree of bias, the present study reports first hand primary information collected using questionnaire corroborated with interviews, document analysis and observation.

Such negative consequences need not to be the case as there is overwhelming research evidence, which indicates that challenging behaviour, can be managed to reduce its impact (Hastings, 1997; Bailey *et al*., 2006; Williams, 2008 & Crossland, 2009). Effective challenging behaviour management strategies must therefore aim at not only reducing the frequency, intensity and duration of the behaviour but also reduce or prevent some or all the physical and social consequences of it.

Teachers who work with learners with ASDs require tremendous variability in both the skills and knowledge of ASDs as this group of learners presents numerous challenges. In order to make learners with ASDs realize their potentials, they need to carry out evidence-based practice. They need to network with parents, other professionals such as physiotherapists,

speech and language therapists in order to make professional judgment, data based clinical decisions, values and preference.

Studies that have been done to analyze the types of challenging behaviour are limited (Porter & Lacey, 2009 & Crossland 2009). These studies focused on single or small number of variables to determine the teachers rating of frequency of challenging behaviour presented by learners with ASDs. For example, Male (2004) asked teachers to rate the frequency of challenging behaviour under three categories- self-injury, physical aggression and inappropriate vocalization. Self-injury had only four elements 1. Self-biting, 2. Head banging 3. Self scratching 4. Body hitting. Though Male (2004) and the present study analyzed challenging behaviour presented by learners with ASDs, the present study extended somehow and analyzed 59 behaviours which were grouped into seven categories of inappropriate vocal/oral behaviour, self-injurious behaviour, property damage, stereotypic behaviour, personal behaviour, interpersonal behaviour and aggression. The self injurious category had seven elements namely bites self, picks at sores, hits or slaps self, bangs or hits head, cuts self with knives or razors, pokes eyes or nostrils and scratches self. Also, Male (2004) study did not analyse variables of respondents such as age, gender, professional qualification and years of experience, which may have a significant impact on management of challenging behaviour presented by learners with ASDs.

There is a steadily growing body of research evidence that has investigated strategies used in managing challenging behaviour. These strategies include interactive strategies (Prevezer, 2001 & Kaufman, 2002), augmentative communication (Bondy & Frost, 2005), social stories (Collins, 2008), Treatment and Education of Autistic and Related Communication and Handicapped Children (Mesibov, *et al*., 2005), gentle teaching (Ashdown, 1999). Harvey (2014) reviewed intervention strategies for challenging behaviour among learners with

Intellectual Disabilities. Harvey (2014) found that teaching individual skills combined with ecological manipulation had significant effect on challenging behaviour. While his study was limited to learners with Intellectual Disabilities the present study addressed challenging behaviour presented by learners with ASDs.

In a closely related meta-analysis study by Heyvaert, Maes, Kuppens and Onghena (2012) that evaluated 30 studies in management strategies that involved the use of pharmacological, psychotherapeutic and contextual intervention among learners with Intellectual disabilities indicated that these interventions had a large and statically significant positive effect on challenging behaviour. The study was also limited to learners with Intellectual disabilities and involved only three management strategies.

In Kenya, Riccio (2011) carried out a study on frame work surrounding ASDs, social attitudes, diagnostic practices, Educational opportunities, behaviour management and intervention programmes available in Kenya. The scope of the study was too large and to some extent unclear. On management of behaviour, the study only addressed TEACCH and Applied Behaviour Analysis at the expense of other behaviour management strategies. Riccio (2011) study seems to have added little value on knowledge of Challenging behaviour management strategies as it mostly concentrated on myths on causes of ASDs in Kenya. The present study investigated 12 different management strategies.

The other limiting factor on studies that have investigated the management strategies is their apparent concentration on cognitive perspective (Campbell, 2007 & Williams, 2008) and emotional perspective (Wanless & Jahoda, 2002) at the expense of teachers' actual management strategies. Proponents of cognitive perspective (Rose & Rose, 2005; Williams & Rose, 2007 & Williams, 2008) argue that teachers' behavioural response to Challenging

behaviour may be mediated by their beliefs without clearly addressing how cognition will influence the choice of challenging behaviour management strategy.

The relationship between teachers' cognitive perception and choice of challenging behaviours management strategies has not been addressed by researchers. Instead significant attention has been paid to perception of causes of challenging behaviours (McClinitok, 2003; Lambretchts *et al*., 2008; Williams, 2009 & Crossland, 2009). For example McClinitok, (2003) carried a meta-analytic study involving 86 journals on teachers self reports on causes of challenging behaviour. Teachers associated the causes of challenging behaviour to medical, behavioural and psychodynamic perspectives. McClinitok (2003) and the present study addressed the teachers perception of challenging behaviour though they used different methodologies. The present study used descriptive survey while McClinitok (2003) used meta-analysis. It is important to note that meta-analytic methods combine results of several studies to produce quantitative summary that they generalize. In most cases, they miss attributable methodological factors such as samples surveyed, individual characteristics of sample and data collection methods. This is obviously a potential threat to the extent to which the results can be generalized and this needs to be taken into account when interpreting such results. The present study used observation, interview schedules and document analysis which are direct methods of data collection to corroborate the data collected by questionnaires. Both hand and electronic data base searches did not yield any study that addressed the relationship between cognitive perception of challenging behaviour and choice of management strategies.

Teachers' attitude towards challenging behaviour has also received considerable attention by researchers (Markham & Trower, 2003; Rose & Rose, 2005; Williams, 2008 & Dagnan 2011). All these studies were based on Werner's (1980) theory of helping behaviour.

Markham and Trower (2003) study used two vignettes, one presenting atypical autistic behaviour while the other vignette presented typical behaviour. Respondents were asked to indicate their attitudes based on the information provided by Vignettes. Markham and Trower (2003) study and the present study are related because they both investigated teachers' attitudes towards challenging behaviour presented by learners with ASDs. Markham and Trower (2003) used vignettes. This use of vignettes other than real respondents produced several inconsistencies in their study. Dagnan (2011) case study involved 35 teachers supporting learners with ASDs to determine their attitude and willingness to help one person called John who had challenging behaviour. Whilst the result of his study supported Werner's model they should be interpreted with caution, as data from a single respondent cannot be generalized.

The Relationship between teachers Perception of Causes of Challenging Behaviour and the Choice of Management Strategies is an area that seems not to have received attention of scholars to date. Instead, most studies have concentrated on perception of causes of challenging behaviour (Lambrechts, Katja and Mae, 2008; Whitaker, 2009; Crossland, 2009). There are at least two reasons why most of these researchers have begun to focus on teachers' perception of causes of challenging behaviour. First, there is implicit assumption that the ideas about the causes of challenging behaviour will influence their responses towards it (Crossland, 2009). Although there is no information currently on how and when teachers perception of challenging behaviour may be related to the choice of management strategies, it has been suggested that perception of the causes of challenging behaviour interact with a number of factors to determine the teachers behaviour on either to assist or not assist a learner presenting challenging behaviour (Lambrechts *et. al*., 2008; Whitaker, 2009). These factors include teacher's demographic information such as professional qualifications, working experience, their age and gender (Male, 2004). Weru (2005) study compared behavioural

symptoms of ASDs among African American in the USA and Kenyan school aged children in Nairobi that showed that Kenyan schoolchildren presented more challenging behaviour than African American children. The study failed to address the relationship between perception of causes of challenging behaviour and the choice of management strategies. In Kenya, perception of causes of ASDs seems not in line with the western countries. A study carried out by Riccio (2011) that investigated perception of the causes of ASDs using informal interview found out that especially in rural areas of Kenya, ASDs was perceived to be caused by witchcraft and sorcery. The study found out that learners with ASDs are in most cases hidden rather than being exposed to educational and medical attention.

The second reason for this interest in teachers' perception relates to the needs to evaluate teachers training on challenging behaviour and other support services that can be provided to them to enable them manage challenging behaviour effectively (Hastings, 2005). Some of the well-documented support services in the current literature in the field of intellectual disabilities are development of partnership between teachers and parents of learners with ASDs (Jones & Hall, 2005), clear organizational structures at workplace (Whitaker, 2009) and proper remuneration (Mansell, 1993). None of these studies has addressed the relationship between teachers' perception of the causes of challenging behaviour and the choice of management strategies. Teachers Perception of the causes of challenging behaviour may influence the way they respond to and manage challenging behaviour presented by learners with developmental disabilities. There is however relatively limited research in this area. Little is known about how their perception of causes of challenging behaviour may influence the choice of management strategies.

Teachers working with learners with ASDs who present challenging behaviour can be quite instrumental in reducing the intensity, frequency and impact of such challenging behaviour. Hasting and Brown (2002) study however vividly demonstrates that when teachers are faced

with cases of challenging behaviour, they mostly use mal-adaptive coping strategies, which in addition to the risk of strengthening the challenging behaviour portrayed, are likely to lead to burn out and emotional exhaustion among the teachers. This study was set to find out teachers perception of challenging behaviour and how this influences their choice of challenging behaviour management strategies.

It is the duty of service providers such as educational researchers to support the teachers in the management of challenging behaviour and to support their emotional well-being. Part of this responsibility can be achieved by carrying out studies to determine how teachers analyze challenging behaviors presented by learners with ASDs, methods used in managing challenging behaviours, cognitive perception of challenging behaviours, attitudes towards the behaviour and the relationship between the perception of the causes of challenging behaviour and the choice of management strategies. Much of the responsibility in the management of challenging behaviour for learners with ASDs has been placed in schools for two reasons. First for most learners with ASDs, schools are the primary and often the only source of intervention, as most parents cannot afford intervention services offered by clinical psychologists and other therapists. Second, the National Policy on Special Needs Education (Republic of Kenya, 2009) mandates schools to identify factors that may hinder individual learner's educational and social development, develop, and implement individual plans for such learners. These responsibilities are assigned to teachers. Part of these responsibilities includes management of challenging behaviour presented by learners with ASDs. This is in line with the Kenya government vision of special education – to have a society in which all the persons regardless of their disabilities and special needs achieve education to realize their full potential. Hardly any study has been carried out in Kenya on teacher's perception of challenging behaviour among learners with ASDs. Mwendo (2011) carried out a case study in Nairobi that investigated policy guidelines, environmental adaptations, and classroom

modification for learners with ASDs in city primary school in Nairobi. Her study did not address challenging behaviour presented by learners with ASDs. The present study examined teachers' perception of challenging behaviour that would be essential in informing them and other professionals charged with the care of learners ASDs to identify the challenging behaviour and intervention strategies.

Learners with Autistic Spectrum Disorders in western Kenya are at risk of developing challenging behaviours including physical and verbal aggression, self-injury, property destruction, pica, stereotype, tantrums, anxiety, withdrawal and self-stimulation. Weru (2005) carried out that a study that explored cultural differences in behavioural symptoms of autism among African American in the United States and Kenyan learners with ASDs. Findings of her study showed that challenging behaviour was more significant in Kenyan children with Autism than their USA counter parts. Learners with ASDs who present challenging behaviours are at greater risk of abuse, are likely to live in a deprived environment and are more likely to be medicated to control their challenging behaviour. These challenging behaviours in most cases are reinforced by the disruption they create and without effective intervention; they are more likely to increase than improve. The way the teachers perceive these behaviours directly influences the choice of challenging behaviour management strategies. The impact of challenging behaviour is often pervasive in that the behaviour can occur across a variety of classroom activities and may pose problems to teachers. Of all the social and learning problems manifested by learners with ASDs, challenging behaviour is the most difficult for teachers to manage leading to job dissatisfaction and high rate of attrition when they are not equipped with knowledge and skills for dealing effectively with such behaviours. Learners with ASDs well being may be compromised if efficient and effective response to the challenging behaviour is delayed or absent.

1.2 Statement of the Problem

In late 1970s, ASDs was thought to be quite rare with the prevalence put at approximately 4 out of 10,000 people. Currently, the prevalence is reported to be about 1 to 150. Education Assessment records in Busia, Kakamega, Vihiga, Bungoma, Nandi, Kisumu and Siaya counties in Western Kenya indicate that between the years 2007 and 2012, 683 learners with ASDs had been assessed and placed in public schools but by the year 2012, 202 learners had dropped out of school. Closer analysis of the records revealed that out of 283 learners assessed in Vihiga, Kakamega and Busia counties during this period, 135 had dropped out of school. These three counties accounted for 67 % of learners who had dropped out of school in the seven counties. Reason for this dropout has not been established although a number of studies seem to point at poor challenging behaviour management strategies by teachers. This high drop out of school by learners with ASDs may pause many questions, as they are likely to miss formal education, which is a basic human right. Lack of education may make these learners with ASDs live in hostile bleak environment where their well-being may be compromised and their future jeopardized. Conversely, effective intervention by teachers to curb this high dropout rate of learners with ASDs is likely to lead to improvement of opportunities for learning and adaptive skills development.

Studies on analysis of types of challenging behaviour are limited and focused on single or small number of challenging behaviours. The studies did not adequately analyze teachers' variables that influenced the rating of challenging behaviour presented by learners with ASDs. Very little is known about teachers' management strategies of challenging behaviour presented by learners with ASDs. Studies that have investigated challenging behaviour have mainly concentrated on learners with mental disabilities at the expense of learners with ASDs. Few studies that have investigated challenging behaviour management strategies among learners with ASDs concentrated on cognitive perspective and emotional perspective

at the expense of teachers' actual management strategies. Teachers' perception of challenging behaviours has been established by meta-analytic studies that combine results of several studies to come up with quantitative summary, which they attempt to generalize. In most cases, meta-analytic studies miss to take into account methodological factors such as samples surveyed, individual characteristics of the samples and data collection methods. This is obviously a threat to the extent to which the findings can be generalized. Researchers have not adequately addressed the influence of cognitive perception of challenging behaviour on the choice of management strategies. Teachers attitude towards challenging behaviour presented by learners with ASDs has been investigated mostly using Werner's model of helping behaviour. Most of the studies that have investigated challenging behaviour have used vignettes other than real learners with ASDs. The use of vignettes has produced several inconsistencies in these studies. The relationship between teachers' attitudes and choice of challenging behaviour management strategies has not been addressed by researchers. The relationship between teachers' Perception of causes of challenging Behaviour and the Choice of Management Strategies is an area that seems not to have received attention of scholars to date. Instead, most studies have concentrated on perception of causes of challenging behaviour. None of these studies has addressed the relationship between teachers' perception of the causes of challenging behaviour and the choice of management strategies. Teachers' Perception of the causes of challenging behaviour may influence the way they respond to and manage challenging behaviour presented by learners with ASDs. Better management strategies of challenging behaviour may curb the high dropout rate of learners with ASDs This study was set to find out the teachers perception of challenging behaviour and how these influences their choice of challenging behaviour management strategies in Western Kenya.

1.3 Purpose of the Study

The purpose of this study was to determine teacher's perception of challenging behaviour among learners with ASDs and its influence on choice of management strategies in primary schools in Western Kenya

1.4 Specific Objectives of the Study

Specific objectives of this study relating to teachers perception were to:

i. Analyze types of challenging behaviours presented by learners with Autistic Spectrum Disorders in primary schools in Western Kenya.
ii. Assess strategies used in the management of challenging behaviours portrayed by learners with Autistic Spectrum Disorders in primary schools in Western Kenya.
iii. Determine the influence of teachers' cognitive perception of challenging behaviour on the choice of management strategies among learners with ASDs in public primary schools in Western Kenya.
iv. Establish the relationship between teachers' attitudes towards challenging behaviours and the choice of management strategies among learners with ASDs in Public primary schools in Western Kenya.
v. Establish the Relationship between teachers Perception of Causes of Challenging Behaviour and the Choice of Management Strategies among Learners with ASDs in public primary schools in Western Kenya.

1.5 Research Questions

Research questions of this study were:

i. What are the types of challenging behaviours presented by learners with Autistic Spectrum Disorders in primary schools in Western Kenya?

ii. Which strategies are used in the management of challenging behaviours portrayed by learners with Autistic Spectrum Disorders in primary schools in Western Kenya?

iii. What is the influence of the teachers' cognitive perceptions of challenging behaviours on the choice of management strategies among learners with Autistic Spectrum Disorders in primary schools in Western Kenya?

iv. What is the relationship between teachers' attitudes towards challenging behaviours and the choice of management strategies among learners with Autistic Spectrum Disorders in primary schools in Western Kenya?

v. What is the Relationship between teachers Perception of Causes of Challenging Behaviour and the Choice of Management Strategies among Learners with ASDs in public primary schools in Western Kenya?

1.6 Basic Assumption of the Study

The following were the assumptions made for this study:

i. Teachers in Public primary schools in Western Kenya were aware of different challenging behaviours presented by learners with ASDs.

ii. Teachers in Public primary schools in Western Kenya were aware of different behaviour management strategies used in managing challenging behaviour presented by learners with ASDs.

1.7 Scope of Study

The study sought to find out teachers' perception of challenging behaviour and their choice of challenging behaviour management strategies among learners with ASDs in western Kenya. The study was confined to Kakamega, Vihiga, Busia, Bungoma, Nandi, Kisumu and Siaya. These counties have many units and special schools that cater for learners with ASDs.

1.7.1 Limitation of the Study

The following was the limitation of the study:

The use of questionnaire for data collection may have had floor and ceiling effect. Respondents may have formed a tendency of inflating and deflating their responses to the questions in a way that they felt desirable to them. To minimize this, data collected by questionnaire was corroborated with other data from interview schedules and observation

1.8 Significance of the Study

This study intends to fill the gap in the current literature relating to educational research and the missing link between management of challenging behaviour in relation to teachers' perception of challenging behaviour. Findings of the study indicate that teachers' perception of causes of challenging behaviour has a significant influence on the choice of challenging behaviour management strategies. This factor needs to be considered when designing teacher training programmes for teachers training to teach learners with ASDs. Other areas to target in teacher training are cognitive perception and teachers attitudes towards challenging behaviour since the present study has demonstrated that they have a significant influence on choice of challenging behaviour management strategies. The results of this study will assist teachers in improving their challenging behaviour management strategies and promote learners with ASDs social, emotional and affective development. It is envisaged that the findings of the present study are critical since they may shape the teachers' perception of challenging behaviour and influence their intellectual concept within which holistic understanding and management of challenging behaviour may be realized.

1.9 Conceptual Frame Work on Challenging Behaviour Management

The conceptual framework of this study was based on an assumption that challenging behaviour is a social construct and it exists in an interpersonal perspective between the learner who presents the behaviour and the teacher who perceives the behaviour as challenging (Figure 1).

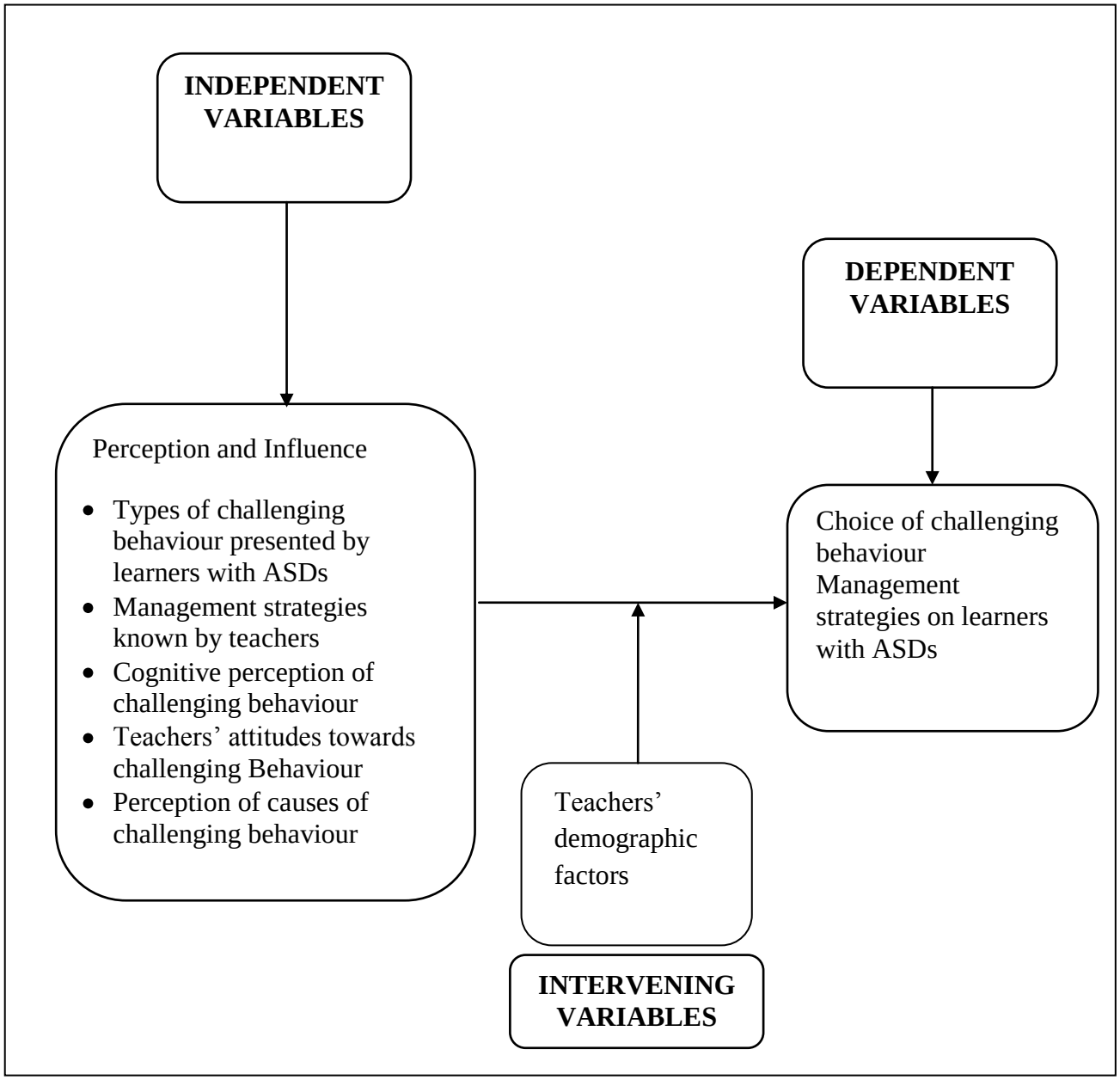

Figure 1. Conceptual framework showing interaction of perception and choice of challenging behaviour management strategies

Teachers' perceptions and attitudes of challenging behaviour are shaped by their experiences and dynamic interaction with the person presenting challenging behaviour. Their perception and attitudes towards the behaviour portrayed will make them respond to challenging behaviour either favourably or unfavourably. The choice of challenging behaviour management strategies may be influenced by the teachers' in-depth analysis of behaviours presented by learners with ASDs, Management strategies known by the teacher, Cognitive perception of challenging behaviour, teachers' attitude towards the behaviour and teachers' perception of causes of challenging behaviour. These variables will influence teacher's choice of challenging behaviour management strategies. Other variables that may interact with the afore mentioned variables and the choice of challenging behaviour management strategies may include the teachers gender, age, professional qualifications, year of working as a teacher and experience of working with learners with ASDs. These factors need to be considered when designing programmes on challenging behaviour management strategies for learners with ASDs.

1.10 Definition of Terms

The key terms that were used in the study are defined as follows:

Attitude- A settled way of thinking or feeling about someone or something typically reflected in a person's behaviour.

Autistic Spectrum Disorders An individual is said to have autism when he/she has difficulties in social interactions and flexibility in thinking and may also often have behaviours that may be repetitive and often confusing.

Challenging Behaviour – Behaviour of high frequency, intensity or duration that it Challenges the provision of services and can result into negative consequences to the learner other learners, the teachers or the environment.

Mental Health Disorders - A psychological or behavioural pattern associated with distress or disability that occurs in an individual and is not of normal development or culture.

Perception – The way in which something is understood, interpreted or regarded

Special Educational Needs – Deficits that have been assessed and established in an individual that are likely to hinder the individuals cognitive, social and emotional development.

Western Kenya - Refers to counties that lie in western part of Kenya comprising of Kakamega, Busia, Vihiga, Bungoma, Kisumu, Siaya and Nandi.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to the research objectives. First, it identifies types of challenging behaviours presented by learners with ASDs. Second it examines strategies used in the management of challenging behaviours presented by learners with ASDs. Third it identifies teachers cognitive perception of challenging behaviours followed by their attitudes towards challenging behaviour and lastly it attempts to examine teachers' perception of causes of challenging behaviours.

2.2 Types of Challenging Behaviours Presented by Learners with ASDs

Learners with ASDs present a range of behaviours that may be considered to be challenging. Behaviour forms one of the key components for diagnosis of ASDs. For example, Reid Collier and Douglas (2002) point out that diagnostic criterion for ASDs must include at least two impairments in social interaction, one impairment in communication, and at least one impairment in restricted repetitive and stereotyped behaviour. This implies that behaviour problems are the core deficits for learners with ASDs. Most of the behaviours presented by learners with ASDs may only be surface behaviours indicating deficits in social interaction, communication or motor behaviours (Shah & Frith, 1993; Reid *et al.2002*).

Studies that have investigated teachers rating of types and frequencies of challenging behaviours presented by learners with ASDs have indicated varying rates, but they seem to indicate that significant number of learners with ASDs engage in challenging behaviour (Porter & Lacey, 2009; Male, 2004 & Hastings, 2008). Main forms of challenging behaviour that have been identified include aggressive/destructive behaviour, self-injurious behaviour,

stereotype and other socially or sexually unacceptable behaviours. For example, Porter and Lacey (2009) report percentage of those engaged in inappropriate sexual behaviour at 43%, of learners with ASDs disruptive sound or noises at 05% of learners with ASDs, Self-injurious behaviour at 38% and aggression at 14% of learners with ASDs. Male (2004) also report percentage of 60 of extremely difficult behaviours exhibited by learners with ASDs, 35% of very difficult behaviours and 5% of difficult behaviours. On the other hand, Hastings (2008) report stereo type behaviour exhibited by learners with ASDs at 47%, self injurious behaviour at 32 while other behaviours accounting for the remaining percentage. These studies addressed only five behaviours while the present study addressed 59 different behaviours that were grouped into seven different categories.

In order to determine teacher's rating of types of challenging behaviours presented by learners with ASDs, it would be important to identify some of the behaviours that are commonly presented by learners with ASDs. These behaviours include self injurious behaviour, aggression, pica, echolalia and stereotypic behaviour,

2.2.1 Self Injurious Behaviour

Self-injurious behaviour has long been considered as a puzzling form of challenging behaviour, which occurs to learners with ASDs (Parkinson 1991; (Murphy Oliver, Corbett Crayton & Hall, 1993 & Harker- Longton & Fish, 2002). In most cases, teachers pay more attention to the physical injury itself than trying to understand the underlying causes. The most common types of self-injurious behaviour include skin picking (Murphy *et al*., 1993), head punching (Parkinson 1991), and head to object banging (Harker- Longton and Fish, 2002). A study carried out by Murphy *et al.* (1993) in UK found out that many teachers were using protective devices such as straight- arm splints in their desperate attempts to manage Self-injurious behaviour. Other studies (Emerson, 1998) have attempted to investigate self-

injurious behaviour among learners with ASDs using the neurobiological model of challenging behaviour. They have identified three types of neurotransmitters as dopamine, serotonin and opiod. These neurotransmitters regulate motor activity. Research suggests that problems in any of these areas may play a role in the development and maintenance of self-injurious behaviour and aggression. Emerson (1998) study was medical and examined challenging behaviour from medical aspect of disability. The present study examined challenging behaviour among learners with ASDs from many perspectives such as behavioural, ecological, psychodynamic, biological and humanistic.

A related study (Bailey *et. al.,* 2006) that investigated teacher's emotional response to self-injurious behaviour found association between care staff internal, stable and uncontrollable negative emotions. It identified negative emotions displayed by teachers in response to negative behaviours portrayed by learners presenting self-injurious behaviours. They concluded that challenging behaviour presented was positively reinforcing to the individual and negatively reinforcing for the teacher's behaviour thus perpetuating the problem. In another study by Hastings (2008) showed that teachers were likely to use restraint for self injurious behaviour, make environment safe for aggressive behaviour and distract the person for stereo type behaviour. Few studies have attempted to analyse teachers rating of frequencies of self-injurious behaviours (Male, 2004; Porter and Lacey, 2009). These two studies used teachers self reports on the frequencies of challenging behaviour which was likely to have had floor and ceiling effect (Creswell, 2009). The present study used observation and interview to corroborate information gained from challenging behaviour checklist questionnaire.

2.2.2 Aggression

Aggression as a form of challenging behaviour presents serious challenges to teachers with the treatment suggested by various therapists providing major controversies (Collin & Cornish, 2002). These controversies are deepened by the fact that the term aggressive behaviour is used in so many different ways that no single definition can cover all the meanings (Russell & Harris, 1993; McDonnell Stummey, Oliver Cunningham, Galvin & Walshe, 2008). In most cases, aggression depends on the context under which it occurs. There is a steadily growing body of research on how aggression can be reduced (Owens, 1987; Bailey, 2006 & Williams, 2008). Most of these studies advocate for settings where learners with ASDs have an opportunity to engage in a meaningful activity, improvement in quality of social environment and increase of personal choice and preferences. Though the use of aversive stimulus such as punishment and sanctions have been frequently used (Owens, 1987), positive intervention to build skills, teach new concepts, solve problems and repair relationships is rapidly gaining popularity (Russell & Harris, 1993; Penerai, Ferrente & Zingale, 2002; Bailey, 2006). In a related study in USA (Samantha and Whitaker, 2012) that involved 71 nurses and nurse assistants' management strategies of challenging behaviour presented by people with ASDs found out that nurse assistants were more likely to receive injuries as part of their job with over 70% of the staff having received injuries. This study did not address the choice of management strategies in relation to teachers' perception of challenging behaviour. In another study (Adams & Allen 2011) that was conducted to ascertain the nature of aggressive behaviour among learners with ASDs indicated that aggression occurred at higher rate in the study group (60%) and the behaviours resulted into serious consequences for the teachers. The study recommended the use of reactive behaviour management strategies in management of aggression. In a related study in UK (McDonnell *et al*., 2008) incidence of aggressive behaviour among children with ASDs was approximately

2-15% and in adolescents at 10-15%. These studies analyzed aggression without breaking it into its subcomponents. In the present study, aggression was analyzed based on six categories these were 1. Hits others with head 2. Uses threatening language 3. Uses threatening gestures 4. Bites, pinches, scratches or chokes others 5. Spits at others, and 6. Throws objects at others. Such categorization is important in three folds one it may help teachers in determining whether the learner is physically or verbally aggressive second it may help to determine the environmental consequences sustaining the behaviour third may help in determining the function of the aggressive behaviour. A case study carried out by Lam, Chui and Ng, (2007) in China to analyze the rating of aggressive behaviour of hitting others was rated at 57%.

2.2.3 Pica

Pica refers to eating non-food items such as paint, dirt, feces, sand; paper (Autism society of Kenya, 2008). About 30% of learners with ASDs have moderate to severe pica (Autism society, 2012). Pica can be dangerous as ingesting these inedible substances can cause choking, digestive problems, parasitic infections and illness. Research has linked this food disorder to nutritional deficiencies such as iron in learners with ASDs (Dell, 2002), psychological factors (Emerson, McGill & Mansell, 1994) as well as environmental factors (Carr Owen & Deschryver, 2007).

Although typically growing children outgrow this condition, learners with ASDs may require some interventions before it becomes life threatening. Many interventions have been tried with varied success (Carr.*et .al.* 2007). These approaches include medical, contingency behaviour and physical interventions. Medical intervention may include checking for nutritional deficiencies and giving medication to stop compulsion for craving for non-food items (Dell, 2002). Contingency behavior intervention may involve educating the learner with ASDs what is acceptable food choices and the importance of eating food for nutritional

content (Emerson & McGill, 1993). On the other hand, physical restraints may involve restricting the learner from non- food items he/she craves for by locking the items away (Carr *et al.,* 2007). Keeping these items away out of reach of learners will help them get past their obsession and craving for non-edible items.

A single case study carried out by Smith (2007) that analyzed the usefulness of differential reinforcement of incompatible behavior in the treatment of pica in a young man severely disabled by autism in a non- sheltered place of employment found a relation between challenging behaviour and reinforcement. The results indicated that a reduction in pica could be achieved by differential reinforcement of other behaviour. Behaviors, that were reinforced, included remaining in his assigned location, keeping his hands on his work, working quickly and keeping his mouth clear. Reinforcements included favorite drinks, snacks, activities and praise. Withdrawal of treatment resulted in an increase in pica, with renewed reduction on reinstatement of the reinforcement schedule. This case study examined a learner with ASDs in sheltered employment. The present study analyzed challenging behaviours presented by learners with ASDs in public primary school settings. The findings from this single case study cannot be generalized. Another related study carried out in UK by Kinnel (2005) that analyzed the frequency of pica in the case records of 70 aged between 9–76 years autistic people and compared them with case records of 70 aged between 21–75 years hospitalized Down's syndrome people. Findings show that the autistic group (92%) had indulged in pica at some stage, while only (8%) of the Down's syndrome group had indulged in pica. Based on these findings, Kinnel (2005) concluded that if pica is as common as indicated by the study, routine enquiry should be made in all cases of autism so that appropriate measures can be taken to control the behaviour. This study was a comparison study involving old people with ASDs and Down syndrome while the present study was a descriptive survey limited to learners with ASDs in public primary schools.

2.2.4 Echolalia

Echolalia is a verbal disorder as a meaningless repetition of words of others (Wesselman et.al, 2012). The echolalia phenomenon is an expression of dependence on the environment and may occur in a situation in which learners with ASDs are participating in communication act and lacking inhibitory control repeats the others communication rather than selecting the answer. It mostly reflects the inability of the subject to filter out background environment noise that occasionally results into environmental dependency (Marshalla, 2008). Davesa, (2004) carried out a study involving 18 participants with autism aged 17-36. They used echolalia questionnaire where questions were directly addressed to person with autism (induced procedure) or to the teacher while the person with autism was free to do what she/she wanted (incidental procedure). Results showed that echolalia was statistically higher in the induced procedure and it was influenced by functional capacity of the subjects. The study had 18 participants and was limited to adults with ASDs; the present study had 106 teachers working with learners with ASDs in primary schools in western Kenya.

2.2.5 Stereotypic Behaviour

One of the distinguishing features of many learners with ASDs is their frequent engagement in repetitive and apparently non-functional behaviours (Davesa, 2004). Currently behaviour analysts recognize other inappropriate behaviours directed at producing self-stimulation and have broadened the area of stereotype to include self-stimulatory behaviour (Marshalla, 2008). This class of behaviour is problematic to all of its form because of obstacles that it causes to learning and its stigmatizing in nature (Davesa, 2004). Some of the behaviours categorized in this class include hand flapping, body rocking, spinning objects, and repetitive vocal sequence referred to as echolalia (Marshalla, 2008, Edelson, 2012 & Barrat, 2013). The

presence of stereotype movement has been the key feature of autism since Kerner originally described it in 1947 (Davesa, 2004).

Researchers have advanced theories to explain why learners with ASDs engage in stimulatory behaviour (Davesa, 2004; Edelson, 2012 & Barrat 2013). One set of the theories suggests that these behaviours provide the learner with ASDs a sensory stimulation. Due to some dysfunctional system in the brain, or periphery, the body craves for stimulation thus the leaner engages in these behaviours to excite or arouse the nervures system (Edelson, 2012). The other theory states that these behaviours release beta-endorphins in the body and provide to the learner some form of pleasure (Edelson, 2012 & Barrat, 2013). Another set of theory assumes that the learner's environment is too stimulating and the learner is in a state of sensory overload. As a result, the learner engages in these behaviours to block out the over stimulating environment and his/her attention focuses inward (Edelson, 2012). These theories have implications to practice. Teachers who view causes of stereotype behaviour as sensory stimulation may resort to use ecological challenging behaviour management strategy. On the other hand, teachers who perceive the behaviour to be caused by dysfunctional system in the brain may resort to medication to manage the challenging behaviour presented by learners with ASDs.

Several strategies have been suggested in the management of stereotype behaviour. The major strategies suggested include exercises, providing the learner with more socially acceptable forms of stimulation and drugs to reduce such behaviours (Barrat, 2013 & Edelson, 2012). Edelson (2012) however points out that it is not clear whether drugs actually reduce the behaviour directly by providing internal arousal or indirectly by slowing down learners' motor movement. This area may require collaborative research to determine the efficacy of drugs as a treatment choice of challenging behaviour.

2.2.6 Teachers' Demographic Factors and the Rating of Challenging Behaviours Presented by Learners with ASDs.

Analysis of studies that have investigated variability's of teachers self reports on the frequencies of challenging behaviour exhibited by learners with ASDs are limited (Porter & Lacey, 2009; Lambrechts & Maes, 2009). Porter and Lacey (2009) study indicated that teachers differed in their reports on the frequency of challenging behaviour. Lambrechts and Maes (2009) investigated whether teachers vary in their frequency reports on challenging behaviour concerning the same learner. They hypothesized that a range of their characteristics that could explain their variability to the challenging behaviour, presented, influences teachers' approaches to management of challenging behaviour. These characteristics included teacher's gender, age, years of working with learners with ASDs and professional qualifications. A case study carried out by Lam et.al. (2007) revealed that there was no significant rating of aggressive behaviour by teachers based on gender and professional experience. The study was limited to a single case, which is unlikely to provide information generalisable beyond the confines of the place where the study was carried. The present study used descriptive survey, which allows generalization of research findings that can be reliable.

In rating the frequency of stereotypic behaviour by teachers, a study carried out by Male (2004) that applied Mann-Whitney test to compare the rating of more experienced and less experienced teachers and those with high and those with low professional qualifications revealed significant relationship between teachers rating of challenging behaviour and demographic factors.. The rating of stereotypic behaviours indicated significant differences between those with high professional qualifications and those with low professional qualifications. Those teachers with high professional qualification rated occurrence of

stereotypic behaviour more highly than those with low qualifications. Interestingly there were no significant differences between experienced and inexperienced teachers when it came to the rating of stereotypic behaviours. The results of Male (2004) therefore suggests teachers' professional qualification had an influence on the rating of occurrence of stereotypic behaviours while the teachers working experience with learners with ASDs had no influence on the rating of stereotypic behaviours.

Studies that have analyzed the types of challenging behaviours have not adequately and consistently addressed the frequency, intensity, duration and topography of challenging behaviour presented by learners with ASDs. Hastings (2005) urges teachers to collect baseline data for challenging behaviour intervention based on these four aspects of challenging behaviour. For example Horner Carr and Strain (2008) examined all the research conducted over a five year period from 2001 to 2005 for children with ASDs and found that tantrums, aggression, property destruction, self injury and stereotype were the most common. All of these studies in Horner *et al*., (2008) meta- analytic failed to look at the intensity, duration and topography of challenging behaviour.

In summary, there is a small but convincing body of literature that shows a relationship between teachers rating of challenging behaviour and their characteristics. These characteristics included their age, gender, experience of working with people with disabilities, professional qualifications and their emotional reactions and beliefs regarding the challenging behaviour(Male, 2004; Hastings, 2005; Lam *et al*, 2007; Lambrechts & Maes, 2009; Porter & Lacy, 2009) . The findings of these studies indicate that apart from variability between teachers reports on frequency of challenging behaviour, working hours, internal attribution, gender and experience in working with people with developmental disabilities were the influencing variables in the choice of challenging behaviour management strategies.

However, these variables remain unknown. As such, the current study investigated the relationship between teachers' perception of causes of challenging behaviour and the choice of management strategies taking into consideration their demographic factors.

2.3 Strategies used in Management of Challenging Behaviour

Teachers need to adopt evidence based practice in their management of challenging behaviour presented by learners with ASDs. Brownie (2013) defines evidence-based practice as a movement within Psychology and Education to identify, disseminate and promote the adoption of practices with demonstrated research support. It is within the interest of the present study to identify practices to best serve the diverse needs of learners with ASDs who present challenging behaviour in modern day classroom. By identifying, the challenging behaviour management strategies that are not research based has the potential to lead to teachers' fatigue, frustrations, burn out and other negative consequences that are associated with challenging behaviour.

Given that learners with ASDs need to be engaged in order to learn and that challenging behaviour can interfere with learning (Johnsen, Little & Akin-Little, 2011), effective strategies to promote positive behaviour must be considered as an important aspect of class management. Academic failure and challenging behaviour have been considered to be closely related (Little & Akin-Little, 2008) and academic and behavioural performances cannot be considered as separate entities (Sutherland *et al.*, 2008). It would be reasonable to conclude that positive learning environment should not only focus on development learning but also on social, emotional and behavioural competencies of learners with ASDs. Some of these competencies can be achieved if teachers are aware of different challenging behaviour management strategies that are suitable for learners with ASDs.

Currently many interventions for both challenging behaviour and general education claim to be effective for learners with ASDs. They differ in their aim, rationale and their practice (Jordan *et al,* 1998). It is not possible to give all the interventions in this study or to describe each intervention in depth due to space limit but an attempt will be made to outline the major interventions. Given the range of needs within the spectrum and the areas affected by ASDs, it is unlikely that a single approach or behavioural models can meet the needs of all the learners. Researchers point out that for strategies to be fruitful, they should be based on research and professional knowledge in the area of learners with ASDs (Williams, 2008 & Williams & Rose, 2007). They need to be based on principle that by creating a better fit between the school environment and learners with ASDs is by extension creating opportunities for learners to succeed. Strategies that can be used to manage challenging behaviour presented by learners with ASDs include interactive strategies, augmentative communication, social understanding, social stories, TEACCH, gentle teaching, behavioural model, experimental functional analysis, mental health consultation, mindfulness training, structured teaching and pharmacology

2.3.1 Interactive Strategies

They are based on understanding of autism as rooted in difficulties with inter-subjectivity (Prevezer, 2001) and emphasize the importance of building relationship with teachers, siblings and peers, which can then be used for further appropriate challenging behaviour management. The specific development difficulties associated with ASDs are taught directly and emotional warmth is expressed explicitly as part of the behaviour management. These approaches emphasize the importance of developing a relationship and communication between the child and teachers. In this approach, the behaviour management is very positive focusing on building the child's repertoire rather than getting rid of unwanted behaviours.

The most common interactive approaches include intensive interaction (Nind, 2000) musical interaction (Prevezer, 2001) and the sunrise programmes (Kaufman, 2002).

Despite the popularity of this approach, there have relatively been few attempts to evaluate the interventions objectively. Much of the research on this approach (Prevezer, 2001 & Jones & Jordan, 2005) have been limited to small case studies and they seem to lack control or comparison group. The present study attempted to establish approaches that are consistent with better management of challenging behaviour taking into account the teachers' perception of challenging behaviour.

2.3. 2 Augmentative Communication Strategies

Children with ASDs have difficulties in understanding speech and other forms of communication. Even where they have apparently good speech, their comprehension is likely to be limited (Snowling & Frith, 1986). In addition, they may not be able to use speech to make their needs known. This makes them to resort to communicating in a way that may be viewed by others as a challenging (Abbott & Heslop, 2009). This calls for other system of communication such as using signs, pictures, symbols or written words that is referred to as augmentative communication. Signing is the most common form of augmentative communication but its use by learners with ASDs needs to be used with some reservations as they are difficult and need both physical and verbal prompts (Jones & Jordan, 2005). Objects, pictures, symbols and objects of reference are well established systems of communication that can lead to the reduction of challenging behaviour among learners with ASDs (Bondy & Frost 2008). The two most common forms of augmentative communication are Picture Exchange Communication (PECS) and Facilitated communication.

Bondy and Frost's (2005) study that evaluated augmentative communication show gains in communicative ability including the development of speech. This is particularly impressive

given that most children with ASDs engage in challenging behaviour as an alternative form of communication. Its apparent failure however to investigate the social context under which the challenging behaviour was being managed creates some gaps between the efficacy of the approaches used and gains made on the development of communication skills. It can be argued that the improvement made could be due to variety of reasons such as maturation, care givers inputs or other intervention strategies since children with ASDs are often engaged in more than one intervention. The present study examined 12 different strategies used in management of challenging behaviour presented by learners with ASDs.

2.3. 3 Strategies to Develop Social Understanding

The desire to belong and establish an ongoing relationship is widely recognized as a fundamental basic human need. An ability to initiate and sustain harmonious friendship is considered a marker of healthy child development. Young children who consistently fail to establish and maintain friendship bonds are considered to be at an increased rate of serious maladjustment, social ostracism, antisocial behaviour and psychopathology (Howley, 2001; Buell 2009 & Taylor & Haughton, 2008). There is a growing body of evidence that seems to indicate that children who fail to cement secure friendship with peers develop withdrawal tendencies, are often neglected and are actively disliked by their peers (Howley, 2001; Taylor & Haughton, 2008; Buell, 2009 & Ismail Shamusudini Yusuf & Zahari, 2012).

Other evidence seems to indicate that social impairment among children with ASDs is the single most contributing factor to lack of formation of secure friendship and self-isolation (Taylor & Haughton, 2008). The social impairment in ASDs is a critical element of the triad of impairment and lies at the core of the disorder (Autism Society of Kenya, 2009). Others further define social understanding as an understanding of the underlying messages that underpin social interaction (Gray, 1998). It depends on the understanding of explicit and

implicit decision, social rules that govern every day social encounter and requires the ability to make decisions on social skills. It is, however, not clear from these studies whether teachers perceive social impairment among learners with ASDs as rooted in behavioural, physiological or ecological concept.

Autism is a complex brain disorder with the main symptom being impairment in social interaction mainly manifested in the lack of eye contact (Mashalla, 2008 & Wesselmann Cardoso Slater & Kipling, 2012). Wesselmann *et al*. (2012) in particular point out that infants who avoid eye contact with their parents mostly end up with diagnosis of ASDs. Lack of eye contact can be observed in infants as early as six months, which can be an indicator of deficits of social skills later in life. A study carried out by Ismail *et al.* (2012) in Malaysia that tested the response of eye contact time between humanoid robot and normal classroom interaction in learners with ASDs showed that the learners had longer eye contact time and paid more attention to the robot than normal classroom interaction. Just like the vignettes, the use of robots may not give concrete information on social impairment in learners with ASDs. The present study involved observation of learners as they interacted with the teachers to find out social impairment in communication

2.3.4 Social Stories Strategies

Social stories are simple stories that are written to describe social situations in a way that help learners understand social cues and social information. They are written to address very specific individual problems or needs. In order to enhance the teaching of social skills holistically, many researchers advocate the use of social stories (Gray, 1998). Social stories are designed to help learners know how to handle social situations appropriately. Others suggests that social stories focus on the development of social understanding in order to enable learners with ASDs use their social skills more appropriately (Collins, 2008). Social

stories attempt to develop a greater understanding of the social world in addition to teaching appropriate behaviour to learners with ASDs.

Researchers who have used this technique have reported positive responses to targeted situations in many cases. For example, Collins (2008) in USA used a social story as an intervention to successfully decrease anxiety and to increase on-task behaviour on a child with ASDs. This study used a single respondent to draw conclusion, the present study had 106 respondents. Kokina and Kern (2010) meta-analysis report effectiveness of social stories as the best interventions for students with ASDs. In a meta-analysis of 62 social story studies, Reynhout and Carter (2010) concluded that social stories might be attractive to teachers because they are easy to implement and require very limited resources. Critics to social stories (Mesbov, 2005; Nour, 2012) argue that social stories appear to have only small clinical effect on behaviour and teachers should factor their consideration into decisions about appropriate intervention. Studies in Kenya that have evaluated the use of social stories are limited. Weru (2005) carried out a multivariate analysis that compared Kenyan and African American learners with ASDs which showed that social stories had significant positive influence on both Kenyan and American African learners with ASDs. Based on this finding, Weru (2005) urges teachers in Kenya to invest more in intensive interactions while managing challenging behaviour presented by learners with ASDs because they are likely to yield more gains that are substantial.

Despite the popularity of social stories as a vehicle of teaching social understanding to learners with ASDs, there seems to be a general lack of empirical research that has examined and evaluated the impact of social stories on social development. Social stories have largely been evaluated in terms of their rationale and practice but not on their outcomes although their proponents have published detailed case studies on their effectiveness (Collins, 2008;

Kokina & Kern 2010; Reynhout & Carter, 2010). These case studies do not offer convincing evidence that social stories can stand on their own as approaches of challenging behaviour management. For example, many of the ideas within this approach can be seen to parallel principles, which underlie the procedures of behavioural intervention and particularly those used in gentle teaching (McGee *et al,* 1989). The present study examined 12 different challenging behaviour management strategies.

2.3.5 The Treatment and Education of Autistic and Related Communication and Handicapped Children (TEACCH) Strategy

Treatment and Education of Autistic and related Communication and Handicapped Children (TEACCH) were developed in the department of psychiatry at the University of North Carolina. Its methodology is based on structured teaching to deal specifically with the challenges experienced by people with ASDs in understanding, predicting and controlling their environment (Jones & Jordan, 2005; Mesbov, 2005). Mesibov *et al.* (2006) points out that TEACCH communicates information visually, teaches learners about their environment, the concept of cause and effect and communication. On the other hand Jones and Jordan (2005) outline four main elements of TEACCH as physical structure; daily schedules or time tables; work systems and visual instructions.

A study carried out by Riccio (2011) in Kenya on behaviour management found out that TEACCH and Applied Behaviour Analysis were the most common strategies used by teachers. The study concluded that both methods were time consuming, expensive and can put a lot of strain to teachers. They involve a lot of hours with affected learners and call for cooperation between the school and the family of a learner with ASDs. Riccio (2011) concludes that this can be too limiting to most families in Kenya who may live in rural areas or have no access to the resources needed.

Given that TEACH is one of the longest established programmes (Penerai *et. al,* 2002), there have been relatively little research into its outcomes. Mesibov *et al.* (2006) study showed that there is evidence for the rationale of the approach and parental reports of the satisfaction but no research by independent evaluators. In addition, the technique of assessing actual gains against the statistical calculation without pre- treatment scores may not give convincing results, as it tends to produce some rich data on TEACCH process without a definite data on the value of intervention.

2.3.6 Gentle Teaching Strategy

Most of the models suggested in this section require a certain level of cognitive and linguistic abilities that in most cases are limited in learners with ASDs (Ashdown, 1999). For this group of learners, the attention need to be focused on building a warm and affectionate relationship, value and respect of their feelings, redirecting bad behaviours and sometimes ignoring them. These values are found in gentle teaching approach where an individual who presents challenging behaviour come to accept that the teachers presence signals safety, teachers words are rewarding and participation in acceptable activities can bring rewards (McGee *et al.* 1987). The goal of this method is bonding by teaching reciprocal and humanizing ties of affection between a teacher and a learner with ASDs (McGee, et. al., 1987). Specifically, the teaching strategies are based on physical prompts rather than verbal instructions and warm praise for any achievement that a learner with ASDs makes.

Despite its appeal as the most suitable method of managing challenging behaviour, there seems to be no empirical research evidence to determine its suitability in the management of challenging behaviour among learners with ASDs. Critics to this approach (Mesibov Chapman & Schopler, 2006) assert that it is a faulty methodology as it reports treatment

results as informal observation without baseline data and it lacks originality, as it is just a simple process combining differential reinforcement with simple management techniques.

2.3.7 Behavioural Model Strategies

The stimuli that trigger and maintain challenging behaviour in people with ASDs seems not to be completely understood but models have been developed which describe intricate interaction between causes and maintaining factors of challenging behaviours. These models have changed and evolved with changes in educational practice and psychology.

One of the models that are frequently used in management of challenging behaviour is behavioural model that is based on learning theories on classical conditioning developed by Pavlov and operant conditioning developed by Skinner (Skinner, 1993). The behavioural model pays more attention to overt, observable and measurable behaviours and their reinforcement as accounting for challenging behaviour. Horner *et al*. (2002) meta- analysis of studies carried out in UK over a five year period on intervention strategies for learners with ASDs aged 7 to 11years found out that behavioural intervention significantly reduced temper tantrum, aggression, property destruction stereo types and self injury. Horner *et al* (2002) and the present study are related as they examined management strategies among learners with ASDs, however, the present study set no age limits for learners with ASDs.

Closely related to this model is the cognitive behavioural model that combines both the cognitive and behavioural perspectives such as beliefs, attitudes and attributions as the major factors leading to challenging behaviours (Sigafoos, 2000). This model is effective because it advocates for the use of psychological assessment in order to understand the individuals challenging behaviour. It also takes into account the holistic development of learners with ASDs. A major weakness with cognitive therapy is that it requires certain level of cognitive and linguistic abilities, which in most cases are limited in learners with ASDs who may also

present challenging behaviours. Closely related to these models is the social learning whose proponents (Bandura, 1977 & Skinner, 1993) believe that individuals can influence as well as being influenced by their surroundings. In this model, individuals are seen as active participants in shaping their own behaviours as they have freedom and are in a position to set their own expectations. Another model frequently used in management of challenging behaviour is ecological behavioural which acknowledges the contribution of socio-ecological factors in the development and maintenance of challenging behaviour (Hastings & Brown, 2002). An intervention procedure of this model requires systematic observation of challenging behaviour in its natural environment for it to be effective. Positive programming model combines several techniques of behaviour management with more stress on functional behaviour analysis followed by four-stage programme (Emerson & McGill, 1993). Response efficiency model views challenging behaviour expressed by learners with ASDs as being functional and meant to express a purpose (Lennox & Miltenberger, 1989).

Literature searches and meta - analyses have demonstrated that interventions which are based on psychological principles derived from learning theory are currently the most effective intervention for reducing incidences of challenging behaviour (British Psychological Association, 2004 & Allen, 2009). The meta- analyses by Allen et al., (2009) in particular argues that literature demonstrates a convincing level of change in terms reduction of challenging behaviour through the use of systematically applied behaviour approaches. They state that the impact is much more effective than demonstrated use of medication.

Studies that have attempted to identify the preferred methods by teachers in dealing with challenging behaviour presented by learners with ASDs are varied (Porter & Lacey, 2009; & Hastings, 2008). Porter and Lacey (2009) study found behaviour modification as the most preferred method with other relatively popular methods being gentle teaching and interactive

approaches. The study also identified more staffing, smaller classes, more space and equipment, training and increasing staff skills as important factors to consider in management of challenging behaviour. Male (2004) study highly ranked child focused individual approaches such as ignoring or avoiding the challenging behaviour, diverting or destructing the learner or removing the learner from environment that is likely to lead to challenging behaviour. Hastings (2008) study identified employment of physical methods such as restraints, deployment of sufficient staff and medication as important management strategies of challenging behaviour.

2.3.8 Behaviour Therapy Model Strategy

Behaviour therapy is a relatively new concept that stems from the idea that behaviours, even though they may be confusing or challenging can be understood because of careful observation, record keeping and analysis (Stanley, 2000). This is based on Skinnerian operant conditioning based on notion that learning can be reduced to repetition of responses that in the past have led to the rewards and elimination of response that have led to punishment. This implies that skills among learners with ASDs can be built by rewarding of successive approximation through shaping (Skinner, 1993). It is an important development as far as behaviour management of learners with ASDs is concerned.

Often, teachers, parents, peers and siblings are at odds on how to manage these behaviours. Unlike other disabilities, quite often when people with ASDs present the challenging behaviours, they are not deliberately misbehaving, but acting out or seeking attention. This implies that teachers working for and with children with ASDs need to understand each characteristics behaviour presented by these learners. Once the behaviours are understood, they can be modified based on the needs and desires of the person whose behaviour is an issue. The role of a behaviour therapist is to observe the environment, the activities and the

person presenting challenging behaviour, gather data on what seems to calm or trigger off the challenging behaviour and suggest appropriate changes (Emerson & McGill, 1993; Emerson *et al.*, 2005).

Studies that have evaluated the efficacy of this model are limited. Lovas (2005) reports the findings of his study that shows the approach to be more effective than other methods. Apart from the problems with methodology, the two outcomes measures used IQ and education placements. These are group measures do not reflect the three key areas of difficulties encountered by learners with ASDs namely; communication; social understanding; and flexibility of thought. What make the study even more difficult to interpret in terms of challenging behaviour management are extent of the differences between the experimental and the control groups and with such methodological weakness, it can only be regarded as indicative. The present study examined methods used in management strategies using interviews, observation and document analysis in order to arrive at dependable findings. In a recent study in Egypt (Nour, 2012) that investigated the relationship between teachers self reported use of management strategies and disruptive behaviour showed that most teachers preferred using positive management strategies and both positive and negative management strategies were perceived to be effective in handling disruptive behaviours. The findings also revealed that teachers reacted positively when their management strategies whether positive or negative succeeded in dealing with disruptive behaviour and no increase in disruptive behaviour was detected after using negative or positive management strategy. It is important to note that self - reports by teachers may have ceiling effect that may compromise the results of a study (Creswell, 2009). The present study used a questionnaire that was corroborated with interview schedules and observation to reduce the bias.

2.3.9 Experimental Functional Analysis Strategy

There is lack of agreement amongst researchers on how to assess challenging behaviour. However, it is important to conduct an assessment with the goal of understanding the maintaining functions of the behaviour because most of the challenging behaviour in learners with ASDs is etiology based in learning and operant conditioning (Wilkins, 2008). This implies that the behaviour has been learnt and is maintained through the presence or absence of reinforcement or punishment in the environment (Williams, 2008). Direct methods of behaviour assessment include observations and experimental functional analysis while indirect methods are rating scales, interviews and functional assessment (Wilkins, 2008).

Experimental functional analysis proceeds through an analysis of the events antecedents and consequences of the behaviour. Understanding the antecedents and consequences of the behaviour allows teachers to understand why challenging behaviour is occurring or why a desired behaviour is not occurring.

Research carried out by Allen, Brophy and Moore (2009) in South Wales in United Kingdom on reactive strategies used in management of challenging behaviour such as physical restraints, emergency medications and seclusion showed that individuals that were at risk of use of reactive strategies were subject to formal detention under the mental health act. It further indicated that restraint and sedation was used for those clients who were detained; seclusion for those who had severe challenging behaviour and restraint and seclusion for those who showed destructive behaviour. The study concluded that individual differences such challenging behaviours and service practices such as detention under the mental health act predicted the use of restrictive procedures.

Emerson (2004) conducted three surveys on strategies used in the management of challenging behaviour among learners with ASDs. The first survey consisting of 107 respondents

indicated that 67% of them had their challenging behaviour managed 'sometimes' or 'usually' by restraints, 68% by seclusion and 6% by sedation. In the second survey, involving 68 learners with ASDs 46% had experienced restraints, 67% seclusion, 2% sedation and 4% medication. The third survey involving 656 learners showed that 28% of their challenging behaviour was managed physical restraint, 32 seclusion and 1% sedation.

2.3.10 Mental Health Consultation Strategy

Recent research in management of challenging behaviour among learners with ASDs recommends mental health consultation. It involves ongoing collaboration between mental health workers and teachers with an intention of proactively addressing the challenging behaviour presented by learners with ASDs and fostering social emotional development. Mental health consultation can focus on the individual needs of the learner or on increasing the overall quality of classroom environment. For example, a study carried out in USA (Perry, Dunne, and McFadden & Campbell 2008) mental health consultation was used to address challenging behaviour of a sample of pres school learners with ASDs. The learners' social skills improved by one standard deviation while their challenging behaviour reduced by half standard deviation. Although Perry *et al*. (2008) study and the present study examined the use of mental health consultations a management strategy for challenging behaviour presented by learners with ASDs, their study was limited to preschool learners with ASDs. The present study set no limits on the class level and examined learners in public primary schools in western Kenya.

2. 3.11 Mindfulness Training

Is a relatively new challenging behaviour management strategy for parents and teachers working with learners with ASDs who also present challenging behaviour. Stress is an important factor in both the development and the success of intervention of challenging

behaviour. Singh et al. (2007) defines mindfulness as having clear mind that is focused on the present moment in a non-judgmental way. Such mind allows teachers to respond to the learners challenging behaviour in alternative way that goes beyond traditional behaviour analytic techniques such as antecedent consequence management (Patel & Prince, 2010). Mindfulness training for teachers can result into transformational changes enabling them to produce positive changes in challenging behaviour learning and well-being of learners with ASDs. Singh, Lancioni and Winton (2007) report their study in USA involving teachers' management strategies of challenging behaviour presented by learners with ASDs using knowledge gained from mindfulness training. The study indicated that teachers had a longer positive interaction and a decrease in negative interactions with learners who portrayed challenging behaviour. This study however did not address the teachers' perception of challenging behaviour.

Matson and Lovullo (2008) reviewed behavioural treatments for challenging behaviour in learners with ASDs and identified variables such as choice making; evaluating environmental factors; mind training; replacement of behaviours and pharmacology as the main important variables in challenging behaviour management strategies. Review studies are limited in their validity as they report findings without looking into methodologies such as instruments used for data collection, respondents variables and sample sizes.

2.3.12 Structured Teaching Strategy

Most of the challenging behaviours presented by learners with ASDs can effectively be managed through structured teaching (Moynihan, 2004). Structured teaching involves establishing constant routines through visual cues, establishing clear rules structuring tasks and structuring the learning environment (Humphrey, 2009). In this technique, the teachers need to be explicit and focus on what needs to be done and not what should not be done. The

ultimate goal is to replace the challenging behaviour with a new skill and ensuring that the new behaviour gets best rewards (Kaufman, 2002). In structuring the tasks teachers need to ensure that the task is at the level of the learner and the tasks are arranged with clear beginnings and well-linked steps. In structuring the learning environment, destructors should be removed. Teachers should work around the blindfolds of ASDs by removing anxiety in the face of uncertainty, poor self organization with clear routines by use of visual cues, problems of attention with well stimulated tasks (Moynihan, 2004). In this approach, teachers need to watch their language both verbal and non-verbal and strive to match language to learners understanding. The key issues in this approach should be raising the quality of life for learners with ASDs through managing their stress, making ASDs friendly environment, providing positive experiences and social support.

2.3.13 Pharmacology Intervention Strategy

Challenging behaviour intervention based on either ecological or behavioural model may not be possible or effective in some individuals (Mandell, 2008). Some researchers argue that in cases where functional analysis of behaviour fails to identify environmental contingencies sustaining challenging bahaviour among learners with ASDs, then medication needs to be used (McLyntre, Blaccer & Baker, 2002). The use of drugs to control behaviour of learners with ASDs is an area that has been received with mixed reactions. Some researchers (Clarke, 1993, Buck & Sprongue, 1989, Kelly & Hillery, 2001 & Heyvart *et al*. 2012) assert that the choice of whether to use or not to use drugs is influenced by learners with ASDs environmental characteristics rather than the behaviour of the learners. A study carried out by Buck and Sprongue (1989) showed that people with ASDs residing in hospitals were more likely to receive drugs prescribed for behaviour than people residing in community settings. Another study carried out by Kelly and Hillery (2001) in UK in a residential home for people with ASDs on the use of carbmezine the most commonly used psychotropic drug revealed

that those who were using the drug were having high sodium level in their blood than those who were not using it. In USA, up to 75% of learners with ASDs are prescribed carbmezine medication to calm them down (Humphrey, 2009).

The use of medication might be considered if severe behavioural disturbance is noted which does not readily respond to behavioural treatment (Heyvaert *et al*, 2012). Pharmacological treatment is already very common, with estimates suggesting that, in the USA, over 50% of children with Autism are receiving some form of drug or vitamin treatment. For example, Heyvaert *et al.* (2012) carried out a met analysis of 30 studies in USA involving the use of pharmacological intervention for challenging behaviour in learners with ASDs, which indicated that all the interventions had a large and significantly positive effect. However, Campbell (2012) warns researchers not to draw conclusions about effectiveness of drug usage using small sample sizes and lack of control groups. These two factors are not well addressed in Heyvaert's (2012) Meta analysis study. The present study used a sample size of 106 to draw its conclusion.

However, whether medication is prescribed for specific issues or for the reduction of autistic symptoms generally, there is a lack of (long- term) evaluations for the majority of the substances used, and even with those drugs that have been investigated, side effects have been observed (Kelly & Hillery, 2001).

Available epidemiological data indicate that approximately 25 -.37% of learners with ASDs exhibit challenging behaviour that is managed by medication (Campbell, 2012). In spite of limited empirical documentation regarding effectiveness, safety, and dosage with this age group, physicians routinely prescribe medication to manage challenging behaviour presented by learners with ASDs. One of the most ambitious studies on the use of medication to manage challenging behaviour was carried out by Dunlap Conroy Kern and Ostrky, (2003).

They used computer, ancestral and hand searches and identified 16 studies published between 1975 and 2002 examining use of medication to manage challenging behaviour. Their study involved 247 learners with ASDs. The level of supporting evidence for medication use was evaluated along 10 dimensions. These were: (a) evidence for treatment fidelity; (b) evidence for treatment generalization; (c) evidence for maintenance; (d) evidence for social validity; (e) evidence for acceptability of intervention; (f) evidence for replication across investigative teams; (g) evidence for replication across gender and ethnically/racially diverse groups; (h) evidence for replication across settings; (I) evidence for naïve evaluation; and (j) evidence for evaluation of side effects.

To summarize the overall level of evidence rating in their study, Dunlap *et al.,* (2003) assigned numerical score to each study depending on total number of categories of supporting evidence. Studies that were supported by evidence in 7-10 of the categories were considered to have high confidence, evidence in 4-6 categories were rated as having medium confidence, and evidence in less than 4 categories were rated as low confidence. Findings indicated that none of the studies reviewed was supported with high confidence. Five of the 16 studies were supported with medium confidence while 11 fell within the low confidence criteria. The results of these 16 studies indicate that stimulant medication leads to significant reductions in off-task and noncompliant behavior as well as enhancement of sustained attention and social skills in learners with ASDs. However, a closer examination of the level of evidence suggests several limitations. First, medication effects were examined in few settings. Direct observations were limited to clinical or hospital settings, with the exception of two studies. Second, there is a lack of data regarding effects of medication on behaviors other than sustained attention, off-task, and compliance with authority figure commands. Very little, if any, information is available regarding the effects of medication on critical

areas of functioning such as social skills, and cognitive abilities. Third, most studies were comprised of Caucasian, middle-class, male samples.

Fourth, few studies included treatment fidelity data. Fifth, medication effects were evaluated over short time periods (typically less than 15 days). Finally, there is a lack of data regarding social validity and consumer acceptability of this treatment. In summary, the resulting strength of evidence is low across these 16 studies. It can therefore be concluded that studies regarding the use of medication is markedly less developed in terms of both quantity of studies and quality of methodological rigour in comparison to the plethora of research in management using other strategies. Additional research in the use of medication to manage challenging behaviour in learners with ASDs is essential, particularly given its escalating use in clinical practice.

It is important for teachers to develop an understanding of the role that medication plays in the life of learners with ASDs who exhibit challenging behaviour and subsequently implications for education. Teachers can play two important roles in relation to medication. First, they can provide detailed information that will help in the assessment that leads up to medication and secondly, they need to take an active role in monitoring the effect of medication observed in the classroom (Humphrey, 2009). This area requires collaborative research among various professionals to shade some light on effect of medication. Medication should only be used when challenging behaviour is so severe and chronic that it endangers the learners' safety and educational placement, all medical etiologies have been ruled out, and all behavioural management techniques have been attempted (Autism Society of Kenya, 2008).

2.3.14 Teachers Demographic Information and Challenging Behaviour Management Strategies

In an era where data based decision-making is fundamental to addressing school related issues, it is important to investigate the demographic data of respondents and management strategies of challenging behaviour presented by learners with ASDs. Few studies have examined demographic heterogeneity of respondents (Flyn, 2001) though increased demographic heterogeneity has been expected to generate important benefits such as increasing the variance in perspectives and approaches to work brought by members of different identity groups (Peter, Jamina & Eric, 2013). Demographic variations have mostly been used in industrial organizations to incorporate work force diversity (Flyn, 2001). Some of the demographic factors that have been investigated include age, gender, professional qualifications, working experience, race and ethnicity (Flyn, 2001 & Male, 2004). There has been little consensus about either what constitutes diversity of demography or how it affects performance. There is relatively a limited literature on teachers' demographic information on management of challenging behaviour among learners with ASDs.

2.3.14.1 Teachers' Training, Professional Qualifications Management Strategies

The perception employed by teachers on the causal factors of challenging behaviour to learners with ASDs may determine their response towards the learner (Hastings,2004), the probability of the teachers seeking external support to manage the behaviour (Williams, 2009) and the probability of them appropriately implementing intervention plan (Crossland, 2009). In this context, it is of particular importance to examine whether there is any relationship between teachers' professional qualifications and challenging behaviour management strategies.

Teachers' competence in the application of behavioural support is critical for improving the quality of life for those with developmental disability and in reducing the challenging behaviour (Nesbitt, 2000). The number of professionals with knowledge of ASDs in Kenya, especially teachers, is steadily rising with the introduction of autism training programmes by Kenya Institute of Special Education and other local universities (KISE, 2008). The government of Kenya is aware of the fact that capacities and skills of the staff at all levels within SNE should be commensurate with the tasks that they perform (Republic of Kenya 2009). It has been demonstrated that teachers with high levels of behavioural knowledge or who have attended a behavioural training course are more likely to adopt causal beliefs and favour interventions that are behavioural in nature (Williams, 2008).

The growth in demands for equal educational rights for all strengthens the demands for developing each teacher's skills in meeting the individual needs of learners (Kaikonen, 2001). If teachers intend to address all the individual needs of learners with ASDs then this necessitates radical change in teacher education. One paradigm shift that is needed in teacher education is to stop perceiving special educational needs as pedagogical problems but rather as a product of poor school organization (Simola, 1997). This shift is likely to give teachers adequate knowledge and understanding in recognizing or addressing the individuality of learners that arise from their diverse and complex life situation.

Empirical studies that have attempted to highlight the relationship of staff training and its impact on management of challenging behaviour presented by learners with ASDs are limited (Simola, 1997; Kaikonen, 2001; Hastings & Brown, 2002 & McDonnell *et al*., 2008). These studies however, raise many issues that need to be streamlined in order to offer effective services to learners with challenging behaviour, but are limited in their scope by failing to specifically address the relationship between teachers' training professional qualifications

and management of challenging behaviour. Some of these studies suggest that training has little positive impact on management of challenging behaviour among these learners with ASDs without additional emphasis on organizational change in schools and homes, including clear staff incentives, staff-learner ratio and shorter working hours (Hastings & Brown, 2002). Hasting and Brown (2002) study vividly demonstrates that when teachers are faced with cases of challenging behaviour, they mostly use mal-adaptive coping strategies, which in addition to the risk of strengthening the challenging behaviour portrayed, are likely to lead to burn out and emotional exhaustion among the teachers. These factors have led some researchers to call for radical changes in organizational structures of schools to make them responsive to the needs of children with special needs in order for the schools to act as potential basis for holistic development for this group of learners. The Mansell Report (2007), though with a limited scope to children with ASDs and challenging behaviour in UK, provides key areas of challenging behaviour management. It recommends good resource management and creative deployment of school resources with awareness of other resources outside the school and professional active staff development. The report also highlights the importance of collaborative work with recognition that helping people with challenging behaviour is a responsibility of the whole community.

Empirical studies that have succinctly investigated the relationship between training and effectiveness of challenging behaviour management strategies are limited. For example McDonnell *et al.* (2008) study carried out in UK on effect of training on the management of challenging behaviour presented by learners with ASDs using quasi experimental design vividly demonstrates that those who received training had increased career confidence. One of the interesting finding of the study was that there were no difference in the two groups on training effects of staff coping, support or perceived control of challenging behaviour. McDonnell *et al* (2008) study was quasi experimental while the present study was a

descriptive survey. In a related longitudinal study carried out by Grey Richard and Maclean, (2004) involving 34 participants that examined teacher's management strategies before training and after training. The study found out that teacher before training used mal-adaptive coping strategies that increased the occurrence of challenging behaviour. After training better coping strategies were used this led to significant reduction in the number of challenging behaviours. This was a longitudinal study involving only 34 respondents. Longitudinal studies are difficult to carry in term of time and resources and are susceptible to respondents being inaccessible through geographical moves or unwillingness to cooperate with the study. The present study had 106 respondents and it employed descriptive survey design.

Two other related studies investigated teachers training and their response to challenging behaviour management (Berryman, 2004; Hastings 2006). Berryman (2004) study showed that after formal training teachers were more likely to use better management strategies than the reactive strategies that they used before training. Rwezaura (2015) carried out a study in Tanzania that investigated resources and services for people with ASDs found out that they were quite inadequate. Consequently Rwezaura (2015) recommends raising of awareness of existence of ASDs in Tanzania and equipping schools with enough qualified personnel.

2.3.14.2 Teachers' Experience of working with Learners with ASDs, their Age and Gender and Management Strategies

There is relatively small but convincing body of research evidence, which indicates that teachers who are more experienced in programmes for learners with ASDs mostly use multidisciplinary approach in the holistic development of children with ASDs (Jones & Hall, 2005). They also strive to develop a closer working relationship between parents of children with SNE and the school in which their child is attending. This kind of working relationship has a crucial bearing on the child's educational progress and the effectiveness of any school-

based action. This development of partnership is well supported in the current literature. For example in UK, the department for Education and Employment (DfEE, 1994) recommends that school-based arrangements should ensure that assessment reflects a sound and comprehensive knowledge of a child and his/her responses to a variety of carefully-planned and recorded actions which take into account the wishes, feelings and knowledge of parents at all stages. Learners' knowledge would be diminished if their parents are not seen as partners in the education process with unique knowledge and information to impart. Professional help can seldom be wholly effective unless it builds upon parents' capacity to be involved and professionals take account of what they say and treat their views and anxieties as intrinsically important (DfEE 1994). Parent-teacher partnership to meet special educational needs is an elaboration and extension of existing whole school practice. Succinctly put, it implies mutual respect, complimentary expertise and willingness to learn from each other. A survey study carried out in UK by Weaving and Aston (2013) that investigated teacher's challenging behaviour management strategies based on experience found out that 88% of teachers who had worked for more than seven years perceived that they were well equipped to manage challenging behaviour compared to only 13% who had worked for one to two years.

Other studies have found out insignificant relationship between teachers working experience and challenging behaviour management strategies. A narrative thematic synthesis by Lambrecht, Katja and Mae (2008) in Belgium that investigated teachers' variables that influence origin and maintenance of challenging behaviour in people with intellectual disabilities in residential homes found no significant differences in experience, gender and professional qualifications of teachers and their management strategies of challenging behaviour. Lambrecht et al. Study (2008) was a narrative thematic synthesis study that involved people with learning disabilities in residential homes. The present study was

descriptive survey study that investigated learners with ASDs in public primary schools in western Kenya. A narrative thematic synthesis only uses qualitative method in its a analysis of data which is susceptible to errors such as 'going native' (Cohen & Manion 1994) where a researcher loses the focus of the study and report's findings that are not within the themes under investigation.

Derrington (2008) carried out a survey in UK to establish primary school teachers experience and challenging behaviour management. On line, questionnaires were directly circulated on primary school teachers who were members of National Association of Schoolmasters of Women Teachers (NASUWT) on its database. The study used purposive sampling technique where respondents were all members of NASUWT, which is largest teacher union in UK. The involvement of the teacher union resulted in large sample of respondents (21242 respondents). The findings of Derrington (2008) study found a high correlation between demographic factors such as age, gender, professional qualification, working experience and challenging behaviour management strategies. Whilst the survey may provide information on teachers' perception of challenging behaviour, convenience sampling such as this brings margins of error, which can affect the validity of research. Viewed in another perspective, the findings of Derrington (2008) study may not represent the views of teachers affiliated to other unions or non-union members of teaching profession in UK. Therefore despite the size of achieved sample (21242 respondents), generalized conclusion based on data should be read within the context of these sampling constraints.

2.4 Teachers Cognitive Perception of Challenging Behaviour

Teachers' causal attribution of challenging behaviour may interact with other variables to determine their response towards the challenging behaviour presented by learners with ASDs (Lambrechts *et al*., 2008). It is important to consider various factors that may affect the

teachers' cognitive perception of the causes of challenging behaviour and by implication how this perception influences the choice of challenging behaviour management strategy. Since the publication of cognitive- emotional model of behaviour by Werner(1980) there has been a variety of studies investigating teachers' cognitive perception of challenging behaviour (Markham & Trower, 2003; Rose & Rose, 2005; Williams & Rose, 2007 Whitaker 2009 & Crossland, 2009). Some of these studies have considered environment and demographic factors that may affect these perception (Markham & Trower, 2003 & Crossland, 2009) others have looked at teachers' stress (Rose & Rose, 2005 & Williams & Rose, 2007), staff support, gender and behaviour topography (Crossland, 2009 & Markham & Trower, 2003) while others have looked at teachers' training and their demographic variables (Whitaker, 2009 & Male, 2004). It seems that no attention has been paid to the relationship between teachers' cognitive perception and the choice of challenging behaviour management strategies.

How teachers perceive challenging behaviour will have a direct impact on their attribution of the cause of the behaviour, emotional reaction, willingness to help the learner and efficacy to manage the behaviour (Hastings, 2008). Whilst there exists a body of research relating to the perceptions and behaviour of teachers in relation to Learners with Learning Disabilities (Hastings, 2008; Parsons *et al*. 2008 & Pery *et al*., 2008) with few exceptions (Male, 2004; Hastings, 2008 & Porter & Lacey, 2009) relatively little is known about teachers' cognitive perceptions of challenging behaviour presented by learners with ASDs.. The dominant paradigm for investigating staff perception of challenging behaviour uses Wiener's attribution theory of helping behaviour (Markham & Trower, 2003 & Dagnan, 2011). This theory states that the cognitive appraisal made about a person and his/her behaviour will affect the feelings of the teacher, which in turn would eventually affect the teacher's willingness to help a learner with ASDs. This theory has been linked to behavioural models

of challenging behaviour management that suggest that care staff attribution to causes of challenging behaviour would directly influence the choice of behaviour management strategy. For example, a study by Lambretchts *et al*., (2008) focused on teachers' variables that may have an influence their perception of challenging behaviour. The findings of their study indicated that teacher's stress and emotional reactions influenced their perception of challenging behaviour among learners with ASDs. The study failed to provide sufficient information regarding the population from which the sample was drawn.

Werner's (1980) theory has been used in the field of learning difficulties to try and link teachers' cognitive perception of challenging behaviour to teachers resultant behaviour (Wanless & Jahoda, 2002; Williams, 2008 & Dagnan, 2011). These studies were limited to learners with learning difficulties. There has been an increasing interest in cognitive and emotional understanding of teachers' response to challenging behaviour (Williams, 2008 & Dagnan, 2011). For example attribution models have been suggested for helping behaviour (Werner, 1980) which suggests that interpretation of challenging behaviour and subsequent emotions exert an effect on teacher's behaviour. Werner (1980) focuses on the attribution of controllability, which is the judgment of whether the cause of behaviour is under the person's control. He suggested that a teacher would be more sympathetic and hence more helpful if the cause of the learner's behaviour is outside the learner's control for example caused by autism. Conversely, a teacher will be angrier and less helpful if the cause of the learner's challenging behaviour is seen as within the learner's control for example the learner knows what he/she is doing. Dagnan (2011) on the other hand focuses on teacher's cognitive perception of challenging behaviour presented by learners with ASDs being either time line episodic or time line chronic. He postulates that teachers would be more willing to help a learner if they perceive the challenging behaviour as time line episodic rather than time line chronic. Dagnan (2011) did not specifically address how this cognitive perception would influence

teachers' choice of challenging behaviour management strategies. The present study investigated the influence of teachers' cognitive perception of challenging behaviour on the choice of management strategies among learners with ASDs.

Teachers' attributions for challenging behaviour are purported to relate to their responses to such behaviour (Wanless & Jahoda, 2002 & Rose and Rose, 2005). To determine this relationship, much of researchers have relied oo written descriptions of clients engaging in challenging behaviour that is use of vignettes (Williams; 2009). These studies show causal link between the care staff working experience and training as the major factors that determine the individual's response to challenging bahaviour. It has been proposed that the use of vignettes rather than real incidents might have contributed to these inconsistencies (Markham & Trower, 2003). In these studies, vignettes describing an anonymous learner with challenging behaviour are written. Vignettes may lack ecological validation and may elicit different causal attributions. The present study used observation and interviews to investigate teacher's responses to challenging behaviour. This means that in the present study teachers were exposed to four sources of information about the learner with ASDs as compared to the studies where vignettes were used. These four sources of information were the variance of the behaviour; the effect of the behaviour; the constraints imposed on the behaviour by the environment and the personal impact of the behaviour on the teacher.

There is a body of literature that suggests link between diagnostic labels given to people with mental health problems and how people especially care staff interact with the person that is labeled and cognitively make meaning out the behaviour presented by the learner (Markham & Trower, 2003). This concept is important as there is a steadily growing body of knowledge indicating that ASDs may coexist with mental health problems (Kielinen, 2004; Alonso *et al*., 2004 & Noon et al., 2006). The labeling theory suggests that the diagnostic label given to an

individual would affect how the society interacts with them and this would directly affect the prognosis of someone who displays behaviour that is viewed as challenging (Markham & Trower, 2003). Based on the perception of challenging behaviour as rooted in mental health problems, teachers may resort to administration of drugs to manage the behaviour presented by learners with ASDs. For example Machalicek, Mark, and Sigafoos (2006) carried out meta-analysis of research on intervention of challenging behaviour presented by people with ASDs aged between 8-21 years using electronic database of peer review journals published between 1995- 2005. The study identified 26 studies out of which 10 studies employed antecedent manipulation, which included medication to manage challenging behaviour. However, this study set the age limit at 8-21 years while the present study set no age limit and was limited to learners with ASDs in public primary schools in western Kenya.

In another study (Male, 2004) which aimed to elicit teachers' cognitive perceptions of learners' challenging behaviour, teachers were asked to indicate: which aspects of challenging behaviour concerned them; their responses to it; which strategies they found effective; what they believed to be the causes of it; how stressed they felt; and how effective they felt when dealing with challenging behaviour. They were also asked to identify sources of information, advice and help and to rate different types of challenging behaviour in terms of severity of challenge. Results indicate that teachers were more concerned about challenging behaviour and found it stressful. Whilst considering themselves effective in dealing with it, a proportion reported feeling frustrated by it, angry, upset and/or at a loss. The most frequently cited challenging behaviour was aggression, although self-injury was found to be the most challenging behaviour. Whilst recognizing the communicative basis of many forms of challenging behaviour teachers nevertheless tended to select strategies that were concerned with diffusion rather than prevention. The most likely source of information,

advice and help was other teachers. Some differences in responses were noted according to experience and whether or not additional qualifications were held.

Research findings on the teachers perception outlined in this section suggests that the way in which care staff construct their understanding of challenging behaviour portrayed by an individual learner is influenced by many factors. These factors included the learner's cognitive abilities, how much training teachers have had, the amount of their experience and the perceived function or cause of challenging behaviour (Rose & Rose, 2005). Other factors included the teacher's emotional reaction or emotional state (Williams & Rose, 2007). This may be an important development in management of challenging behaviour presented by learners with ASDs. However, these studies did not address adequately the teachers' cognitive perception of challenging behaviour and how this perception influenced the choice of challenging behaviour management strategies. It was therefore important to investigate inter play of these factors in the choice of management strategies of challenging behaviour presented by learners with ASDs.

2.5. Teachers' Attitudes towards Challenging Behaviours

Challenging behaviour is common to learners with Autistic Spectrum Disorders and behavioural theories are the most prominent explanatory models of challenging behaviour (Hastings, 1997). More recently, however, researchers have looked at the role of teacher's attitudes, attributions and emotional responses to challenging behaviour in an attempt to explain the development and maintenance of challenging behaviour (Williams and Rose, 2007; Williams, 2008).

A small but convincing body of research evidence has investigated teachers' attitudes towards challenging behaviour presented by learners with ASDs (Werner, 1995; Machin,

1998; Grey *et al*., 2002; Bailey *et al.,* 2006 & Williams, 2008). These studies examined the attitudes of teachers using attribution theory. Attribution theory is an explanation of motivation that focuses on how people explain the causes of their own success and failures. In attribution, a person ascribes a characteristic to themselves or another person in order to account for their own or other person's behaviour. People evaluate the behaviour of others based on perceived motives and intentions. Three types of attributions have been advanced (Noor *et al*., 2006 & Williams, 2008). First, the origin of challenging behaviour whether it is situated within the learner (internal) or outside the learner (external). Second, whether the behaviour is seen as being permanent (stable) or temporary (unstable). Third, whether the behaviour is within the ability of the learner to control it (controllable) or the learner lacks a ability to control it (uncontrollable). Werner (1980) hypothesized that the attribution of internality and controllability are associated with negative emotions, namely anger and disgust and this reduces the like-hood of offering help to a learner displaying challenging behaviour. Williams (2008) found that the attribution of controllability of challenging behaviour predicts negative responses from the teacher which predicts less optimism, which in turn predicts less willingness to help the learner.

In most cases, attribution serves self-bias, where success is attributed on self while failure is attributed on others or situational factors (Machin, 1998). For example, an earlier study carried out by Croll and Moses (1995); teachers were asked to give causes of challenging behaviour of children in their classes. The results of the study indicated that 80% cited factors as being within the child while teacher related factors were only 4%. Another study (Bailey *et. al.,* 2006) attempted to investigate teacher's attitudes, emotions and willingness to help a learner with self injurious behaviour in UK using Werner's (1985) model involving 27 teachers. The results indicated that there were no significant differences between the teacher's emotions and willingness to help the self-injurious behaviour. However, this study

had only 27 teachers while the present study had 106 teachers investigated their perception of challenging behaviour and how it influences their choice of challenging behaviour management strategies.

Some theorists have attempted to apply the Herders (1958) attribution theory as cited by Werner (1980) and Hastings (1997) to investigate teachers' attitudes towards challenging behaviour. This theory suggests that whenever teachers encounter an event they try to understand it by attributing responsibility to it. This process of understanding the event is mediated by a number of factors such as mindset, beliefs and affective response to the event. For example, Werner (1980) expanded on Herders (1958) theory and used it to explain the actions of people when deciding whether to help a stranger. He categorizes attribution along three dimensions; locus, stability and controllability and concludes that how individuals perceives an event along these dimensions will affect their choice of whether to help or not.

Werner's (1980) attribution theory has widely been used to predict the attitudes of teachers towards the challenging behaviour. Belief that a learner with ASDs is purposively presenting challenging behaviour often leads to avoidance behaviour where by teachers withdraw from the learner rather than offer the much needed help (Grey *et al*., 2002). This to some extent may help to explain the teachers' attitude towards the portrayed challenging behaviour and may be used to predict the emotional and behavioural responses to challenging behaviour as portrayed. There is research evidence which suggests that teachers' negative attitudes towards challenging behaviour presented by learners with ASDs makes them vulnerable to experiencing negative emotional reaction which can lead to stress and burn out (Hastings, 2002 & Palucka & Lunsky, 2007). Teachers negative attitudes towards challenging behaviour presented by learners with ASDs often contributes to development and maintenance of challenging behaviour while positive attitudes leads to decrease of challenging behaviour

(Crossland, 2009). A recent study (Samantha & Whitaker, 2012) that examined the variance in challenging behaviour management strategies, their effectiveness and the attitudes of nurses and assistant nurses found out that qualified staff had more significant positive attitudes than nursing assistants did.

A study carried out by Bromley and Emerson (2008) in United Kingdom on challenging behaviour in a single metropolitan borough in London indicated that teachers reported a significant proportion of their colleagues usually display such emotional reactions as sadness, despair, anger, annoyance, fear and disgust to episodes of challenging behaviour. This study was limited to a single borough in London the present study was carried out in three counties in western Kenya.

Another study carried out by Mills (2010) in UK on relationship between challenging behaviour, burn out and cognitive variables in people with learning difficulties showed evidence of an association between challenging behaviour and teachers stress and burn out. Variables identified in the study that influenced this relationship were attribution, emotional coping strategies, self-efficacy, and personality of the teachers. However, the study failed to identify the exact influence of these factors. In the present study, variables investigated were age of teachers, gender professional qualifications and experience of working with learners with ASDs.

Hastings (2002) conducted a review to explore the link between challenging behaviour and psychological well being of teachers who work in intellectual disability and concluded that there was 'reasonable evidence' for relationship between teachers' stress and challenging behaviour. There are however many weaknesses in Hastings (2002) review. There was lack of measurement of levels of challenging behaviour and the exact behaviours that were being investigated and simply stating challenging behaviour as stressful does not provide evidence

for relationship. Simply measuring the number of people with challenging behaviour does not provide accurate measures of levels of challenging behaviour. In determining challenging behaviour, frequency, duration, intensity and severity of the behaviour needs to be taken into account. The present study examined 59 challenging behaviours exhibited by learners with ASDs. In terms of methodological problems, Hastings (2002) review lacked control group of teachers who have not been exposed to challenging behaviour to determine the relationship.

Hand searches, electronic data searches and data bases revealed no study that has investigated the relationship between teachers attitudes and choice of challenging behaviour management strategies

2.6 Teachers Perception of Causes of Challenging Behaviour

Teachers' perception of causes of challenging behaviour is receiving increased interest in the intellectual disability literature (Lambrechts *et. al*., 2008; Whitaker, 2009 & Crossland, 2009). There are at least two reasons why most of these researchers have begun to focus on teachers' perception of causes of challenging behaviour. First, there is implicit assumption that the ideas about the causes of challenging behaviour will influence their responses towards it (Crossland, 2009). Although there is no information currently on how and when teachers perception of challenging behaviour may be related to the choice of management strategies, it has been suggested that perception of the causes of challenging behaviour interact with a number of factors to determine the teachers' behaviour on either to assist or not to assist a learner presenting challenging behaviour (Lambrechts *et al*., 2008 & Whitaker, 2009). These factors include teacher's demographic information such as professional qualifications, working experience, their age and gender (Male, 2004). The second reason for this interest in staff perception relates to the needs to evaluate teachers' training on challenging behaviour and other support services that can be provided to them to enable them

manage challenging behaviour effectively (Hastings, 2005). Some of the well-documented support services in the current literature in the field of intellectual disabilities are development of partnership between teachers and parents of learners with ASDs (Jones & Hall, 2005), clear organizational structures at workplace (Whitaker, 2009) and proper remuneration (Mansell, 1993). Unfortunately, no study seems to have addressed the relationship between teacher's perception of causes of challenging behaviour and choice of management strategies.

2.6.1 Teachers Perception of Causes of Challenging Behaviour

Biological, psychological and socio-cultural perspectives have been advanced as the causes of challenging behaviours among learners with ASDs (Milne, 1993 & Noor, *et al.,* 2006). For example, proponents of biological concept often focus on the brain and genetic factors as the source of challenging behaviour (Edward et. al., 2007). This concept assumes that behaviour disorders may result from physiological disease or dysfunction and assumes that physiological problems disrupt the functioning of the brain. The causes of challenging behaviours are generally explained using bio-psychological model and remediation services for this group of people are usually done by psychiatrists, clinical psychologists or psychotherapists. The assessment of challenging behaviour often relies on observation and questioning (Alonso, Angermerer & Bernet, 2004). Various health professionals provide treatment with psychotherapy and psychiatry medication being the two major options (Alonso *et al.,* 2004). In recent years, social intervention, peer support and self-help are rapidly gaining attention as the methods of intervention of challenging behaviour (Wittchen & Jacobi, 2005 & Akiskal & Benazzi, 2006). Stigma and discrimination are the two major sufferings that are commonly encountered by learners with ASDs who present challenging behaviour (Mandell, 2008). These negative consequences associated with challenging behaviour may make learners with ASDs develop emotional problems. The ministry of

Public Health and Sanitation in Kenya together with ministry of Education (2009) recognizes that mental well being is important in psychosocial well being and cognitive development of children. They point out that learners with emotional and behavioural problems may engage in truancy, delinquency, drug and substance abuse and other anti-social behaviour. If not addressed these problems may lead to poor academic performance, school dropout as well as criminal and antisocial behaviour.

In management of challenging behaviour presented by learners with ASDs, proponents of biological perspective follow the medical model of disability whereby drugs are used to manage challenging behaviour (Tsakanikos, Costello, Holt, Stummy & Bouras, 2007). Proponents of this model also strive to establish a link between ASDs and mental health problems. In comparison to both typically and atypically developing peers, researchers investigating the rates of comorbid psychopathology symptoms in learners with ASDs have not been widespread. A study carried out by Knost, Jonny and Matson (2014) in United Kingdom that involved 205 infants with and without ASDs between 17 and 37 months to determine comorbid psychopathology. Statistical analyses identified that comorbid psychopathology symptoms occur at significantly greater rates in infants and toddlers diagnosed with ASDs when compared to an atypically developing peer group. While Knost *et al*, (2014) was a comparison study that involved toddlers, the present study involved only learners with ASDs attending public primary schools in western Kenya

Proponents of biological perspective believe that the co-morbidity between ASDs and mental health affects many learners. For example, a previous study (Kielinen, Rantalla & Moilanen., 2004) in Finland focusing on establishing the proportions of children with autistic disorders demonstrated that there were other mental health conditions in children and adolescents with a diagnosis of autism in a total population of 152,732 under the age of 16 years. This

included 187 children with ASDs based on Diagnostic Statistical Manual -IV (DSM-IV, APA (1994) and 18% of the 187 children had mental health problems. This indicated that a significant number of children and adolescents with ASDs also had other mental health condition rates that are much higher than would be seen in a general population. As Kieline *et al.* (2004) cautions, their methods could have failed to detect all of the children and adolescents in the study area with ASDs. This study was however carried out in a non-school setting involving psychologists using multi element design whose findings were open to different interpretations. The present study was carried out in a school setting and it involved teachers who directly deal with learners.

Ecological model emphasizes the capacity for growth, freedom to choose one's own destiny and positive personal qualities as possible causes of psychological disorders leading to challenging behaviour (Melaned & Alizur 2001). It focuses on physical spatial and social environment and their influence on behaviour. Proponents of ecological approach (Melaned & Alizur 2001; Akiskal and Benazzi, 2006 & Harvey *et al*. 2009) advocate for structuring of physical environment as one way of managing challenging behaviour. A multiple case design carried in UK by Harvey *et al*. (2009) involving 12 learners with ASDs aged 8-14 years found out those teaching replacement skills with system change or consequence manipulation had the strongest influence on challenging behaviour. The present study set no age limit for the learners to participate and was a descriptive survey research whose findings can be generalized while Harvey *et al*. (2009) study was a case study.

Cognitive behavioural approach views challenging behaviour as an inability to fulfill ones' potential arising from the pressures of the society to conform to expectation and values. In this approach, a person who displays challenging behaviour is likely to have low self-concept, because he/she has experienced repeated criticism and negative circumstances. This

approach mainly attributes psychological disorders to unconscious conflicts, negative cognition, and low self-concept. On the other hand, socio-cultural approach places more emphasis on a larger social context in which a person lives (Sigafoos, 2000). It takes into account the individual's marriage, family, neighbourhood, socio-economic status and ethnicity. (Ian, 2008)

Proponents of the behavioural model view challenging behaviour as an example of operant behaviour where positive and negative reinforcement principles are at work in their development and maintenance of challenging behaviour (Felce & Perry, 1996; Williams, 2008 Matson & Lovullo, 2008 & Brosnan & Healy, 2011). They view challenging behaviour as functional and an adaptive way of exercising control over the person's environment. These events, whether negative or positive such as personal interactions or escapes from unpleasant work would have an influence on the behaviour of an individual. In management of challenging behaviour, this model attempts to look at functional relationship, contextual control and dynamic systems of behaviour (Williams, 2008). In functional relationship, the reinforcers are defined functionally based on their actual effect on behaviour. In contextual control attempt is made to establish the motivational base that underlies the behaviour. It may translate into personal, biological or environmental setting events (Hastings, 1996). While in dynamic system, behaviour is viewed as being under control of wide variety of reinforcers with which a person's behaviour will interact. It means that intervention can take a wide variety of forms.

Evidence from research support the view that some challenging behaviours are likely to be caused by reinforcers including attention from teachers (Crossland, 2009), access to materials and activities as well as escape from demands (Williams, 2008). This research evidence gives teachers a significant role to play in the development of desired behaviours in learners with

ASDs via their interactions with those that they work with. These studies however did not address the teachers' perception of challenging behaviours and how this influences their choice of challenging behaviour management strategies.

In terms of explanation to the causes of challenging behaviour teachers in Porter and Lacey (2009) study ranked in order attention seeking, task avoidance, communication problems, stress, interference with routines and provocation as some of the causes of challenging behaviour presented by learners with developmental disabilities. In a related study by Male (2004) teachers ranked the causes of challenging behaviour as attention seeking, demand avoidance, communication problems, stress, interference with routines and provocation. These two studies did not address specific categories of challenging behaviour such as ecological, behavioural, psychodynamic and psychological that was addressed in the present study.

Whitaker (2009) study indicated that experienced and less experienced nursing staff working with people with learning disabilities who presented challenging behaviour differed in their views on the probable causes of challenging behaviour with the experienced staff being more likely to interpret challenging behaviour as an expression of need than less experienced staff.

Very little is known about the relationship between teachers' perception of causes of challenging behaviour and its influence on the choice of challenging behaviour management strategies. However, teacher's perception of the causes of challenging behaviours is likely to influence the choice of challenging behaviour management strategies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covers research methodology. It identifies the research design used, area of study, study population, sample population and sampling procedure, instruments for data collection, validity and reliability of research instruments, data collection procedure, data analysis and ethical consideration.

3.2 Research Design

Descriptive survey and correlation research design was adopted for the present study since they have been established as the best research paradigm for investigating behaviour (Woods, 1986; Bryman, 2001 & Creswell, 2009). According to Creswell (2009), descriptive survey and correlation research can provide information about the distribution of a wide range of people's characteristics and of relationship between such characteristics. According to Robson (2002), descriptive survey and correlation research provided simple and straightforward approach to the study of attitudes, values, beliefs and motives.

Descriptive survey research design was used since it allowed collection of relatively small amount of standardized information from many respondents within a short period. This design was used to establish how the respondents perceived challenging behaviour presented by learners with ASDs. Correlation research enabled the researcher to assess the degree of relationship that existed between two or more variables such as age of respondents and their rating of occurrence of challenging behaviour presented by learners with ASDs.

3.3 Area of study

The study was carried out in Western Kenya in public primary schools that enrolled learners with ASDs. These counties were located in the original western province. The province has four counties namely Kakamega, Vihiga, Busia and Bungoma (Republic of Kenya, 2012). Nyanza boards the province in the south, Rift Valley to the east and Republic of Uganda to the west and North West. The total area of the province is 8,182 square Kilometers. It covers about 1.4 percent of the total area of republic of Kenya (Republic of Kenya, 2003).

The counties were chosen because they had high number of learners with ASDs who have dropped out of school after being placed in schools. The study involved 18 special schools and 15 special units. Kakamega County had 5 special schools and 10 special units, Busia had 8 special schools and 4 units while Vihiga had 5 special schools and one special unit.

3.4 Study population

The study involved 126 teachers teaching in public primary schools that had learners with ASDs.

Table 3: Study Population and Sample Frame

Category	Target	Sample size	Percentage
Teachers	126	106	84%

3.5 Sample Size and Sampling Techniques

The list of schools and units that have learners with ASDs obtained from education offices in the three counties served as a guide to sample out the schools. Kakamega County had 15 schools, Vihiga 6 schools while Busia had 12 schools that have learners with ASDs. All the teachers in the 33 institutions teaching learners with ASDs took part in the study. Twenty teachers were used for pilot study. This population was not part of the actual study. For the

remaining population consisting of 106 teachers, saturated sampling technique was used to sample respondents in the public primary schools in the counties that had programmes for learners with ASDs. Saturated sampling was used in collecting data because the target population was too few to make a sample out of them (Creswell, 2009). The sample study consisted had 42 males and 64 females.

3.6 Instruments for Data Collection

The study used checklists, questionnaires, interview schedules, observation checklists, and document analysis guide. The study focused on teachers and their perception of challenging behaviour and how this perception influenced the choice of strategies used in management of challenging behaviour presented by learners with ASDs.

3.6.1 Challenging Behaviour Checklist for Teachers

Challenging behaviour checklist was used to identify and analyze types of challenging behaviours presented by learners with ASDs (Appendix 3). Challenging behaviour checklists was used for identification and analysis of a behaviour that needed intervention as they described the behaviours accurately in observable and measurable terms (Baine, 1996). In the present study, 59 behaviours that were commonly identified in literature with learners with ASDs were organized into seven categories as inappropriate vocal/oral behaviour; Interpersonal behaviour; personal behaviours; self injurious; property damage; stereotypic behaviour and aggressiveness. The rating scale had four points ranging from very frequent; frequent; not frequent not very frequent.

3.6.2 Questionnaires for Teachers

Quantitative data was collected using questionnaires. Four sets of questionnaires were administered in order to establish the teachers cognitive perception of challenging behaviour,

to determine their attitudes on challenging behaviour presented by learners, to determine strategies used in the management of challenging behaviour and to identify factors that determine the choice of challenging behaviour management strategies. Questionnaires allowed the collection of small amount of standardized information from respondents over a short period of time (Fergusson and Duffield, 2001). Respondents were asked to rate each item on a rating scale that had four levels. Rating scales are the most prevalent scales (Narli, 2010). They are relatively easier to develop and administer compared to other scales. They can yield valuable assessment of attitudes and allows a researcher to predict behaviour (Dooley, 2004).

3.6.2.1 Challenging Behaviour Perception Questionnaire for teachers

To elicit the perception that the teachers had over challenging behaviour presented by learners with ASDs, challenging behaviour questionnaire was used, it had two parts (appendix 4). Part one determined teacher's perception of causes of challenging behaviour. The identified possible causes of challenging behaviour were biological/medical; sociological; behavioural; ecological; psychological and psychodynamic. Respondents were asked to rate their responses on a five point rating scale.

Part 2 was to elicit teachers' cognitive perception of challenging behaviour. It also elicited teachers' perception of consequences that challenging behaviour could have on the learners who present the challenging behaviour and also the teachers who work with the learners. Five categories of consequences were to be elicited as a consequence to the learner either positive or negative; consequence to the teacher; control for the teacher for example whether the teacher perceives that he/she can manage the challenging behaviour; time line chronic whether the teacher perceives the challenging behaviour to be permanent rather than

temporary and time line episodic whether the teacher perceives challenging behaviour to come and go. Respondents were also asked to rate their responses on a four point rating scale.

3.6.2.2 Challenging Behaviour Attitudes Questionnaire for Teachers

This item was used to find out teachers attitudes towards challenging behaviour presented by learners with ASDs. The questionnaire consisted of nineteen emotions; twelve negative and seven positive emotions which people may feel when working with learners with ASDs who display challenging behaviour (Appendix 5). Respondents were asked to respond to a four point rating scale from 1-4 regarding their intensity of their feelings on challenging behaviour presented by learners with ASDs.

3.6.2.3 Challenging Behaviour Management Strategy Questionnaire for Teachers

Challenging behaviour management strategy questionnaire was used to determine the strategy used by teachers in managing challenging behaviour presented by learners with ASDs. Twelve strategies identified in literature were listed and teachers were asked to choose the strategy based on the following scales: 1. They knew about the strategy had tried it and had found it effective. 2. They knew about the strategy had tried it and had found it not effective. 3. They knew about the strategy had not tried but may try it in future. 4. They don't know the strategy but would like to know it and try it 5. They don't know the strategy and have no wish to know and try it.

3.6.3 Semi - Structured Interviews for Teachers

Semi structured interview was used in this study since it has the potential to yield valuable insight into respondent's attitudes, opinions and aspirations. It is a valuable tool in collecting data that may be inaccessible when using other research techniques such as questionnaire. This method enabled the researcher to explore complex issues in challenging behaviour

management strategies by probing respondents in detail to determine how they perceived challenging behaviour presented by learners with ASDs and how they construct the cause of the challenging behaviour portrayed by these learners (Appendix 8). The data collected by interviews was used to triangulate data gathered by observation and document analysis and was used to establish factors that determine the choice of challenging behaviour management strategies.

3.6.4 Observation Schedules for Teachers

Observation was used in this study (Appendix 8) to practically get teachers working with learners with ASDs. They were observed in class, in the playground, on the assembly and during mealtime. Observation was used to determine the strategies used by teachers in management of challenging behaviour presented by learners with ASDs. The advantage of observation was that it blended well with other data gathering instruments such as interviews and document analysis (Creswell, 2009).

3.6.5 Document Analysis Guides for Teachers

The documents that were analyzed in this study included Individualized Education Programmes (IEPs), Individual Behaviour Management and Self-monitoring Plans, Programme of Work and Whole School Behaviour Policy Documents. They were used to triangulate the information derived from questionnaire.

3.7 Validity and Reliability of Research Instruments

3.7.1 Validity

Validity refers to the degree to which results obtained from analysis of data represent the phenomenon under the study (Mugenda and Mugenda, 1999). It is concerned with the accuracy of data obtained in the study whether it actually represents the variables of the

study. In this study, face and content validity were used. Face validity is a qualitative means of ascertaining whether a measure on the face of it reflects the concept of content (Creswell, 2009). Robson (2002) further defines face validity as the degree to which a test appears to cover the relevant content it purports to. Content validity, on the other hand, is a qualitative means of ensuring that a measure includes an adequate and representative set of items to cover a concept (Drost, 2011). In this study the determination of both face and content validity ensured that the research instruments were accurate and there was a clear connection among the questions asked and variables measured. In most studies (Robson, 2002; Creswell, 2009 & Drost, 2011) face and content validity are ensured by obtaining subjective judgments by the experts in the concerned field. To verify the validity of the instruments used in this study, the research instruments were presented to lecturers in the department of special needs education and rehabilitation. They judged the instruments independently and made recommendations on their accuracy. The tools were refined based on the recommendations of the lecturers before use.

3.7.2 Reliability of Research Instruments

Reliability is the measure of degree to which research instruments yield consistent results or data after repeated trials (Mugenda & Mugenda, 1999 & Robson, 2002). A pilot study was carried out in two special units and two special schools consisting of 20 teachers which were not part of the actual study. A reliability test was carried out through the test –retest method. It involved three instruments- Challenging behaviour checklist, challenging behaviour questionnaire and teacher's attitude questionnaire. Tests were administered to the respondents for the first time then administered to the same participants after two weeks. Mean scores from the tests were then correlated using Pearson product moment correlation coefficient. The reliability coefficient was set at 0.70 and above at an alpha level of 0.05, which is

considered as acceptable measure (Robson, 2002). The results in table 3. Show the reliability tests for the tools.

Table 4 Reliability of the Tools

Category	Reliability
Challenging behaviour checklist	0.89
Challenging behaviour perception questionnaire	0.75
Attitude of Teachers Questionnaire	0.78

The three yielded a reliability coefficient of 0.89, 0.75 and 0.78 respectively which indicated that they were reliable. The data collected through qualitative techniques was counter checked thematically to ascertain consistency. Any inadequacies, inconsistencies and weaknesses of the research instruments identified during the pilot study were corrected.

3.8 Data Collection Procedure

Before undertaking the actual study in sampled schools, approval of research proposal by Maseno University School of graduate Studies was sought (appendix 10). Ethical approval for the study was sought from Maseno University Research Ethics committee (appendix 11) Permission to carry out the study was also sought from county Directors of Education in the three counties where the study was done (appendix 12). On obtaining the permission, the researcher sent letters to heads of the primary schools where data was to be collected. The researcher then made personal visits to the schools sampled, met the respective head teachers, informed them about the research, and arranged for possible dates of data collection.

Respondents were then met and purpose of study explained to them. Checklists and questionnaires for collecting data were given to the respondents and clarifications were made

by the researcher where there was need. Observation checklist was then used to practically observe teachers as they worked with learners with ASDs. The observation took a form of quantitative systematic, qualitative ethnographic note taking and complete participation observation. Observation data was collected for a period of three months on average of two days a week each day lasting six hours. Documents analyzed included school log books, behaviour monitoring plans, Individualized Education Programmes, daily occurrence log books and class registers. Semi structured interviews were administered to 106 teachers to triangulate the information gathered from behaviour rating checklist, questionnaires, document analysis and observation checklist. Interview session for teachers lasted thirty minutes.

3.9 Data Analysis

Quantitative data was collected using questionnaires, checklist and document analysis. It was analyzed using descriptive statistics such as means, frequency counts and percentages. It was presented using frequency tables and graphs. Qualitative data collected from semi structured interview schedules, document analysis and observation was subjected to thematic data analysis to build patterns, categories and themes. Qualitative data was coded individually against themes. Common themes were identified by trawling and searching for key words and comments and subsequently the themes were apportioned into categories and sub categories. Pseudonyms were used to protect the identity of teachers and learners with ASDs.

Quantitative data collected was entered in Microsoft Excel and later transferred to a Statistical Package for Social Sciences (SPSS version 19 for Windows) and coded. Data was then analyzed as per the objectives. To analyze the types of challenging behaviour presented by learners with ASDs, frequency tables were used to cross check totals for each variable expressing a particular aspect such as inappropriate vocal/oral behaviour. Correlations were

used to find the relationships between independent and dependent variables. Frequency tables were used as descriptive analysis to establish quantitative information on teachers' perception of challenging behaviours. To determine strategies used in management of challenging behaviour, twelve management strategies sampled out from the literature were listed and respondents were requested to rate them on a five-point rating scale. Data collected via the questionnaire was corroborated with semi structured interview schedules, document analysis and observation guide to further determine the strategies used in management of challenging behaviour.

To determine teachers' cognitive perception of challenging behaviour a one-way between-groups multivariate analysis of variance was carried out. Information obtained was corroborated with information from interview schedules. To determine the teachers attitudes towards learners with ASDs, variables of both negative and positive effects were sampled out and respondents were asked to rate them on a five point rating scale.

Pearson's product moment correlation (r) was used to establish the relationship between perception of the causes of challenging behaviour and the choice of challenging behaviour management strategies. The significance level (α) was set at 0.05. Cross tabulation was carried out to determine the influence of demographic factors on the perception causes of challenging behaviour. Multiple hierarchical regressions were carried out to determine the effect of variables on perception of causes of challenging behaviour and its influence on choice of management strategies.

3.10 Ethical Considerations

Before embarking on the study, various ethical considerations were identified and means developed to address them. Robson (2002) defines research ethics as a set of principles that will assist the community of researchers in reconciling conflicting values involving the

researcher, participants and people in authority. Ethical approval for the study was sought from research ethics committee of Maseno University. Ethics that were considered in this study were Consent of participants, withdrawal from the study, confidentiality of sources, protection of participants from physical and psychological harm and deception.

3.10.1 Consent

In order to negotiate access to schools, written consent for the study was sought from county education offices in the counties and head teachers of the primary schools where the study was carried out. Letters requesting for permission from county educational officials were written and upon approval letters requesting for permission to carry out the study in selected schools were sent to the head teachers. Researcher made visits to schools and explained to the participants what the study was about and why it was being carried out. Participants were individually requested to take part in the study. When they accepted to take part in the study, they were requested to sign a consent form (see appendix one) stating that they understood that they were voluntarily taking part in the study.

3.10.2 Withdrawal from the Study

Participants were informed that they were voluntarily participating in the study and had a right to withdraw from the study and their data at any stage without any consequences to themselves. They were also informed that they had a right to withdraw permission to use the collected data even after the study was over (see appendix one on withdrawal from the study).

3.10.3 Confidentiality

Participants may worry that the information that they provide may cast them in unfavourable light or may want nobody to know about the data that they provide. This was addressed by assuring the participants that all the data that they provided would be anonymous and

confidential (See Appendix one on confidentiality). They were also assured that pseudonyms will be used to protect the real identity of participants.

3.10.4 Protection from Physical and Psychological harm

Participants were informed about the risk of taking part in the study (See appendix one on risk of the study). They may find talking about challenging behaviour presented by learners with ASDs distressing. They were informed that if they found it distressing talking about challenging behaviour presented by learners with ASDs then they were to inform the researcher immediately. They were to be discontinued from taking part in the study and all the data that they gave would be destroyed and not form part of the study.

3.10.5 Deception

Creswell (2009) identifies types of deceptions such as cooking research findings, publishing same results of a study in different papers, studying participants without informing them and informing the participants that they are part of the study but deceiving them about its true nature. Research findings of this study were published following the objectives. Cooking of research findings was avoided by researcher remaining objective. Prior to reporting the findings, Robson (2002) recommends a number of data assumptions to be met. This study mainly used regression and ANOVA (Analysis of Varriance) as methods of data analysis. The need to identify any violations of the underlying assumptions of any of these methods is a prequisite when usining ANOVA (Narli,2010) . Some assumptions that were considered necessary in order to draw conclusions about a population on the basis of a regression analysis, and analysis of variance on sampled data included varriables such as homoscedasticity, linearity, normality of residuals and multicollinearity. For analysis of variance, assumptions included independence of observations, Normal distributions, and

homogeinity of variance. These assumptions were tested and no serious violation was identified.

Each objective was published separately in a peer reviewed journals to avoid deception in publication. In order to observe participants in a natural setting for example when managing challenging behaviour in classroom the researcher debriefed the participants and why it was absolutely necessary to observe them working with learners with ASDs.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study. The findings are presented analyzed and discussed based on the research objectives. The chapter contains the return rate of questionnaires, demographic information of respondents, analysis of challenging behaviour presented by learners with ASDs and strategies used in management of challenging behaviour. Other items covered in this chapter are cognitive perception of challenging behaviour, teachers' attitudes towards challenging behaviour and their perception of causes of challenging behaviour.

4.2 Return rate of questionnaires

One hundred and twenty six questionnaires were sent out and one hundred and six were returned representing a return rate of 84%

4.3 The Demographic Information of the Respondents

The demographic information identified in this study included age of respondents, length of service in the current post, amount of experience working with learners with ASDs and professional qualifications. These were considered important variables in perception and management of challenging behaviours presented by learners with ASDs. The frequency table 5 displays demographic information of respondents in frequency counts and percentages.

Table 5: Teachers' Demographic Information

Demographic information	Category	F	%
Age	18-24 years	8	7.5
	24-30 years	26	24.5
	30-36 years	33	31.2
	36-42 years	22	20.8
	42-48 years	10	9.4
	48-54 years	7	6.6
Total		**106**	**100**
Gender	Male	42	39.6
	Female	64	60.4
Total		**106**	**100**
Work place	special school	77	72.6
	special unit	29	27.4
Total		**106**	**100**
Length of service in teaching	below 5 years	13	12.4
	5-10 years	57	54.3
	10-15 years	25	23.8
	15-20 years	11	9.5
Total		**106**	**100**
Experience of working with ASDs	below 5 years	4	3.8
	5-10 years	21	19.8
	10-15 years	50	47.2
	15-20 years	22	20.8
	20-25 years	9	8.5
Total		**106**	**100**
Professional Qualification	Certificate in special needs education	7	6.6
	Diploma in special needs education	59	55.7
	Degree in special needs education	29	27.4
	Masters in special needs education	11	10.4
	Total	**106**	**100.0**

The table 5 indicates that teachers aged between 30-36 years were the majority teaching in primary schools and units that have learners with ASDs with a frequency of 33 and a percentage of 31.2. They were closely followed by those aged between 24-30 years at 26 (24.5%) Those with the least frequency were aged between 48-54 years, recording 7 (6.6%). This finding is consistent with Male (2004) study that indicated that most teachers working in the programme for learners with ASDs were mainly aged between 24-36 years with a high attrition rate. Based on this finding inference can be made that majority of teachers teaching

learners with ASDs in educational institutions in Western Kenya are aged between 30-36 years. It is most likely that these young people would eventually leave working in these schools in search of better jobs. This is supported by the present data that indicates that only seven teachers aged 48-54 years out of 106 were working in the schools for learners with ASDs. This seems to support Hastings (2008) study, which indicates that care profession for people with developmental disability records the highest staff turnover. There is need for a study to find out why teachers working for learners with ASDs record the highest staff turnover.

Frequency table 5 shows that there were 64 female teachers (60.4%) and 42 male teachers (39.6) of the 106 respondents. This finding is consistent with Male (2004) finding where respondents were predominantly female (59 female, 11 male) with a mean age of 40 years (range 28–52 years). In relation to management of challenging behaviour and based on Bandura (1980) social learning theory where learners learn by imitating models it's most likely that male learners with ASDs lack male models to imitate the acceptable behaviour and are likely to present more challenging behaviour than female learners with ASDs who have more female role models to imitate (64 female teachers).

Table 5 indicates that the highest number of respondents had worked for 5-10 years 57(54.3%) while those who had worked for 15-20 years were only 11(9.5%). This data compares well with Male (2004) where the mean length of time teaching was 15 years (range 3–24 years), mean length of time with learners with ASDs was 10.48 years (range 6 months–24 years).

Professional qualification of the respondents displayed in the table 5 indicates that the highest number of teachers (59) had diploma in special education, followed by 29 teachers with a bachelor's degree in special education and 11 teachers with master's degrees representing

10.4% of the teachers. Only 7 teachers representing 6.6% had certificate in Special Needs Education.

4.4 Challenging Behaviour presented by Learners with ASDs in primary schools

The first objective of this study was to analyze the types of challenging behaviours presented by learners with ASDs in schools in Western Kenya. A total of 59 challenging behaviours that are commonly presented by learners with ASDs were identified and categorized into seven categories as inappropriate vocal/oral behaviour; interpersonal behaviour; personal; self injurious; property damage; stereotypic and aggressive behaviour. The results are presented in tables starting with table 6.

Table 6 Inappropriate Vocal/Oral Behaviour as Rated by Teachers

Behaviour	NVF	NF	FR	VF	Mean
Repeats what is said to him/her	26(24.5)	30(28.3)	34(32.1)	16(15.1)	2.38
Talks to self	19(17.9)	19(17.9)	28(26.4)	40(37.7)	2.84
Frequently puts fingers or hands in mouth	16(15.1	14(13.2)	39(36.8)	37(34.9)	2.92
Sucks or chews inedible objects	20(18.9)	27(25.5)	36(33.9)	23(21.7)	2.60
Re-chews swallowed foods	41(38.7)	42(39.6)	16(15.1)	7(6.6)	1.9
Spits food	35(33.0)	24(22.6)	28(26.4)	19(17.9)	2.29
Vomits following eating	47(44.3)	29(27.4)	24(22.6)	6(5.7)	1.9
Holds breath	30(28.3)	31(29.2)	35(33.0)	10(9.4)	2.24
Eats foods or objects from floor	20(18.9)	25(23.6)	31(29.2)	30(28.3)	2.67

KEY: NVF=not very frequent; NF=not frequent; FR= frequent; VF=very frequent

Interpretation of the Means: 1.00 – 1.44 = NVF; 1.45 – 2.44 = NF; 2.45- 3.44 = FR; 3.45 – 4.00 =VF

Table 6 indicates that teachers rated talking to self as the most frequent behaviour exhibited by learners with ASDs in western Kenya 40 (37.7%) with a mean of 2.84 followed by putting

hands and fingers in the mouth 37 (34.9%) with a mean of 2.92 and the least frequent behaviour being vomiting following eating 6 (5.7%) with a mean of 1.9. This finding is consistent with Grossi *et.al.* (2013) study, which indicated that teachers rated the occurrence of echolalia as the most frequent challenging behaviour presented by learners with ASDs. This finding also supports Marshalla (2008) study which points out that echolalia phenomenon is an expression of dependence on the environment and may occur in a situation in which a learner with ASDs is participating in communication act and lacking inhibitory control repeats others communication. Teachers need to identify suitable management strategy for this behaviour as it interferes with the learner's attention and concentration in class work.

The results also indicate that teachers rated the occurrence of sucking and chewing inedible objects as a frequent behaviour presented by learners with ASDs 35(33%) indicating that they had pica a finding that is consistent with other previous studies (Dell, 2002 & Carr.*et.al.* 2007; Smith, 2007). Pica can be dangerous as ingesting inedible substances can cause chocking, digestive problems, parasitic infections and illness. Research has linked this food disorder to nutritional deficiencies such as iron in learners with ASDs (Dell, 2002), psychological factors (Emerson, *et. al*, 1994) as well as environmental factors (Carr.*et.al.* 2007).

Table 7: Interpersonal Behavior as Rated by Teachers

Behaviour	NVF	NF	FR	VF	mean
Avoids eye contact	12(11.3)	27(25.5)	33(31.1)	34(32.1)	3.03
Avoids group activity	12(11.3)	25(23.6)	41(38.7)	28(26.4)	2.80
Grabs objects used by others	15(14.2)	30(28.3)	32(30.2)	29(27.4)	2.71
Touches other people inappropriately	14(13.2)	26(24.5)	33(31.1)	33(31.1)	2.80
Stands too close to other people	14(13.2)	27(25.5)	36(34)	29(27.4)	2.75
Able but unwilling to speak	13(12.3)	19(17.9)	44(41.5)	30(28.3)	2.86
Inappropriate affectionate behavior	9(8.5)	23(21.7)	45(42.5)	29(27.4)	2.89

Interpretation of the Means: 1.00 – 1.44 = NVF; 1.45 – 2.44 = NF; 2.45- 3.44 = FR; 3.45 – 4.00 =VF

On rating the frequency of interpersonal behaviour is evident from table 7 that majority of teachers 34(32.1%) rated the behaviour of learners with autism avoiding eye contact as the most frequent behaviour exhibited by learners with ASDs. This rating is consistent with Ismail et.al. (2012) finding which showed that most learners with ASDs lack eye contact with peers and teachers and it is one of the defining characteristics of ASDs and a marker of social skills deficit. This also supports the theory advanced by researchers (Marshalla, 2008 & Wesselman et.al, 2012) that autism is a brain disorder with the main symptom being impairment in social interaction manifested in lack of eye contact. This also relates well with the findings of Ismail et al. (2012) in Malaysia that tested the response of eye contact time between humanoid robot and normal classroom interaction in learners with ASDs, which showed that the learners had longer eye contact time, and paid more attention to the robot than normal classroom interaction. Establishment and maintenance of eye contact is not only important in social interaction but an important aspect in classroom learning as eye contact

ensures attention. Teachers need to ensure that this important skill is developed in learners with ASDs in order to make them realize their potential.

Other very frequent behaviours rated by teachers were touching other people inappropriately 33(31.1%), inappropriate affectionate behaviour and grabbing objects used by others all at 29(27.4%). These behaviours can make the learner with ASDs fail to develop social relationships leading to rejection by peers and teachers (Michail, 2011).

One interesting rating by teachers was that of being able but unwilling to speak which was rated as a very frequent behaviour 30(28.3%) with a mean of 2.86. This finding is not consistent with Jones and Jordan, (2005); Abbot and Heslop (2009) who found that learners with ASDs have difficulties in understanding speech and other forms of communication. Even where they have apparently good speech, their comprehension is likely to be limited a factor that makes them advocate the use of augmentative communication consisting signing, picture exchange communication and facilitated communication. Teachers should strive to develop meaningful communication among learners with ASDs through visual forms of communication such as picture communication exchange and other interactive strategies.

In summary the findings in this section indicates that interpersonal behaviours causes serious challenges to the teachers. This supports the steadily growing body of research evidence (Howley, 2001; Buell 2009 & Taylor & Haughton, 2008) which point out that young children who consistently fail to establish and maintain friendship bonds are considered to be at an increased rate of serious maladjustment, social ostracism, antisocial behaviour and psychopathology. Children who fail to cement secure friendship develop withdrawal tendencies, are often neglected and are actively disliked by their peers. Teachers need to pay more attention to behaviours under this category. To some extent, this may require teachers' skill training, proper organization of schools as well as individual planning mechanisms. This

may be achieved if teachers are well trained well motivated, are confident with their challenging behaviour management skills, and trust their own abilities to initiate change.

Table 8: Personal Behavior as Rated by Teachers

Behavior	NVF	NF	FR	VF	mean
Tantrums	15(14.2)	24(22.6)	39(36.8)	28(26.4)	2.75
Often touches own genitals	11(10.4)	24(22.6)	46(43.4)	25(23.6)	2.80
Smears feces	25(23.6)	26(24.5)	33(31.1)	22(20.8)	2.49
Exposes self	19(17.9)	27(25.5)	38(35.8)	22(20.8)	2.59
Hoards objects e.g. food	12(11.3)	30(28.3)	39(36.8)	25(23.6)	2.73
Walks or runs on toes	14(13.2)	29(27.4)	40(37.7)	22(20.8)	2.95
Rapid mood changes	9(8.5)	29(27.4)	37(34.9)	31(29.2)	2.85
Unpredictable behavior	16(15.1)	24(22.6)	40(37.7)	26(24.5)	2.72
Uncontrolled urination	17(16.0)	21(19.8)	34(32.1)		2.80
Uncontrolled bowel movement	14(13.2)	22(20.8)	34(32.1)	36(34.0)	2.87
Runs away from activities	12(11.3)	23(21.7)	43(40.6)	28(26.4)	2.82
Irritated by changes	14(13.2)	22(20.8)	38(35.8)	32(30.2)	2.83
Runs into traffic or other dangers	7(17.5)	10(25)	13(32.5)	10(25)	2.65

Interpretation of the Means: 1.00 – 1.44 = NVF; 1.45 – 2.44 = NF; 2.45- 3.44 = FR; 3.45 – 4.00 =VF

Thirteen behaviours were sampled out under this category since previous research had rated personal behaviours exhibited by learners with ASDs as the greatest impediment to formation of secure friendship and social acceptance (Collins, 2008). Table 8 indicates that the three very frequent behaviours were uncontrolled bowel movement 36 (34.4%) with a mean of 2.87; irritated by changes 32 (30.2%) and rapid mood changes 31(29.2%). The frequent behaviours were touching on genitals 46 (43.4%); running away from activities 43(40.6%) and walking or running on toes and unpredictable behaviour which had the same frequency 40(37.7%). The rating indicates that personal behaviours that were both internalized and externalized received similar rating indicating that teachers paid equal attention to all

behaviours presented by learners with ASDs. This finding is not consistent with Williams (2009) which found that teachers paid more attention to externalized than internalized behaviours presented by learners with ASDs.

Analysis of rating personal behaviours by teachers suggested that they viewed lack of personal hygiene as a significant behaviour exhibited by learners with ASDs. This is illustrated by their rating of these behaviours as frequent (smears feces a frequency of 33; uncontrolled urination 34 and uncontrolled bowel movement 34). Observation data indicated that it was the duty of support staff to bathe and change learners who soiled themselves. They hated this task most as observation data from the researcher's diary indicates:

[It was few minutes past nine thirty when almost all the learners became restless due to offensive smell emanating from the class. Teacher Joan was conducting communication skills lesson. She looked through the window and beckoned Agnes a support staff who was enjoying washing some clothes near the class. Teacher Joan pointed in the direction of Tom who had stopped rocking and was in the process of unbuttoning his trousers. Teacher Joan's none verbal communication was very clear, Tom had soiled himself and she wanted Agnes to take him to the boarding section to change and wash him. Agnes face suddenly changed, anger, frustrations and anguish were written all over her face, she got hold of Tom led him out of class and when she was out of teacher Joan's sight roughly pulled Tom to the boarding section]

Personal behaviours may distract learners with ASDs from learning opportunities, distract others from such opportunities and be excluded or isolated by their peers, parents or teachers. Conversely, effective intervention of personal behaviours by teachers may prevent injuries, poor physical health and reduce secondary disabilities associated with challenging behaviour such as social and mental health. This is likely to lead to improvement of opportunities for learning and adaptive skills development.

Table 9: Self- Injurious Behavior as Rated by Teachers

Behaviour	NVF	NF	FR	VF	Total	Mean
Bites self	23(21.7)	29(27.4)	27(25.5)	27(25.5)	106(100)	2.55
Picks at sores	30(28.3)	44(41.5)	21(19.8)	11(10.4)	106(100)	2.12
Hits or slaps self	24(22.6)	28(26.4)	35(33)	19(17.9)	106(100)	2.46
Bangs or hits head	23(21.7)	29(27.4)	34(32.1)	20(18.9)	106(100)	2.48
Cuts self with knives or razors	27(25.5)	31(29.2)	33(31.1)	15(14.2)	106(100)	2.34
Pokes eyes or nostrils	24(22.6)	35(33)	29(27.4)	18(17)	106(100)	2.39
Scratches self	22(20.8)	37(34.9)	29(27.4)	18(17)	106(100)	2.41

Interpretation of the Means: 1.00 – 1.44 = NVF; 1.45 – 2.44 = NF; 2.45- 3.44 = FR; 3.45 – 4.00 =VF

Seven behaviours were sampled out in this category. These were biting self, picking at sores, hitting or slapping self, banging head, cutting self with knives or razors, pocking eyes or nostrils and scratching self. Table 9 indicates that teachers rated self injurious behaviour of biting self as very frequent behaviour 27 (25.5%) followed by banging head on objects 20 (18.9%) and poking eyes or nostrils 15 (14.2%). The least frequent behaviour reported by teachers was cutting self with knives or razors 27(25.5%). This finding relates well with Males (2004) study where respondents rated the frequency of self-injurious behaviour at 3.42. This finding has clinical implication as learners may repeatedly injure themselves leading to infections and decreased physical health. Alternately, their classmates may feel threatened by learner's self-injurious behaviour to the extent that their mental health and learning may be compromised.

This findings compares well with other researchers who have investigated frequency of self injurious behaviour. Porter and Lacey (2009) report Self injurious behaviour at 38% and Hastings (2008) report self injurious behaviour at 32%. While in a related study in terms of

explanations given for challenging behaviour, teachers in the Kiernan and Kiernan (2004) study cited, in rank order: attention seeking, demand avoidance, communication problems, stress, interference with routines and provocation. Document analysis data also revealed that self-injurious behaviour were the most frequent behaviours recorded in the schools behaviour monitoring book as one incident recorded in one school by a teacher demonstrates:

[It was on Saturday after lunch, all the children had eaten lunch (sic) and were taken to boarding section to have a asiesta (sic) before going for games. Sarah woke up and walked towards the toilet side. I assumed that she was going to the toilet. After some minutes, I heard people shouting in the kitchen. I went there and found Sarah holding her hand, which was bleeding. Cooks said Sarah came to the kitchen asked for the knife and cut her palm. I called the nurse, Sarah was taken to hospital and her palm was stitched]

Observation data revealed that Sarah was using the self-injurious behaviour to gain attention as she seemed to perceive negative attention as better than no attention at all because teachers gave more attention to her when she was engaging in self-injurious behaviour than when she was engaged in a more positive behaviour of helping in tidying up the kitchen. This finding is consistent with Bailey *et.al*. (2006) study that investigated teacher's emotional response to self-injurious behaviour presented by learners with ASDs. Bailey *et.al*. (2006) study found association between teachers' negative emotions and increase in frequencies of challenging behaviour. It identified negative emotions displayed by teachers in response to negative behaviours portrayed by people presenting self-injurious behaviours. The study concluded that challenging behaviour presented was positively reinforcing to the individual and negatively reinforcing to the teacher thus perpetuating the problem.

Table 10: Property Damage Behavior as Rated by Teachers

Behavior	NVF	NF	FR	VF	Mean
Rips at clothing	21(19.8)	35(33)	29(27.4)	21(19.8)	2.47
Breaks windows	16(15.1)	32(30.2)	35(33.0)	23(21.7)	2.63
Urinates on floor or furniture	26(24.5)	36(34)	21(19.8)	23(21.7)	2.39
Kicks furnishings	25(23.6)	35(33.0)	20(18.9)	26(24.5)	2.44
Bites and chews objects	21(19.8)	30(28.3)	30(28.3)	25(23.6)	2.56
Breaks toys	17(16)	17(16)	34(32.1)	38(35.8)	2.88
Plays with matches or fire	25(23.6)	20(18.9)	30(28.3)	31(29.2)	2.63

Interpretation of the Means: 1.00 – 1.44 = NVF; 1.45 – 2.44 = NF; 2.45- 3.44 = FR; 3.45 – 4.00 =VF

Table 10 indicates that teachers rated breaking toys 38 (35.8%) with a mean of 2.88 as the most frequent behaviour followed by playing with matches and fire 31 (29.2%) a mean of 2.63. Frequent behaviours were breaking windows and breaking toys at 35 (33.0%) and 34(32.1%) respectively, followed by ripping at clothing 29 (27.4%) with a mean of 2.47. The least frequent behaviours presented by learners with ASDs as rated by teachers were urinating on floor or furniture 26 (24.5%) a mean of 2.39.

This rating of very frequent behaviour as breaking toys indicate that these teachers are understanding challenging behaviour based on their classroom experiences as they are more involved in managing behaviour in the class room where learners with ASDs manipulate toys in their learning. This is an area that may require research to be carried out to identify why learners break the toys. There is a possibility that breaking of toys is intentional and learners with ASDs use it to communicate their feelings of boredom particularly if the toys are being used as learning resources.

Table11: Stereotypic Behavior as Rated by Teachers

Behavior	NVF	NF	FR	VF	Mean
Watches movement of own fingers	12(11.3)	32(30.2)	29(27.4)	33(31.1)	2.78
Repeatedly flaps arms/hands	5(4.7)	20(18.9)	39(36.8)	42(39.6)	3.11
Repeatedly swirls around	8(7.5)	17(16)	37(34.9)	44(41.5)	3.10
Preoccupied with spinning objects	8(7.5)	20(18.9)	35(33)	43(40.6)	3.07
Preoccupied with listening to scratched surfaces	20(18.9)	42(39.6)	26(24.5)	18(17)	2.4
Preoccupied with minor detail objects	9(8.5)	20(18.9)	39(36.8)	38(35.8)	3.00
Preoccupied with smelling things	15(14.2)	28(26.4)	34(32.1)	29(27.4)	2.73
Body rocking	12(11.3)	31(29.2)	33(31.1)	30(28.3)	2.76
Paces the floor	5(4.7)	28(26.4)	38(35.8)	35(33)	2.97
Grinds teeth	10(9.4)	21(19.8)	37(34.9)	37(34.9)	2.98

Interpretation of the Means: 1.00 – 1.44 = NVF; 1.45 – 2.44 = NF; 2.45- 3.44 = FR; 3.45 – 4.00 =VF

Table 11 indicates that teachers rated repeatedly swirls around as the very frequent behaviour44 (41.5%); preoccupied with spinning objects 43 (40.6%) and preoccupied with minor details in objects 38 (35.8%). The least frequent behaviours observed by teachers were pre occupied with listening to scratched surfaces with 9 (8.5%) a mean of 2.4; preoccupied with smelling things 15 (14.2%) and watching movement of own fingers 12(11.3%).

The rating of frequency of stereotype behaviour by teachers indicates all the behaviours in this category occurred and what only varied were their frequencies. This finding supports Davesa, (2004) study that identified stereotype behaviours as hand flapping, body rocking, spinning objects, and being preoccupied with minor details as the defining characteristics of autism. These behaviours are directed at producing self-stimulation and can be problematic because of obstacles that they cause to learning and their stigmatizing in nature.

Observation data indicated that most teachers were not paying significant attention towards stereotype behaviour as most of these behaviours were internalized rather than being externalized as the case of Ezekiel illustrates from the researchers observation in the diary:

[Ezekiel aged 17 years was spending most of his class time in his usual corner engaged in his ritualistic behaviours of muttering to himself, grinding his teeth and occasionally standing up and flapping his arms. At break time, he usually runs to his favourite tree plucks up a bunch of leaves and waves them near his eyes. At games time he is involved in another ritualistic activities of picking polythene papers from the composite and tearing them into small pieces which he arranges in alternating colours]

Given that most of Ezekiel's behaviours were mostly internalized and seemed not to interfere with the activities of other learners nor teachers, they were not regarded as behaviours that needed management despite their interference with his learning.

Table 12: Aggressive Behavior as Rated by Teachers

Bahaviour	NVF	NF	FR	VF	Mean
Hits others with head	14(13.2)	24(22.6)	31(29.2)	37(34.9)	2.86
Uses threatening language	16(15.1)	26(24.5)	29(27.4)	35(33)	2.78
Uses threatening gestures	23(21.7)	27(25.5)	30(28.3)	26(24.5)	2.56
Bites, scratches, pinches or chokes others	23(21.7)	17(16)	33(31.1)	33(31.1)	2.72
Spits at others	25(23.6)	26(24.5)	27(25.5)	28(26.4)	2.55
Throws objects at others	15(14.2)	18(17)	41(38.7)	32(30.2)	2.85

Interpretation of the Means: 1.00 – 1.44 = NVF; 1.45 – 2.44 = NF; 2.45- 3.44 = FR; 3.45 – 4.00 =VF

Table 12 clearly indicates that teachers rated the challenging behaviour of hitting others with head as the most frequent behaviour 37 (34.9%) a mean of 2.86 followed by use of threatening language 35 (33%) with a mean of 2.78. The frequent behaviours rated were throwing objects at others 41 (38.7%) with a mean of 2.85; biting scratching and pinching

others 33 (31.1%) a mean of 2.72. The least frequent rated behaviours were spiting at others 25 (23.6%) and using threatening gestures at 23(21.7). The findings support a study carried out by Lam *et al* (2007) in China determine the teachers rating of aggressive behaviour where the aggressive behaviour of hitting others was rated at 57%. This finding is also consistent with an earlier finding (Male, 2004) which cited aggression as the most challenging behaviour presented by learners. This finding was consistent with the interview results where the most frequently cited challenging behaviour was aggression, although self-injury was found to be the most challenging behaviour.

Observation data recorded in the researcher's diary indicated that some learners enjoyed the effect of their aggression on teachers and fellow learners and to some extent this behaviour served the intended purpose as the case of Job illustrates:

"Job aged 16 years has demonstrated acting out behaviour both inside and outside class. Her teacher described his behaviour as "very disruptive" to her class and she got very concerned because Jobs behaviour had become more aggressive. According to her Job had difficulties getting along with other learners and often failed to follow her instructions. In particular, Job often grabs, hits, yells at other learners. On one occasion, he was very aggressive, he reputedly punched and kicked classmates for no apparent reason his teacher got so worried about the safety of her learners and shielded them from kicks and punches and led them out of class. When they were out of class Job grabbed one of the chairs and started pulling it round the class while making sound of a moving vehicle changing gears"

Closer analysis of Jobs behaviour indicated that Job engaged in this behaviour to get either attention or something that he wanted. For this occasion, he had the whole class for himself to pull a chair which was his favourite imaginative play for a vehicle. This behaviour resulted into rejection and general isolation of Job from other learners and teachers, factors that he greatly enjoyed, as he liked engaging in solitary stereotypic play of pushing and pulling chairs.

The rating of frequency of aggression by teachers in table 12 indicate that it was a significant challenging behaviour presented by learners with ASDs as all forms of aggression enlisted were exhibited by learners albeit in different frequencies. This finding supports Adams and Allen (2011) that was conducted to ascertain the nature of aggressive behaviour among learners with ASDs, which indicated that aggression, occurred at higher rate in the study group (60%) and the behaviours resulted into serious consequences to teachers. This also compares well with McDonnell et al., (2008) study in UK which rated the incidence of aggression at 2-15% in children with ASDs. This study also supports Samantha and Whitaker (2012) study in UK that involved 71 nurses and nurse assistants' management strategies of challenging behaviour presented by people with ASDs indicated that nurse assistant were more likely to receive injuries as part of their job with over 70% of the staff having received injuries.

Findings on the analysis of challenging behaviour presented by learners with ASDs is consistent with Studies that have investigated teachers' self reports on the frequencies and variability of challenging behaviour exhibited by learners with ASDs (Porter & Lacey, 2009 & Lambrechts and Maes , 2009). Porter and Lacey (2009) study indicated that teachers differed in their reports on the frequency of challenging behaviour. Lambrechts and Maes (2009) investigated whether teachers vary in their frequency reports on challenging behaviour concerning the same learner. They hypothesized that a range of teacher's characteristics, which could explain their variability to the challenging behaviour, presented, influences teacher's approaches to management of challenging behaviour. These characteristics that influence their choice included their age, gender, experience of working with people with disabilities, professional qualifications and their emotional reactions and beliefs regarding the challenging behaviour. The findings of Lambrechts and Maes (2009) study indicates that a part from variability between teachers reports on frequency of challenging behaviour,

working hours, internal attribution, gender and experience in working with people with developmental disabilities were the influencing variables. In the present study, the researcher subjected the data collected to correlations in order to identify whether there were any relationship between the frequency of rating the challenging behaviour and other variables such as experience of working with learners with ASDs, professional qualifications and the type of challenging behaviour rated.

Pearson product moment correlation was used first to find whether there was a relationship then give an indication of both the strength and direction of the relationship between the variables with assumption that there was linear relationship between the variables such as rating of frequency of challenging behaviour and experience of working with learners with ASDs.

Pearson product moment correlation is a measure of strength of a linear association between two variables. It attempts to show how well the data points fit the new model. The coefficient r takes the range of values from negative 1 to positive 1. A value greater than 0 indicates a positive association, that is, as the value of one variable increases, so does the value of other variable, on the other hand a value less than 0 indicates a negative association, that is, as the value of one variable increases, the value of the other variable decreases. The results are presented as shown in table 13.

Table 13: Correlations between ASDs Behaviours and Teachers Perception

		Gender	Age of respondent	Years of working	Experience of working with ASDs	Professional qualification
Mean of inappropriate vocal behaviour	Pearson Correlation	0.111	-0.148	.317**	-0.097	0.126
	Sig. (2-tailed)	0.257	0.129	0.001	0.324	0.198
	N	106	106	106	106	106
Mean of interpersonal behaviour	Pearson Correlation	0.09	-0.104	.270**	-0.152	-0.065
	Sig. (2-tailed)	0.358	0.288	0.005	0.123	0.51
	N	106	106	106	106	106
Mean of personal behaviour	Pearson Correlation	0.06	-0.07	-0.153	.211**	0.016
	Sig. (2-tailed)	0.538	0.479	0.117	0.009	0.867
	N	106	106	106	106	106
Mean of self injurious behaviour	Pearson Correlation	-0.022	0.005	.192*	-0.192	0.09
	Sig. (2-tailed)	0.82	0.957	0.048	0.05	0.361
	N	106	106	106	106	106
Mean of property damage	Pearson Correlation	0.006	0.015	-0.101	.199*	-0.097
	Sig. (2-tailed)	0.947	0.876	0.303	0.041	0.323
	N	106	106	106	106	106
Mean of stereotype behaviour	Pearson Correlation	0.025	-0.13	0.289**	.193**	-0.164
	Sig. (2-tailed)	0.798	0.183	0.003	0.369	0.093
	N	106	106	106	106	106
Mean of aggressive behaviour	Pearson Correlation	0.004	-0.191	.289**	-0.14	0.076
	Sig. (2-tailed)	0.967	0.05	0.003	0.155	0.439
	N	106	106	106	106	106

***. Correlation is significant at $p \leq 0.05$ level (2-tailed).**

****. Correlation is significant at $p \leq 0.01$ level (2-tailed).**

The results in table 13 indicate that there was a moderate positive relationship between experience of working with learners with ASDs and personal behaviour rating, (r=0.211, $p \leq 0.01$). Stereotype behaviour was also moderately correlated with experience, resulting in a low positive correlation, r=0.193, $p \leq .05$. Data also indicates that there was a moderately significant relationship between stereotype behaviours and years of working at 0.289 $p \leq 0.01$ and years of working and aggressive behaviour (r=0.289 $p \leq 0.01$). The rest of other challenging behaviours portrayed by learners with ASDs in public primary schools in Western Kenya did not significantly correlate with any of the teachers demographic factors. This indicates that teachers' demographic factors have moderate influence on rating of challenging behaviour presented by learners with ASDS. This finding is consistent with Lambrechts and Maes (2009) which established a positive relationship between rating of frequency of challenging behaviour and experience of working with people with disabilities. The finding is not consistent with Lam *et al*. (2007) study that found no significant rating of frequency of personal behaviour by teachers based on experience of working with learners with ASDs.

The teachers rating of the frequency of challenging behaviour presented by the learners with ASDs showed that all the 59 different types of challenging behaviours categorized into seven categories enlisted in the checklist occurred in schools in western Kenya albeit at different frequencies and percentages.

4.5. Strategies used in Management of Challenging behaviours Presented by Learners with ASDs

Data in this section was collected via the questionnaire and corroborated by semi structured interview schedules, document analysis and observation guide. The questionnaire used in this

section had 12 management strategies used in challenging behaviour listed and respondents were asked to rate them using letters A to F.

Table 14: Challenging Behaviour Management Strategies by Teachers

	A	B	C	D	E	F	Mean
Least restrictive							
Intensive interaction	83(78.3)	8(7.5)	7(6.6)	8(7.5)	0(0.0)	0(0.0)	1.51
Development of social understanding	45(42.5)	31(29.2)	30(28.3)	0(0.0)	0(0.0)	0(0.0)	1.86
Social stories	67(63.2)	16(15.1)	8(7.5)	15(14.2)	0(0.0)	0(0.0)	1.73
Gentle teaching	62(58.5)	7(6.6)	37(34.9)	0(0.0)	0(0.0)	0(0.0)	1.76
Behavioural therapy models	61(57.5)	21(19.8)	24(22.6)	0(0.0)	0(0.0)	0(0.0)	1.65
Experimental functional analysis	55(51.9)	15(14.2)	14(13.2)	7(6.6)	15(14.2)	0(0.0)	2.17
More Restrictive							
Pharmacology/medical	31(29.2)	8(7.5)	14(13.2)	8(7.5)	45(42.5)	0(0.0)	3.26
Mental health consultations	16(15.1)	15(14.2)	23(21.7)	14(13.2)	38(35.8)	0(0.0)	3.41
Augmentative communication	15(14.2)	23(21.7)	30(28.3)	7(6.6)	23(21.7)	8(7.5)	3.23
Structured teaching	29(27.4)	24(22.6)	29(27.4)	16(15.1)	0(0.0)	0(0.0)	2.49
TEACCH	23(21.7)	15(14.2)	23(21.7)	7(6.6)	38(35.8)	0(0.0)	3.21

The figures in brackets represent percentages while those without brackets represent frequencies.

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 intent to know about it and try it in future

F- I don't know about the strategy, I do not intend to know it I do not intend to try it in future

Table 14 indicates that intensive interaction was the strategy that was being used by teachers and the one that they had found effective 83 (78.3%) with a mean of 1.51. This finding indicates that teachers were aware of ASDs being rooted in difficulties with communication. The use of interactive strategies needs to be emphasized so that teachers can build relationships with pupils with ASDs, their siblings and family members. In using this approach, the specific development difficulties need to be taught directly and emotional warmth expressed explicitly as part of the management of challenging behaviour. In this approach, the behaviour management is very positive focusing on building the child's repertoire rather than getting rid of unwanted behaviours.

A small number of teachers 8 (7.5%) did not know about augmentative communication, had not tried it and did not intend to try it in future. This finding is not consistent with Bondy and Frost (2005) study that evaluated augmentative communication showing that it was one of the preferred methods by teachers. Their study found that augmentative communication led to gains in communicative ability including the development of speech. This is particularly impressive given that most children with ASDs engage in challenging behaviour as an alternative form of communication. This method should be encouraged given that learners with ASDs have difficulties in understanding speech and other forms of communication. Even where they have apparently good speech, their comprehension is likely to be limited (Abbott and Heslop, 2009). In addition, they may not be able to use speech to make their needs known. This makes them to resort to communicate in a way that may be viewed by others as challenging (Bondy and Frost 2008).

The findings indicated that mental health consultation was the least method used to manage challenging behaviour having only 16 (15.1%) teachers who had tried it and found it useful while 38 (35.8%) claimed to have had no knowledge about it and had no intention of trying it

in future. This finding contradicts the small but steadily growing body of research evidence that advocates the use of mental health consultation as the management strategy of choice for learners with ASDs (Perry *et al.* 2008; Allen et. al., 2009 & Nour, 2012). In particular this finding contradicts the findings by Perry *et .al.* (2008) in USA which found out that mental health consultation was used to address challenging behaviour of a sample of pre- school learners with ASDs. The learners' social skills improved by one standard deviation while their challenging behaviour reduced by half standard deviation.

The findings in Table 14 also indicates that a significant number of teachers had used medication and found it effective 31 (29.2%) though majority of teachers 45 (42.5%) had not tried using medication and not intended to use it. This supports current literature that indicates that medication as a choice of management strategy for learners with ASDs by teachers is steadily diminishing a factor that is well demonstrated by Emerson (2004) who conducted three surveys on strategies used by teachers in the management of challenging behaviour among learners with ASDs. The first survey consisting of 107 indicated that 67% of them had their challenging behaviour managed 'sometimes' or 'usually' by restraints, 68% by seclusion and only 6% by sedation. In the second survey, involving 68 learners with ASDs 46% had experienced restraints, 67% seclusion, and only 4% medication. The third survey involving 656 learners showed that 28% of their challenging behaviour was managed by physical restraint, 32 seclusions and only 1% sedation.

One of the interesting finding of this study in Table 14 was the small number of teachers who had tried the use of TEACCH and found it useful 23 (21.7%) against those who had not tried it and not intended to use it in future 38 (35.8%). Teachers need to be encouraged to use this approach because it is one of the longest established method of teaching learners with ASDs (Jones & Jordan, 2005; Mesibov, 2005 & Mesibov *et al*, 2006). It is a very important

methodology as it is based on structured teaching to deal specifically with the challenges experienced by learners with ASDs in understanding, predicting and controlling their environment (Jones and Jordan, 2005; Mesibov, 2005). TEACCH communicates information visually, teaches a learner about their environment, the concept of cause and effect and communication (Mesibov *et al*, 2006). Teaches need to use the method as it stresses on the main four elements of learning for learners with ASDs which are physical structure; daily schedules or time tables; work systems and visual instructions which are likely to play a pivotal role in challenging behaviour management.

Interview schedules data on strategies used in the management of challenging behaviour identified five clear themes which can be grouped into humanistic, psychodynamic, biological, ecological and systemic. Major themes in humanistic perspective, teachers advocated on focus quality of relationship with learners, use of active listening to learners, building self esteem, blaming the behaviour and not the child, accepting the child though not the behaviour. In psychodynamic, the common themes revolved on experiences of early years as the major contributor to challenging behaviour. Strategies that emerged included use of intervention strategies that help the learner to process unresolved unconscious emotions, use of play and drama therapy, therapeutic recreation such as hydrotherapy and referring learners to specialists. The biological theme had the use of medication as the main management strategy. The ecological theme identified management strategies such as considering the implications of classroom, lay out and décor, insight on how different seating arrangement affects certain learners. The systemic theme identified considerations such as the impact of whole school ethos on behaviour, working in partnership with parents and forming links with community. The social learning identified simple strategies such as setting of role models and building warm relationships with learners who present challenging behaviour. This finding is

consistent with the finding of Male (2004) which indicated that teachers had a wide range of strategies that they used to manage challenging behaviour presented by learners with ASDs.

4.5.1 Model Summary of Teachers Challenging Behaviour Management Strategies

Table 15: Model Summary

Model	R	R Square	Adjusted R Square	R Square Change	F Change	df1	Sig. F Change
1	0.084[a]	0.007	0.016	0.007	0.313	3	0.816
2	0.236[b]	0.055	0.019	0.048	3.333	2	0.039

a).Predictors: (Constant), years of working, gender, age of respondent

b).Predictors: (Constant), years of working, gender, age of respondent, professional qualification

c).Dependent Variable: total management strategies used

To show the interaction of teachers' demographic variables and challenging behaviour management strategies a model summary was developed as illustrated in table 15. In the table, R square stands for the coefficient of determination, that is, the amount of variation in the dependent variables: total management strategies of challenging behaviour used by teachers. Therefore the model summary as shown in Table 15 shows that before controlling the variables such as age, gender and years of working the variance was 0.7% and after controlling the variables the variance of independent variables was 5.5% which was low. This indicates that the overall model predicted 5.5% of variation in the choice of management strategies by teachers. It thus emerged that demographic variables influenced teachers' choice of challenging behaviour management strategies by 5.5%. The results clearly imply that demographic variables have a moderately significant role in teacher's choice of challenging behaviour management strategies especially professional qualifications. This finding was supported by observation and interview schedule findings which indicated that, teachers who

were more qualified chose strategies that were least restrictive such as intensive interaction social stories and gentle teaching as compared to those who had low qualification who chose more restrictive strategies such as medical, mental health consultation and structured teaching. Likewise, teachers who had more years of working and more experienced with learners with ASDs used least restrictive strategies while those with less experience used more restrictive strategies that were controlling in nature. Age and gender had no impact on the teacher's choice of challenging behaviour management strategies.

To further determine the influence of demographic factors on the choice of challenging behaviour management strategies a multiple regression was carried out as illustrated in section 4.5.3.

4.5.2 Multiple Regression on Challenging Behaviour Management

Table 16: Multiple Regression on Choice of Management Strategies by Teachers.

	B	Beta	T	Sig
(Constant)	4.887		9.746	.000
Age of respondent	-.055	.013	-.138	.890
Gender	.461	.040	.452	.652
years of working	.462	.211	3.888	.006
professional qualification	1.056	.247	4.665	.004
Experience in years with learners with ASDs	-.370	.188	-2.175	.031

To find out the influence of age, gender, professional qualifications, and work experience on choice of management strategies, a multiple hierarchical regression analysis was carried out as shown in table 16. The results clearly indicates that professional qualification had the highest significant unique contribution to the choice of management strategies, (β=0.247, $p \leq .05$). Years of working had the second highest contribution, (β= 0.211, $p \leq .05$) and finally, experience in years moderately contributed as well, (β=0.188, $p \leq .05$). On the other

hand, gender, and age of the teachers did not have significant contribution on the choice of management strategies. A finding that is not consistent with Lambrechts and Maes (2009) study that found a significant relationship between management strategies and age and gender of respondents.

4.6 Cognitive Perceptions of Challenging Behaviours

To elicit the teachers cognitive perception of challenging behaviour presented by learners with ASDs, a questionnaire was constructed having five subscales as consequences of challenging behaviour to the learner presenting the behaviour. These were consequences to the teacher managing the behaviour; control for the teacher –whether the teacher perceives the challenging behaviour as manageable. Other attributes examined were time line chronic/acute – whether the behaviour is perceived to be permanent or time line episodic – whether the behaviour is seen as something that comes and goes. The information is presented in table 17.

Table 17: Cognitive Perception of Challenging Behaviour

Cognitive Perception	Mean
Consequences to the Learner	
Challenging behaviour has had a major consequence on lives of learners with ASDs	3.77
Challenging behaviour doesn't have great impact on their lives	3.48
Challenging behaviour is very disabling for learners with ASDs	3.65
Overall Mean	3.6
Consequence to the Teacher	
Learners with ASDs challenging behaviour has affected the way I see myself as a person	3.64
Control by the Teacher	
There is a lot that I can do to control their behaviour	3.66
What I do determines whether their behaviour gets better or worse	3.91
Overall mean	3.78
Timeline Chronic	
Learners with ASDs challenging behaviour is likely to be permanent than temporary	3.93
Timeline Episodic	
Learners with ASDs challenging behaviour would last for a long time	3.81
There would be periods of lots of challenging behaviours and periods for improvement	3.75
Overall Mean	3.78

KEY: 1=SD- Strongly disagree; 2=D- Disagree; 3=NAD- Neither agree or disagree; 4=A- Agree; 5=SA- Strongly agree

Table 17 indicates that a significant number of teachers with a mean of 3.77 perceived challenging behaviour as having negative consequences to the learners with ASDs. This supports McDonnell et al., (2008) study that highlighted the negative consequences of aggression as rejection by peers, teachers and family members, increased use of psychotropic medication, injuries to self, peers, teachers and increased costs of living. The teachers' perception that challenging behaviour has negative consequence to the learner also supports the findings of Crossland (2009) who points out that challenging behaviour engaged in by

learners with ASDs can result into negative consequences for these learners such as being physically and socially excluded from services or neglected by teachers . It may hinder the learner and other learners from learning, endanger the learners life and that of other learners, cause great strain and stress to the learner others and teachers and may put the learner on high risk category for later social problems, school failure or drop out.

Data analysis in Table 17 clearly indicates that high number of teachers perceived challenging behaviour as having great impact on the lives of learners with ASDs with a mean of 3.48. Again, this finding is consistent with other studies (Male, 2004 & Porter and Lacey, 2009). Some of the perceived social negative impacts of challenging behaviours mentioned by teachers in the Male (2004) study included isolation from peers; reduced access to the curriculum; reduced opportunities for participation in extracurricular activities; and risk of injury to self or others. Teachers in the Porter and Lacey (2009) study mentioned negative impacts such as missing out on leisure and social activities and reduced contact with their peers and the wider community. Observation data as noted in the researcher's diary on case of Felix, one of the boys in a special school visited illustrates some of these negative consequences:

[Felix had difficulty with impulse control and seemed to experience problems sitting still, focusing on his work and solving any conflict arising with his peers in a non aggressive manner. Frequently he could talk out of turn and would also disrupt other learners and hit them without provocation. In most cases, he would not comply with teacher's request. These factors made Felix to be disliked by peers and teachers alike. It was not a surprise when it came to class trip to the agricultural show when Felix was excluded from going to the show with other learners as no teacher was willing to take him in their group]

Table 17 indicates that the overall mean of perception of teachers as being able to control challenging behaviour presented by learners with ASDs was 3.78. This suggests that teachers were confident in managing challenging behaviour presented by learners with ASDs. This

finding has a direct implication to management of challenging behaviour presented by learners with ASDs. It implies that teachers would resort to the use of better challenging behaviour management strategies. They may also develop positive attitudes to learners with ASDs who present challenging behaviour.

Table 17 indicates that the overall mean for the teachers who viewed challenging behaviour as time line chronic had a mean of 3.93 while those who viewed it as time line episodic registered a mean of 3.78. The magnitude of the differences in the means was moderately significant (0.06). This finding has some implication to the choice of challenging behaviour management strategies. Teachers who viewed challenging behaviour presented by learners with ASDs as time line episodic were more likely to perceive challenging behaviour in a positive way and choose behaviour management strategies that are least restrictive. On the other hand, teachers who viewed challenging behaviour as a permanent future are likely to view it in negatively and choose more restrictive methods of challenging behaviour management strategies. There was need to investigate these two variables and determine their influence on teachers choice of challenging behaviour management strategies.

4.7 Cognitive Perception on the Choice of Challenging Behaviour

To establish the influence of teacher's cognitive perception on the choice of challenging behaviour strategies, Pearson correlation coefficient was carried out. The results are presented in table 18.

Table 18: Correlation of Cognitive Perception of Challenging Behaviour and Choice of Management Strategies.

		timeline episodic	timeline chronic	consequence to the teacher	consequence to the learners	Control by the teacher
intensive interaction	Pearson Correlation	.271**	.309**	0.109	0.094	.438**
	Sig. (2-tailed)	0.005	0.001	0.268	0.338	0
	N	106	106	106	106	106
development of social understanding	Pearson Correlation	.330**	.451**	0.093	-0.074	.287**
	Sig. (2-tailed)	0.018	0	0.342	0.448	0.003
	N	106	106	106	106	106
social stories	Pearson Correlation	0.167	0.142	0.117	-0.071	.429**
	Sig. (2-tailed)	0.088	0.145	0.233	0.472	0
	N	106	106	106	106	106
gentle teaching	Pearson Correlation	0.187	.386**	0.01	0.139	.473**
	Sig. (2-tailed)	0.055	0	0.922	0.154	0
	N	106	106	106	106	106
behaviour therapy model	Pearson Correlation	.421**	-.333**	-0.101	-.230*	-.317**
	Sig. (2-tailed)	0.017	0	0.303	0.018	0.001
	N	106	106	106	106	106
experimental function analysis	Pearson Correlation	.255**	0.024**	0.066	-0.058	.283**
	Sig. (2-tailed)	0.008	0.809	0.502	0.553	0.003
	N	106	106	106	106	106
pharmacology or medical	Pearson Correlation	0.065	0.046	-0.16	-.408**	-0.081
	Sig. (2-tailed)	0.509	0.638	0.101	0	0.412
	N	106	106	106	106	106
mental health consultations	Pearson Correlation	0.294**	-0.162	-0.005	.195*	.243*
	Sig. (2-tailed)	0.002	0.097	0.962	0.045	0.012
	N	106	106	106	106	106
augmentative communication	Pearson Correlation	384**	-.196*	-0.121	-.199*	-.196*
	Sig. (2-tailed)	0	0.044	0.218	0.041	0.044
	N	106	106	106	106	106

*. Correlation is significant at the $p \leq .05$ level (2-tailed).

**. Correlation is significant at the $p \leq .01$ level (2-tailed).

The results in Table 18 indicate that there was a relationship between cognitive perception of challenging behavior and choice of management strategies. First, there is a relationship between the challenging behaviours presented by learners with ASDs being time line chronic and the choice of gentle teaching management strategy(r= 0.386, $p \leq 0.01$), behavior therapy model (r=0.333, $p \leq 0.01$). Analysis also indicate a moderate correlation between time line chronic and choice of more restrictive management strategies such as augmentative communication(r=0.384 $p \leq 0.01$), mental health consultation(r= 0.294 $p \leq .05$) and Functional Experimental analysis(r= 0.255 $p \leq 0.01$). The results also indicate a moderate significant correlations between time line episodic and choice of least restrictive management strategies such as intensive interaction (r=271 $p \leq 0.01$), development of social stories (r=0.330 $p \leq 0.01$) behavior therapy model(r=421 $p \leq .05$). It is evident from the study that teachers who perceived the behaviour presented by learners with ASDs as timeline chronic chose mental health consultations as their management strategies as indicated by a correlation (r=0.348 $p \leq 0.01$). This finding clearly indicates that teachers who perceived challenging behaviour presented by learners with ASDs as a temporary feature were more likely to use less restrictive challenging behaviour management strategies such as intensive interaction while those who perceived it as a permanent future chose more restrictive strategies such as mental health consultation.

This finding supports Werner's (1980) theory of helping behaviour. The theory states that the cognitive perception made about a person and his/her behaviour will affect the feelings of a care giver which in turn would eventually affect carer givers willingness to help the person presenting the behaviour. Succinctly, this finding supports a small but steadily growing body of research evidence that has investigated teachers' perception of challenging behaviour and choice of management strategies (Wanless & Jahoda; Williams, 2008 & Dgnan, 2011). These

studies suggest that interpretation of challenging behaviour as either being permanent or temporary and subsequent emotions exert an effect on choice of management strategies.

To further determine the cognitive perception of challenging behaviour three variables were correlated to choice of challenging behaviour management strategies. These variables were how teachers' perceived behaviour presented as having consequence to the learner; consequence to the teacher and whether the teachers viewed their ability to control the challenging behaviour presented.

The results in Table 18 further show that there is a moderate relationship between teacher's cognitive perception and choice of management strategies. This is indicated by a positive correlation between consequence to the learner and the choice of management strategies which include; behaviour therapy model (r= 0.230, $p \leq .05$), pharmacology/medical (r= 0.408, $p \leq 0.01$), mental health consultations(r= 0.195, $p \leq .05$), and augmentative communication(r= 0.199, $p \leq .05$). There is also a moderate relationship between control by the teacher and intensive interaction, (r=0.438, $p \leq 0.01$), development of social understanding(r= 0.287, $p \leq 0.01$), social stories(r= 0.429, $p \leq 0.01$), gentle teaching (r=. 0473, $p \leq 0.01$), behaviour therapy model(r= 0.317, $p \leq 0.01$), experimental function analysis(r= 0.283, $p \leq 0.01$), and mental health consultations(r= 0.243, $p \leq 0.01$). A moderate positive relationship existed between teachers who viewed challenging behaviour presented by learners with ASDs as having consequences to the teachers and the choice of more restrictive strategies which included mental health consultations(r= 0.559, $p \leq 0.01$) and pharmacology (r= 0.611, $p \leq 0.01$). This finding supports Montgomery, *et al.* (2014) that identified challenging behaviour presented by learners with ASDs as a major source of intense stress leading to dissatisfaction and high attrition in teaching career. An earlier study,

Hastings and Brown (2002) demonstrated that when teachers are faced with cases of challenging behaviours they mostly use maladaptive coping strategies which in addition to the risk of strengthening challenging behaviour portrayed are likely to lead to burn out and emotional exhaustion among teachers. This clearly indicates that challenging behaviour presented by learners with ASDs has negative consequences to the teacher and would influence the choice of more restrictive behaviour management strategies. This factor needs to be taken into consideration when training teachers teaching learners with ASDs on challenging behaviour management strategies. The training should target their cognitive perception of challenging behaviour so that they perceive the behaviour presented by learners with ASDs in a more positive way.

4.7 Teacher's Attitude towards Challenging Behaviour

In order to determine the teacher's attitude towards challenging behaviour presented by learners with ASDs in public primary schools in western Kenya, 19 variables both positive and negative feelings were identified in the literature on how teachers feel towards challenging behaviour presented by learners with ASDs and put on a five point rating scale. Teachers were asked to rate their attitudes towards challenging behaviour presented by learners with ASDs.

Table 19: Teachers Rating of Positive Attitude of Challenging Behaviour

Attitude	Not at all f (%)	Slightly f (%)	Moderately f (%)	Very much f (%)	Mean	Std
Confident	50(47.2)	46(43.4)	6(5.7)	4(3.8)	1.60	.817
Comfortable	50(47.2)	47(44.3)	8(7.5)	1(.9)	1.62	.706
Happy	44(41.5)	46(43.4)	10(9.4)	6(5.7)	1.79	.786
Self assured	54(50.9)	48(45.3)	3(2.8)	1(.9)	1.54	.72
Relaxed	60(56.6)	35(33.0)	11(10.4)	0(0.0)	1.54	.667
Cheerful	65(61.3)	33(31.1)	6(5.7)	2(1.9)	1.48	.644
Excited	57(53.8)	38(35.8)	10(9.4)	1(.9)	1.58	.696
Overall mean					1.60	

Frequency Table 19 indicates that 50 (47.2%) felt that they were not confident in managing challenging behaviours presented by learners, 46(43.4%) of teachers felt that they were slightly confident, while only 4(3.8%) of the teachers felt that they were very much confident in managing challenging behaviour. The findings indicate that majority of teachers felt that they were not confident in managing challenging behaviour presented by learners with ASDs. This lack of confidence in managing challenging behaviour of learners with ASDs is likely to make these teachers vulnerable to experiencing negative emotional reactions, which can lead to stress and burn out (Palucka & Lunsky, 2007). This will make them use behaviour management strategies such as the use of aversive stimulus that in turn may contribute to development and maintenance of challenging behaviour. Concerted efforts need to be made to ensure that teachers feel confident in managing challenging behaviour. This can be achieved by giving them practical skills of managing challenging behaviour and establishment support networks with other professionals.

Frequency Table 19 indicates that 50(47.2%) teachers were not comfortable with challenging behaviour presented by learners with ASDs, 47(44.3%) were slightly comfortable, and only 1(1.9%) felt that they were very much comfortable. The finding indicates that a very small percentage of teachers were comfortable with challenging behaviour presented by learners with ASDs. This indicates that teachers were having negative feelings towards challenging behaviour presented by learners with ASDs. This compares well with Male (2004) study in which teachers also displayed negative feelings towards challenging behaviour.

Table 19 indicates that 46 (43.4%) of the teachers felt slightly happy towards challenging behaviour and only 6(5.7%) felt very much happy towards challenging behaviour presented by learners with ASDs. This finding indicates that a small percentage of teachers felt very much happy towards challenging behaviour presented by learners with ASDs. This low

positive attitude towards challenging behaviour could be an indication of a belief that a learner with ASDs is purposively presenting challenging behaviour which often leads to avoidance behaviour where by teachers withdraw from the learner rather than offer the much needed help (Grey et.al., 2002 & Whitaker, 2008).

Closely related to the feeling comfortable to the challenging behaviour presented by learners with ASDs was the feeling of self assured. Data in table 19 indicates that only 3 (2.8%) teachers felt moderately self assured while the highest number 54 (50.9%) teachers felt that they were not at all self assured. This feeling may be an indicator that teachers do not trust their own ability in managing challenging behaviour presented by learners with ASDs. This feeling is likely to contribute to the development and maintenance of challenging behaviour (Samantha and Whitaker, 2012). If it is not properly addressed it is likely to lead to teachers' stress and burnout (Hastings, 2002; Palucka and Lunsky, 2007).

Table 19 indicates that 54(50.9%) teachers felt not at all relaxed, 48(45.3%), were slightly relaxed; 3(2.3%) moderately relaxed and only one teacher (.9%) felt very relaxed. The finding indicates a negative feeling towards challenging behaviour presented by learners with ASDs. Proper management of challenging behaviour requires teachers to be relaxed so that that they can be able to carry out functional analysis of the behaviour in order to establish the environmental consequences that could be maintaining the challenging behaviour (Crossland, 2009).

One of the most important finding of the present study was the teachers feeling cheerful towards challenging behaviour presented by learners with ASDs. Data in Table 19 indicates that 65(61.3%) of the teachers felt not at all cheerful; 33(31.1%) slightly cheerful; 6 (5.7%), moderately cheerful and only 2 (1.9%), very much cheerful. This finding indicates that a large percentage of teachers were not at all cheerful towards challenging behaviour presented

by learners with ASDs. This finding is consistent with Male (2004) which indicated that teachers' attitudes towards challenging behaviour were predominantly negative. They expressed negative emotions such as frustration, anger, stress and hardly positive emotions such as feeling cheerful towards the anger. Such negative emotions need to be avoided by teachers and be encouraged to develop attitudes that are more positive. Negative attitudes are likely to lead to negative social and educational consequences for these learners with ASDs such as isolation from peers; reduced access to the curriculum; reduced opportunities for participation in extracurricular activities; risk of injury to self, missing out on leisure and social activities and reduced contact with their peers and the wider community.

Closely related to the feeling cheerful towards challenging behaviour presented by learners with ASDs was the feeling of excited. Teachers rating on excitement in Table 19 shows that 57(53.8%) of the teachers felt not excited, 38(35.8) slightly excited, 10(9.6%) said they were moderately excited while only 1 (.9%) felt very much excited towards challenging behaviour presented by learners with ASDs. This may imply that they were having negative attitudes towards the challenging behaviour.

This finding on the rating of affects compares well with Dagnan (2011) study that clearly identified teacher's emotional reactions where clear negative emotions accounted for 62.2%, anger, 40.6% sadness 14.2% and positive emotions accounted for 13.5%. This finding supports Werner (1980) attribution theory of helping behaviour and to some extend may be used to predict the attitudes of teachers towards the challenging behaviour presented by learners with ASDs. Belief that a learner with ASDs is purposively presenting challenging behaviour may often lead to avoidance behaviour where by teacher withdraw from the learner rather than offer the much needed help (Dagnan 2011). This finding has clinical implications to management of challenging behaviour. It supports a small but steadily growing body of research evidence which suggests that teachers' negative attitudes towards challenging

behaviour presented by learners with ASDs makes them vulnerable to experiencing negative emotional reaction which can lead to stress and burn out (Hastings, 2002; Palucka & Lunsky, 2007; Singh *et al*., 2007; Crossland, 2009; Patel & Prince, 201 0 & Dagnan 2011). There is also small but convincing body of research evidence which indicates that teachers negative attitudes towards challenging behaviour presented by learners with ASDs often contributes to development and maintenance of challenging behaviour while positive attitudes leads to decrease of challenging behaviour (Bailey et. al., 2006; Crossland, 2009; Williams, 2008; & Crossland, 2009).

Table 20: Teachers Rating of Negative Feelings of Challenging Behaviour

Attitude	**Not at all** f (%)	**Slightly** f (%)	**Moderately** f (%)	**Very much** f (%)	**Mean**	**Std**
Guilty	18(17.0)	48(45.3)	38(35.8)	2(1.9)	1.25	.80
Hopeless	8(7.5)	45(42.5)	51(48.1)	2(1.9)	1.46	.72
Afraid	9(8.5)	44(41.5)	53(50.0)	0(0.0)	1.42	.64
Angry	11(10.4)	42(39.6)	49(46.2)	4(3.8)	1.47	.83
Incompetent	8(7.5)	56(52.8)	39(36.8)	3(2.8)	1.38	.75
Frustrated	9(8.5)	46(43.4)	45(42.5)	6(5.7)	1.51	.87
Helpless	15(14.2)	49(46.2)	35(33.0)	7(6.6)	1.39	.96
disgusted	12(11.3)	48(45.3)	43(40.6)	3(2.8)	1.39	.84
Resigned	6(5.7)	33(31.1)	56(62.3)	1(.9)	1.60	.69
Humiliated	60(56.6)	40(37.7)	3(2.8)	3(2.8)	1.52	.69
Betrayed	5(4.7)	41(38.7)	57(53.8)	3(2.8)	1.58	.72
Sad	41(38.7)	64(60.4)	1(.9)	0(0.0)	1.63	.54
Overall mean					1.69	

Frequency table 20 indicates that 18(17. %) of the teachers did not feel guilty while managing challenging behaviour presented by learners with ASDs, 48(45.3%) felt slightly guilty and only 2(1.9%) of the teachers felt very much guilty towards challenging behaviour. The findings indicate that significant number of teachers did not feel guilty towards challenging behaviour presented by learners with ASDs. However, a significant number of teachers felt slightly guilty towards challenging behaviour. This finding is consistent with Male (2004)

which indicated that teachers were concerned about challenging behaviour and found it stressful, while considering themselves to be effective in dealing with the behaviour a significant proportion of teachers reported feeling frustrated by it, angry, upset and at loss. Probably, teachers in the present study were following Weiner's (1980) attribution theory of helping behaviour (Dagnan, 2011). This theory states that the cognitive appraisal made about a person and his/her behaviour will affect the feelings of the care staff, which in turn would eventually affect the care staff willingness to help that person.

The rating of feeling hopeless towards challenging behaviour exhibited by learners with ASDs in Table 20 indicate that 2(1.9%) of the teachers felt very much hopeless towards challenging behaviour presented by learners with ASDs, 45(42.5%) felt slightly hopeless and 8(7.5) felt not at all hopeless. This finding indicates that majority of teachers were positive about challenging behaviour presented by learners with ASDs. This 'hopeful feeling' needs to be encouraged so that teachers can develop positive feelings in order to view challenging behaviour as time line episodic and not a permanent feature on learners with ASDs

Table 20 indicates that 9(8.5%) of the teachers were not afraid of challenging behaviour presented by learners with ASDs 44(41.5%) were slightly afraid, 53(50%) were moderately afraid and no teacher was very much afraid. This indicates that a significant number of teachers felt afraid of challenging behaviour presented by learners with ASDs. Data from interview schedule revealed that most teachers feared the aggression displayed to them whenever they tried to manage the challenging behaviour. This finding is consistent with Samantha and Whitaker (2012) in USA that found out that nurse assistant were more likely to receive injuries as part of their job with over 70% of the staff having received injuries when working with people with developmental disabilities.

One teacher who had worked with these learners for more than ten years lamented during the interview:

"In old days we used to go to break away techniques to restrain them, but now you can't touch them, you have to talk to them, calm them and sometimes it can be very dangerous especially they can come up with a knife and stuff like that"

There was evidence of this potential danger of aggression towards teachers as documentary data showed that within a period of three years eight incidents of teachers being physically assaulted by learners had been recorded in logbooks in three different schools that were under this study.

Closely related to the feeling afraid to challenging behaviour presented by learners with ASDs was the teachers' feeling angry. Data in Table 20 indicates that 42(39.6%) of the teachers felt slightly angry at the challenging behaviour presented by learners with ASDs that learners 4(3.8%) felt that they were very much angry towards challenging behaviour presented by learners with ASDs in public primary schools in western Kenya. This finding indicates that teachers had negative attitudes towards challenging behaviour presented by learners with ASDs. This supports Dagnan (2011) study, which found out that a teacher would be more sympathetic and hence more helpful if the cause of the learner's behaviour is outside the learners control for example caused by autism. Conversely, a teacher will be angrier and less helpful if the cause of the learners Challenging behaviour is seen as within the learners control for example the learner knows and he/she is aware of the challenging behaviour he/she is presenting.

For effective management of challenging behaviour competency is a virtue that all teachers should strive to posses. Data in table 20 indicates that a very large number of teachers felt slightly incompetent 56(52.8%) and moderately incompetent 39(36.8%). Concerted efforts

need to be made in boosting the morale of teachers so that all of them develop confidence towards management of challenging behaviour presented by learners with ASDs.

Table 20 shows that significant number of teachers felt frustrated towards challenging behaviour presented by learners with ASDs 46(43.4%) while only 9(8.5%) felt that they were not frustrated at all. This study compares well with Male (2004) study that rated teachers' feelings towards challenging behaviour which indicated feeling of frustration48%; anger 18; stress 27% and determination only 7%.

The findings in Table 20 indicates a significant number of teachers felt helpless 49(46.2%) and moderately helpless 35(33 %) towards challenging behaviour presented by learners with ASDs. A small percentage of teachers felt not at all helpless 15(14.2%). This finding is consistent with Bromley and Emerson (2008) study in UK on challenging behaviour in a single metropolitan borough which indicated that teachers reported a significant proportion of such emotional reactions as sadness, despair, anger, annoyance, fear and disgust to episodes of challenging behaviour presented by learners with ASDs.

Table 20 shows that 12(11.3%) of the teachers were not disgusted towards challenging behaviour presented by learners with ASDs and only 3 (2.8%) felt that they were very much disgusted this may indicate positive feelings towards challenging behaviour. However, the number of teachers who were slightly and moderately disgusted was significantly high 48(45.3%) and 43(40.6%) respectively. This indicates that a large number of teachers were feeling disgusted towards challenging behaviour presented by learners with ASDs. It would be advisable for these teachers to use the gentle teaching strategy focusing on building of warm and affectionate relationship, value and respect of learner's feelings, redirecting bad behaviours and sometimes ignoring them. Slowly by slowly learners with ASDs may come to accept that the teachers' presence signals safety, their words are rewarding and participation

in acceptable activities can bring rewards. This method may require the teachers to adopt a posture of solidarity and actively strive to communicate to the learner in spite of a range of behaviours presented. Unlike the proponents of behaviour modification who may show warm relationship as a consequence of desirable behaviour, teachers using gentle teaching need to make it available at all times irrespective of the behaviours presented.

The frequency inTable 20 shows that 6(5.7%) of the teachers were not at all resigned; 33(31.1%), slightly resigned; 56(62.3%) moderately resigned and only 1(.9%) very much resigned towards challenging behaviour presented by learners with ASDs. Just like other findings in the present study, a significant number of teachers felt slightly resigned towards challenging behaviour presented by learners with ASDs. This finding is consistence with other findings within the care sector (Males, 2004; Williams, 2008 & Hastings 2008) teachers who work with learners who show challenging behaviour have reported feelings of anger, annoyance, anxiety and being upset. Put in an educational perspective, challenging behaviour may cause severely restricted access to the curriculum or exclusion of the pupil from school. These studies point out that Learners displaying challenging behaviour are a major source of intense stress in the lives of teachers.

This feeling of being resigned creates a negative connotation that these teachers had given up in their search for better management strategies of challenging behaviour presented by learners with ASDs and have left its management to fate or to chance. This feeling coupled with their negative attitudes is likely result into personal and social consequences to the learner who engages in challenging behaviour such as being physically and socially excluded from services or neglected by teachers (Hastings 2008). The consequences of challenging behaviour may also be direct via response to challenging behaviour by teachers and may

result into abuse, exclusion, deprivation, inappropriate treatment or systematic neglect (Male, 2004; Rose and Rose, 2005).

On the other hand data on feeling humiliated in Table 20 indicates that 60 (56.6) of the teachers felt not at all humiliated, 40(37.7) slightly humiliated; 3(2.8), moderately and very humiliated 3 (2.8). Teachers who found the challenging behaviour presented by learners with ASDs not humiliating was significantly high and indicates a positive attitude towards challenging behaviour presented by learners with ASDs. The number of teachers who however rated challenging behaviour as slightly humiliating was also high 40(37.7). This high number of teachers who felt slightly humiliated is an indicator that most of them were likely to use maladaptive coping strategies, which in addition to the risk of strengthening the challenging behaviour portrayed are likely to lead to burn out and emotional exhaustion among the teachers (Hastings, 2008). This calls for radical changes in organizational structures to make them responsive to the needs of learners with ASDs in order for these schools to act as potential basis for holistic development of this group of learners.

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Data in Table 20 indicates that the number of teachers who felt slightly betrayed by challenging behaviour was 41(38.7), moderately betrayed 57(53.8) and very much betrayed 3 (2.8). The finding indicates that a significant number of teachers felt betrayed by challenging behaviour presented by learners. This is an indication that they perceived learners with ASDs were purposively presenting challenging behaviour a finding that is consistent with earlier research (Male, 2004; Williams, 2008 & Crossland 2009). This will make them perceive challenging behaviour as something that is within the learner and not because of learners interaction with the environment (Porter & Lacey, 2009). This perception may hinder them from examining how the environment that they provide contributes to the emergence and maintenance of challenging behaviour.

The frequency Table 20 shows that 41(38.7) of the teachers were not sad at all; 64(60.4), slightly sad; 1(.9), moderately sad. The findings indicate that a good number of teachers felt slightly sad towards challenging behaviour presented by learners with ASDs. This feeling of sadness is likely to lead to stress and burn out among teachers (Singh, et.al., 2007). Stress is an important factor in both the development and the success of intervention of challenging behaviour. In order for teachers to succeed in management of challenging behaviour, they need to be trained in new management strategies such as mindfulness. This would definitely make them to have a clear mind that is focused on challenging behaviour in a non-judgmental way (Patel & Prince, 2010). Such a mind would allow them to respond to challenging behaviour presented by learners with ASDs in alternative way that goes beyond traditional behaviour analytic techniques such as antecedent consequence management. Such strategy can result into transformational changes enabling teachers to produce positive changes in challenging behaviour, learning and well-being of learners with ASDs.

Findings on the attitude towards challenging behaviour presented by learners with ASDs indicates that teachers rated negative feelings of being guilty, hopeless, afraid angry, incompetent, frustrated, helpless, disgusted, resigned, humiliated betrayed and sad higher than the positive feelings of confident, happy, self assured, relaxed, cheerful and excited.

Observation data on teachers attitudes towards challenging behaviour presented by learners with ASDs fall into two broad themes; ‘falling apart’ and ‘keeping together’ The former was a broad theme of anger, sadness, fear, and feeling powerless when learners were presenting challenging behaviour. The later was a theme that described positive experience of pleasure when assisting the learner, being reflective about one’s own practice and respect of a learner with ASDs who displayed challenging behaviour. Most of the observations were falling under the ‘falling apart’ theme.

While remaining mindful of the vulnerability of learners with ASDs to abusive, aversive or restrictive practices, it is evident that these negative emotional reactions by teachers who seem to be highly stressed or who are expressing feelings of anger, frustration, helplessness, disgust to challenging behaviours presented by these learners does not augur well for these learners. There is urgent need to establish the cause of these feelings so that urgent measures are taken to make teachers develop positive feelings towards challenging behaviour presented by learners with ASDs. Teachers need to be given sufficient skills to deal with this behaviour. This calls for boosting of teachers' confidence through training and providing management support to remove their negative perception of challenging behaviour. The training and support should take into account Werner's (1980) theory so that they address the teachers' cognitive and emotional responses to challenging behaviour. This to some extent will give the teachers skills and knowledge to positively interact with learners with ASDs. In principle, these findings support earlier studies (Male, 2004 & Hastings, 2008) which indicated that the care sector, staff working with learners who show challenging behaviour have reported feelings of anger, annoyance, anxiety and being upset and that in an educational setting challenging behaviour may cause severely restricted access to the curriculum or exclusion of the pupil from school. Learners displaying challenging behaviour are also a major source of intense stress in the lives of teachers.

Table 21: Relationship between Teachers' Attitudes towards Challenging Behaviours and the Choice of Management Strategies

		Attitude
Intensive interaction	Pearson Correlation	.438**
	Sig. (2-tailed)	0
Development of social understanding	Pearson Correlation	.287**
	Sig. (2-tailed)	0.003
Social stories	Pearson Correlation	.429**
	Sig. (2-tailed)	0
Gentle teaching	Pearson Correlation	.473**
	Sig. (2-tailed)	0
Behaviour therapy model	Pearson Correlation	-.317**
	Sig. (2-tailed)	0.001
Experimental function analysis	Pearson Correlation	.283**
	Sig. (2-tailed)	0.003
Pharmacology or medical	Pearson Correlation	-0.081
	Sig. (2-tailed)	0.412
Augumentative communication	Pearson Correlation	-.196*
	Sig. (2-tailed)	0.044
Mental health consultations	Pearson Correlation	.243*
	Sig. (2-tailed)	0.012
TEACCH	Pearson Correlation	-0.168
	Sig. (2-tailed)	0.085

**. Correlation is significant at the $p \leq 0.01$ level (2-tailed).

*. Correlation is significant at the $p \leq .05$ level (2-tailed).

The results in Table 21 indicate that there is a moderate significant relationship between attitude of teachers and the choice of management strategies that are either least restrictive or more restrictive. First, there is a moderate relationship between positive attitudes and the choice of least restrictive management strategies such as intensive interaction (r= 0.438, $p \leq 0.01$); development of social understanding, (0.287, $p \leq 0.01$); social stories, (r=0.429, $p \leq 0.01$); gentle teaching, (r= 0.473, $p \leq 0.01$); and behavior therapy (r=0. 317, $p \leq .05$). Negative attitudes were correlated to more restrictive strategies such as experimental functional analysis, (r=.283, $p \leq .05$) and mental health consultations, (r= 0.243, $p \leq .05$). The finding of the present study indicates that there is a moderate significant relationship between teacher's attitudes and the choice of challenging behaviour management strategies.

This implies that teachers who had positive attitudes towards challenging behaviours presented by learners with ASDs chose strategies that were least restrictive such as gentle teaching whereas those who had negative attitudes chose strategies that were most restrictive such mental health consultation. To some extent this finding is related to Williams (2008) finding that established a strong relationship between attribution of controllability of challenging behaviour and attitudes of teachers towards Challenging behaviour presented by learners with ASDs.

Williams (2008) established that attribution of controllability of challenging behaviour predicted negative responses from the teacher which predicted less optimism, which in turn predicted less willingness to help the learner with ASDs presenting challenging behaviour. This means that teachers' attitudes towards challenging behaviour need to be factored when designing challenging behaviour management plans for learners with ASDs.

There is need to carry out a study to determine teachers demographic factors and their attitudes and choice of challenging behaviour strategies in order to shade more light on this intricate relationships.

4.8. Teachers' Perception of Causes of Challenging Behaviour

To determine the teachers' perception of causes of challenging behaviour presented by learners with ASDs in schools in western Kenya, frequency tables were run as descriptive analysis as shown in table 22 to establish quantitative information about teachers perception of the causes of challenging behaviours presented by learners with ASDs.

Table 22: Challenging Behaviour Perception by Teachers

Perception by teachers	VU	UN	SHL	L	VL	MEAN	STD
Are given tasks that are too difficult for them	18(17)	33(31.1)	23(21.7)	23(21.7)	9(8.5)	2.74	1.22
Are physically ill	8(7.5)	25(23.6)	30(28.3)	32(30.2)	11(10.4)	3.12	1.12
Are tired	10(9.4)	18(17.0)	22(20.8)	36(34)	20(18.9)	3.36	1.24
Cannot cope with high level of stress	9(8.5)	24(22.6)	18(36)	36(34)	19(17.9)	3.30	1.24
Environment is too crowded with people	11(10.4)	14(13.2)	23(21.7)	41(38.7)	17(16.0)	3.37	1.21
Are given medication	8(7.5)	20(18.9)	14(13.2)	42(39.6)	22(20.8)	3.47	1.20
Are unhappy	12(11.3)	20(18.9)	18(17.0)	40(37.7)	16(15.1)	3.26	1.25
They don't get what they want	18(17.0)	11(10.4)	11(10.4)	43(40.6)	23(21.7)	3.40	1.39
Live in unpleasant environment	4(3.8)	6(5.7)	15(14.2)	57(53.8)	24(22.6)	3.36	.96
Enjoy the effect of behaviour on others	12(11.3)	6(5.7)	12(11.3)	52(49.1)	24(22.6)	3.66	1.22
They are in bad mood	11(10.4)	11(10.4)	11(10.4)	48(45.3)	25(23.6)	3.16	1.25
They are worried about something	8(7.5)	7(6.6)	17(16.0)	52(49.1)	22(20.8)	3.69	1.11
Their surrounding too warm	4(3.8)	12(11.3)	21(19.8)	49(46.2)	20(18.9)	3.65	1.03
Some biological process in their body	5(4.7)	8(7.5)	17(16.0)	52(49.1)	24(22.6)	3.77	1.04
They want something	7(6.6)	13(12.3)	19(17.9)	46(43.4)	21(19.8)	3.58	1.14
Are angry	10(9.4)	8(7.5)	17(16.0)	50(47.2)	21(19.8)	3.60	1.17
There is nothing else for them to do	10(9.4)	12(11.3)	18(17.0)	46(43.4)	20(18.9)	3.51	1.20
Live in a noisy place	11(10.4)	14(13.2)	16(15.1)	48(45.3)	17(16.0)	3.43	1.21
Feel let down by somebody	9(8.5)	7(6.6)	18(17.0)	48(4.3)	24(22.6)	3.67	1.15
Are physically disabled	5(4.7)	13(12.3)	17(16.0)	47(44.3)	24(22.6)	3.68	1.10
Not much space in their environment to move around	7(6.6)	5(4.7)	12(11.3)	51(48.1)	31(29.2)	3.89	1.09
Are often left on their own	10(9.4)	11(10.4)	13(12.3)	51(48.1)	21(19.8)	3.58	1.19
Are hungry or thirsty	3(2.8)	13(12.3)	18(17.0)	54(50.9)	18(17.0)	3.67	.993
Are frightened	7(6.6)	9(8.5)	13(12.3)	51(48.1)	26(24.5)	3.75	1.12

People do not talk to them much	8(7.5)	4(3.8)	14(13.2)	54(50.9)	26(24.5)	3.81	1.09
They want to avoid interesting tasks	6(5.7)	9(8.5)	14(13.2)	50(47.2)	27(25.5)	3.78	1.10
Don't go outdoors very much	9(8.5)	10(9.4)	18(17.0)	45(42.5)	24(22.6)	3.61	1.18
Are rarely given activities to do	7(6.6)	6(5.7)	14(13.2)	52(49.1)	27(25.5)	3.81	1.09
They want attention from other people	4(3.8)	8(7.5)	19(17.9)	57(53.8)	18()17.0	3.73	1.15

KEY: 1=VU-very unlikely; 2=UN- unlikely; 3=SHL- Some How Likely; 4=L-likely; 5=VL-very likely

The teachers' response to variables in Table 22 indicted that there was considerable divergence in their perception of causes of challenging behaviour. The most striking aspect was there high ranking rating of learners presenting challenging behaviour when they want attention from other people 57(53.8%) and because they live in unpleasant environment indicating that they attributed challenging behaviour to sociological and ecological perspectives respectively. This supports Porter and Lacey (2009) study that ranked attention seeking, task avoidance, communication problems, stress, interference with routines and provocation as some of causes of challenging behaviour presented by learners with developmental disabilities.

Other variables that had high sources of respondents as indicated in Table 22 included' are hungry or thirsty' 54(50.9%) 'people don't talk much to them' indicating that they attributed the causes of challenging behaviour to psychological and sociological perspectives. Other variables that received significant responses from teachers included 'enjoy the effect of behaviour on others' 52(49.1%) 'they do not get what they want'43 (40.6%) and 'are unhappy' 40(37.7%) accounting for behavioural perspective. Teachers also ranked the

medical perspective highly, ‘some biological processes in their body 52 (49.1%) and ‘are given medication 42(39.6%). This finding indicates that significant number of teachers perceived challenging behaviour presented by learners with ASDs to be caused by physiological disease or brain dysfunction. Teachers with such perception may not trust their own abilities to manage the behaviour and may resort to other professionals such as psychiatrists, clinical psychologists or psychotherapists who are in short supply and are prohibitively expensive for most families in Kenya (Awuor & Karume, 2014).

The difference in perception of the causes of challenging behaviour as illustrated in Table 22 could be attributed to lack of unified understanding of what constitutes to challenging behaviour. This was supported by the interview schedules where teachers had different definition of what constitutes challenging behaviour and their attribution to causes of challenging behaviour. Data analysis indicates that there is limited conceptual framework on meaning of challenging behaviour. The common themes that ran in definition of challenging behaviour were physical, verbal aggression, conflict between teachers and learners with ASDs, alternative form of communication, a misnomer, a subjective term for unwanted behaviour, an umbrella term for behaviours displayed by learners with ASDs. One teacher with wide experience who had worked for learners with ASDs for 20-25 years vividly said during the interview:

“*What is actually called challenging behaviour comes from the perspectives of teachers. We have two people who are in conflict and if you ask the children who exhibits the challenging behaviour they will probably say it is the teacher “*

Overall, the response to definition of challenging behaviour were predominantly not specific in character and rarely exhibited the definition of challenging behaviour as advanced in literature (Emerson *et al*., 2005; & British Psychological society & the Royal College of speech and language therapists, 2007). This divergence view of challenging behaviour

supports Porter and Lacey (2009) assertion that challenging behaviour is a socially constructed process based on interaction between what the learners do, their setting and how the behaviour is understood and given meaning. This social construction of challenging behaviour implies that the identification of challenging behaviour will vary across settings. It is important to realize that this social construction of challenging behaviour may therefore have implications for the interpretation of research findings arising from the present study and, indeed, from any study that attempts to explore perceptions of challenging behaviour. This may mean that different teachers socially construct differently what constitutes challenging behaviour and what are the best management strategies of challenging behaviour

Observational data collected indicated that most teachers regarded behaviour as challenging only when it was externalized such as aggressiveness. Behaviours that could restrict a learner from concentrating on a given task or using available facilities such as stereotype or self-stimulatory were not regarded as challenging behaviours.

4.8.1 Teachers' Demographic Information and Perception of the Causes of Challenging Behaviour

Multivariate analysis of variance was performed to investigate, age, gender, professional qualification, length of service and experience differences in teachers' perception of the causes of challenging behaviour. Seven dependent variables were used to elicit teacher's perception of the causes of challenging behaviour presented by learners with ASDs. These were Biological, psychodynamic, ecological, behavioural, humanistic, sociological and psychological challenging behaviour perception. There was a moderate relationship between teachers' perception of challenging behaviour and sociological factors as illustrated in table 22 The other six dependent variables of challenging behaviour did not show a significant relationship.

Table 23: Teachers' Perception of causes of Challenging Behaviour (Sociological Factors)

Age category	Means	Wilk's lambda	sig	Partial eta squared
16-20 years	16.00	0.083	0.016	0.463
21-25 years	20.07			

Bonferroni adjustment value=.007

The results from multivariate analysis of variance as summarized in Table 23 shows that there was no statistically significant difference among all the independent variables on the dependent variables except experience of working with learners with autism Wilks' Lambda= 0.083, $p \leq .05$; partial eta squared=.463, which was high. When the results for the dependent variables were considered separately, there was no much difference to reach statistical significance, using a Bonferroni adjusted alpha level of 0.007. Upon examining post hoc comparison with least square difference (LSD), a statistically significance difference was found between 15-20 years, (M=16.0), and 21-25, (M=20.07) years at $p \leq .05$ on perception of challenging behaviour as caused by sociological factors. This implied that more experienced teachers perceived the challenging behaviour as caused by sociological factors. This finding is related to Male (2004) that found a significant relationship between experience of working with learners with ASDs and choice of management strategies. This finding is not however consistent with Porter and Lacey (2009) study where teachers dominantly attributed challenging behaviour exhibited by learners with ASDs to behavioural factors.

Interview schedule data to triangulate the data gained from the questionnaire indicated that teachers had many attributions to the causes of challenging behaviour. They attributed it to

organic, behavioural, psychodynamic, and ecological. For example, one teacher who attributed the cause of the challenging behaviour to psychodynamic said:

"They were abused when they were very young… its because of their childhood, they were abused and that causes them a lot of problems and when they become adults they will be very negative always fighting"

Another teacher who perceived the causes of challenging behaviour to be ecological attributed it to conflicts between the teachers and learners arising from the expectation and demands of the school and the individual learner's preference. She said during the interview:

"When you ask them to do something that they don't want to do they can become very violent… slam doors, stamp feet, always shouting and very bad language. They just go off the edge, just flip off and that becomes very challenging"

4.8.2 Relationship between Teachers' Perception of Causes of Challenging Behaviour and the Choice of Management Strategies

Pearson product moment correlation was carried out to determine the relationship between teacher's perception of the causes of challenging behaviour and choice of challenging behaviour management strategies. Based on research literature (Edward *et al*. 2007; Alonso et.al, 2004; Wittchen & Jocabi, 2005; Akiskal & Benazzi, 2006; Mandel, 2006; Tsakanikos *et al*, 2007; Crossland, 2009; Williams, 2008 & Porter & Lacey, 2009; Kiernan and Kiernan, 2006) causes of challenging bahaviours were categorized as sociological, psychodynamic, biological, ecological, behavioural and humanistic. Respondent's responses to the causes of challenging behaviour were correlated to challenging behaviour management strategies in objective two as illustrated in table 24.

Table 24: Relationship between Teachers' Perceptions and Choice of Management Strategies

		intensive interaction	augmentative communication	development of social understanding	Teach	gentle teaching	behavioral therapy model	social stories	mental health consultations	mindfulness training	structure teaching
Sociological	Pearson Correlation	-.028	-.048	.521**	.435**	-.042	.031	.411**	.102	-.035	-.134
	Sig. (2-tailed)	0.433	0.14	0.00	0.00	0.723	0.7	0.00	0.08	0.78	0.17
	N	106	106	106	106	106	106	106	106	106	106
Psychological	Pearson Correlation	.057	.418**	.001	.144	.432**	-.101	.062	.137	.509**	-.530**
	Sig. (2-tailed)	0.352	0.006	0.334	0.2	0.008	0.2	0.7	0.23	0.48	0.004
	N	106	106	106	106	106	106	106	106	106	106
Psychodynamic	Pearson Correlation	.426**	.111	.071	.292**	.425**	-.084	.026	.273**	.485**	.481**
	Sig. (2-tailed)	0.00	0.54	0.395	0.003	0.001	0.2	0.7	0.004	0.005	0.003
	N	106	106	106	106	106	106	106	106	106	106
Humanistic	Pearson Correlation	.050	.064	.087	.113	.522**	-.141	.612**	.119	.474**	.534**
	Sig. (2-tailed)	0.13	0.15	0.113	0.3	0.00	0.1	0.00	0.44	0.004	0.00
	N	106	106	106	106	106	106	106	106	106	106
Ecological	Pearson Correlation	.042	.545**	.003	.204*	.433**	-.091	.040	.141	.607**	-.097
	Sig. (2-tailed)	0.791	0.005	0.775	0.02	0.001	0.2	0.4	0.09	0.00	0.47
	N	106	106	106	106	106	106	106	106	106	106
Biological	Pearson Correlation	.132	.517**	-.112	.105	.086	-.123	.132	.379**	.088	.429**
	Sig. (2-tailed)	0.159	0.00	0.328	0.4	0.48	0.3	0.2	0.007	0.79	0.005
	N	106	106	106	106	106	106	106	106	106	106

**. Correlation is significant at the $p \leq 0.01$ level (2-tailed).

*. Correlation is significant at the $p \leq .05$ level (2-tailed).

4.8.2.1 Teachers' Sociological Perspective of Challenging Behaviour

The results in Table 24 indicate that there is a moderate positive significant relationship between perception of sociological factors and development of social understanding, (r= 0.521, $p \leq 0.01$), sociological factors and TEACCH strategy (r= 0.435, $p \leq 0.01$) sociological factors and, social stories (r=.411, $p \leq 0.01$). This means that teachers who perceived causes of challenging behaviour as being rooted in sociological factors chose strategies that were more learners focused such as TEACCH and development of social understanding. This finding supports a study carried out in USA (Perry *et al.* 2008) that indicated that sociological approaches such as social stories when used to manage challenging behaviour presented by learners with ASDs are likely to lead to reduction of challenging behaviour by half standard deviation and improvement of social skills by one standard deviation. This fact was supported by observation data and document analysis as the following case observed in one school illustrates:

Peterson was admitted to the school after countless unsuccessful placements in other institutions. For just a few days after placement, Peterson displayed some extreme circles of challenging behaviour, which included aggression towards teachers, self-injury and serious destruction of property. The teachers developed and implemented an individualized Education Programme based on sociological approach of engaging Peterson in conversation and building of interpersonal skills of using polite language, gestures and facial expressions through the use of visual cues and how to seek help whenever he felt agitated. After several weeks Peterson behaviour improved significantly and there were marked reduction in his aggressive and self injurious behaviour

4.8.2.2 Teachers' Psychological Perspective of Challenging Behaviour

The results in Table 24 further indicate that there was a moderate significant positive relationship between perceptions of challenging behaviour being caused by psychological factors. The teachers who held this perception chose management strategies that are cognitive

in nature. This is clearly illustrated by moderately significant positive relationship between Augmentative communication, (r= 0.418, $p \leq 0.01$) psychological factors and gentle teaching, (r= 0.432, $p \leq 0.01$), psychological factors and Mindfulness training, (r= 0.509, $p \leq 0.01$), psychological factors and structured teaching, (0.455, $p \leq 0.01$) psychological factors and Pharmacology/medical, (r= 0.455, $p \leq 0.01$). There is a close relationship between this finding and Literature searches and analyses that have demonstrated that interventions which are based on psychological principles derived from learning theory are currently the most effective intervention for reducing incidences of challenging behavior (British Psychological Association, 2004 & Allen *et al*, 2009). In particular, this finding supports Meta analyses by Allen *et al.* (2009) who cites a number of literatures that demonstrates reduction of challenging behaviour by systematically applied behaviour approaches.

For this strategy to succeed, teachers need to involve learners with ASDs in reflecting on their own behaviour, setting up individual targets for learners and monitoring them. They should strive to provide learners with strategies to self regulate their own behaviours like use of visual clues and verbalization. Teachers also need to have a clear understanding of how learners attribute their challenging behaviour and the meaning that they give to the challenging behaviour that they present such as communicative aspect, sensory stimulation, task avoidance or skill deficit.

4.8. 2.3 Teachers' Psychodynamic Perspective of Challenging Behaviour

Results in Table 24 indicates that teachers' perception of psychodynamic as causal factors of challenging behaviour among the learners with ASDs closely related with strategies that are psycho dynamically based in nature such as intensive interaction, TEACCH, gentle teaching, Mental health consultation, mindful training and structured teaching. The relationship was positive and moderately significant as shown in the results, (Intensive interaction r= 0.426,

TEACCH r= 0.292, gentle teaching r=0.425, mental health consultation r= 0.485 and structured teaching 0.481) all with a $p \leq 0.01$ respectively. This finding supports earlier findings for example the preferred method of dealing with challenging behaviour described by teachers in the Males (2004) study was intensive interaction. Other relatively 'popular' approaches included child-focused/individual approaches, Gentle Teaching and psycho dynamically based approaches.

For this method to work, teachers need to be aware that learners challenging behaviour may be as a result of unconscious conflict arising in early childhood. Learners who may not have received enough care may have attachment anxiety. Teachers need to consider what unconscious pattern of behaviour is being portrayed by challenging behaviour. These would help them in choosing intervention that may help the learners to process unresolved unconscious emotions in a safe way such as therapeutic story telling (Collins, 2008). Where it is possible, teachers can refer these learners to specially trained therapist such as psychotherapists and clinical psychologists.

4.8.2.4 Teachers' Biological Perspective of Challenging Behaviour

The results in Table 24 indicate that teachers' perception of challenging behaviour being caused by biological factors had a moderately significant positive relationship with management strategies that were more restrictive and controlling in nature. The findings of the present study shows a moderate correlation between biological perception of causes of challenging behaviour and augmentative communication(r=0.517 $p \leq 0.01$), mental health consultation(r=0.379 $p \leq 0.01$), structured teaching(r=0.429 $p \leq 0.01$) and pharmacology(r=0.278, $p \leq 0.01$)

This implies that teachers who perceived challenging behaviour presented by learners with ASDs being rooted in biological causes chose restrictive strategies. This finding compares well with an earlier finding by Hastings (2008) which identified methods such as use of physical restraints, deployment of sufficient staff and medication as important management strategies of challenging behaviours that were biologically based. It also supports the findings of Allen *et al*. (2009) in UK that investigated use of reactive strategies in the management of challenging behaviour. It identified physical restraints, medication and seclusion as the preferred modes of management strategies. This finding supports Mandel (2008) who states that Challenging behaviour intervention based on either ecological or behavioural model may not be possible or effective in some individuals and recommends the use of medication in cases where functional analysis of behaviour fails to identify environmental contingencies sustaining challenging bahaviour among learners with ASDs. Teachers need to play their roles in relation to medication as advised by Humphrey, (2009) effectively. Firstly, they can provide detailed information that will help in the assessment that leads up to medication and secondly, they need to take an active role in monitoring the effect of medication observed in the classroom.

4.8. 2.5 Teachers' Ecological Perspective of Challenging Behaviour

Pearson correlation coefficient in Table 24 revealed a slightly positive significant relationship between ecological perception causes of challenging behaviour and management strategies that aim at understanding the influence of environment on challenging behaviour presented by learners with ASDs. There was a moderate correlation between ecological perception of the causes of challenging behaviour and ecologically based methods such as augmentative communication, gentle teaching, Mindfulness training and structured, teaching, (r= 0.545, r= 0.433, 0.607; $p \leq 0.01$) respectively). This study compares well with Male (2004) study that

also highly ranked child focused individual approaches such as ignoring or avoiding the challenging behaviour, diverting or destructing the learner or removing the learner from environment that is likely to lead to challenging behaviour thus advocating for ecological approaches. This also supports Hastings (2008) study that showed that teachers were likely to use restraint for self-injurious behaviour, make environment safe for aggressive behaviour and distract the person for stereo type behaviour, which implies that they also favoured ecological approaches.

In response to a particular pupil showing challenging behaviour, teachers in the Hastings (2008) study described ignoring/avoiding the problem, diverting/distracting the pupil and removing the pupil from the situation. In the Kiernan and Kiernan (2004) study, teachers described responses which included: the employment of physical resources (for example time-out) and the use of drugs to control behaviour that appeared to be ecologically based. In the study by Porter and Lacey (2009) more staffing, smaller classes and more space and equipment were mentioned by teachers as means of improving provision for pupils with challenging behaviour; training and increasing staff skills were also considered important when dealing with behaviour that is ecologically based.

Observation, interview and document analysis data showed that ecological approach was frequently used to prevent learners with ASDs engaging in challenging behaviours. Some of the ecological intervention included restricted use of sharp items like knives and razorblades. Document analysis showed that most of ecological approaches were implemented after the teachers had carried out risk assessment to ascertain dangers posed by the learners' challenging behaviour to themselves, others and property. For example in one school to minimize the risk of Peter falling over from the open window while in his ritualistic behaviour of rocking, the window was barred with thick wooden planks.

Teachers who may find this method useful need to consider the implication of classroom layout and décor and consider factors such as how their classroom layout would affect the learner's behaviour. They also need to come up with clear routines and schedules to guide learners.

4.8. 2.6 Teachers Humanistic perspective of challenging Behaviour

The finding in Table 24 also indicate that perception of challenging behaviour being rooted in humanistic factors correlated moderately, and significant with management strategies such as gentle teaching, (r= 0.522, $p \leq 0.01$), Mindfulness training, (r= 0.474, $p \leq 0.01$)structured teaching, (r=0.534, $p \leq 0.01$), Pharmacology/medical,(r=0.711, $p \leq 0.01$) and Social stories,(r=0.612, $p \leq 0.01$). Objectively, the finding supports Nour, (2012) study in Egypt that investigated the relationship between teachers self reported use of management strategies and disruptive behaviour. The study showed that most teachers preferred using positive management strategies and both positive and negative management strategies were perceived to be effective in handling disruptive behaviours. The findings also revealed that teachers reacted positively when their management strategies whether positive or negative succeeded in dealing with disruptive behaviour and no increase in disruptive behaviour was detected after using negative or positive management strategy. Probably that could be the reason why teachers in the present study were using both positive and negative challenging behaviour management strategies such as gentle teaching and pharmacology respectively.

Additional support for this finding in the present study might also be found in the results of the findings of Porter and Lacey (2009) study, which identified behaviour modification as the most preferred method with other relatively popular methods being gentle teaching and interactive approaches. For teachers who may prefer to use this strategy should aim at building quality relationship with learners. They need to apply techniques that demonstrate to

the learners that they value them such as active listening. They should strive to build self-esteem in learners, blame the behaviour and not the child by accepting the child and not the challenging behaviour.

The findings of the study indicate that teachers' perception of the causes of challenging behaviour had great influence on their choice of challenging behaviour management strategies. Observation and interview schedule data also revealed a close relationship between the perceived causes of challenging behaviour and the choice of challenging behaviour management strategies. The major attributes of the causes of challenging behaviour were biological, psychodynamic ecological and behavioural and this attributes were related to ways in which teachers responded to challenging behaviour presented by learners with ASDs and methods of choice of preventing the behaviours from occurring. One teacher interviewed said

'*Some of it is mental, they have mental problems and they have nervures breakdown'*

The same teacher regarded the use of medication as the best management strategy to manage challenging behaviour as her statement indicates:

'*You have to give them medication to calm them down… and when they refuse the medication, hell breaks loose'*

Observation data revealed that teachers in most cases, selected strategies, which were concerned with diffusion rather than prevention of challenging behaviour thus, tending to deal with behaviour after it had occurred rather than preventing it from occurring in the first place. In some instances, anomalies were noted in terms of teachers 'matching' strategy selection to causal attribution: for example, whilst considering the cause of self-injury to be a biological cause, teachers in one school over depended on medication at the expense of

examining the environment that they had set up for these learners. They tended to see the self-injurious behaviour as factors within the learner without considering how their own practice could be influencing the occurrence of the behaviour.

The findings indicate that the perception of the causes of challenging behaviour was a major variable that influenced the choice of challenging behaviour management strategies by teachers.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of the Findings

The summary of the findings were derived from the objectives of the study as follows:

5.1.1 Challenging Behaviours Presented by Learners with ASDs

The first objective of this study was to analyze the types of challenging behaviour presented by learners with ASDs in public primary schools in Western Kenya. The teachers' analysis of challenging behaviour presented by the learners with ASDs showed that all the 59 various types of challenging behaviours categorized into seven categories enlisted in the checklist occurred in schools in western Kenya albeit at different frequencies and percentages. The analysis showed that teachers rating of challenging behaviours depended on variables such as professional qualifications, and years of working. There was correlation between rating of challenging behaviours and teachers demographic factors. There was a moderate positive relationship between experience of working with learners with ASDs and rating of stereotype behaviour (r=0.211, $p \leq .05$). Stereotype behaviour was also moderately correlated with experience, resulting in a weak positive correlation, r=0.193, $p \leq .05$. There was also a moderately significant relationship between stereotype behaviours and years of working at 0.289 $p \leq 0.01$ and years of working and aggressive behaviour (r=0.289 $p \leq 0.01$). The rest of other challenging behaviours portrayed by learners with ASDs in public primary schools in Western Kenya did not significantly correlate with any of the teachers demographic factors. The findings indicate that teachers rated interpersonal behaviours as the most frequent behaviours presented by learners with ASDs. In particular, the rating of lack of eye contact, teachers had 33(31.1). Establishment of interpersonal behaviour was a key concept in social acceptance.

5.1.2 Strategies used in Management of Challenging Behaviour

The findings of the present study indicate that all the strategies identified were being used by teachers in the management of challenging behaviour presented by learners with ASDs. These were intensive interaction, augmentative communication, and development of social understanding, TEACCH, gentle teaching, behavioural therapy models, experimental functional analysis, social stories and mental health consultations.

The findings of the present study indicated that intensive interaction was the strategy that was mostly being used by teachers and the one that they had found effective 83 (78.3%). This finding indicates that teachers were aware of ASDs being rooted in difficulties with communication. Quite a moderate significant number of teachers 8 (7.5%) did not know about augmentative communication, had not tried it and did not intend to try it in future. The findings indicate that mental health consultation was the least method used to manage challenging behaviour having only 16 (15.1%) teachers who have tried it and found it useful while 38(35.8) claimed to have had no knowledge about it and not intended to try it in future.

The findings also indicates that a significant number of teachers had used medication and found it effective 31(29.2) though majority of teachers 45(42.5%) had not tried using medication and not intended to use it. One of the interesting finding of this study was the small number of teachers who had tried the use of TEACCH and found it useful 23(21.7%) against those who had not tried it and not intended to use it in future 38(35.8%).

The model summary drawn to show the interaction between teachers' demographic variables and challenging behaviour management strategies showed that before controlling the variables such as age, gender and years of working the variance was 0.7% and after controlling the variables the variance of independent variables was 5.5% which was low. This indicated that the overall model predicted 5.5% of variation in the choice of management

strategies by teachers. It thus emerged that demographic variables influenced teachers' choice of challenging behaviour management strategies by 5.5%. The results clearly imply that demographic variables have a moderately significant role in teacher's choice of challenging behaviour management strategies especially professional qualifications.

5.1.3 Influence of Teachers' Cognitive Perception of Challenging Behaviour on choice of management Strategy

Teachers' cognitive perception had a moderate influence on the choice of challenging behaviour management strategies among learners with ASDs in public schools in Western Kenya. This was illustrated by a moderately significant correlation between cognitive perception of challenging behavior and choice of management strategies. Results of the present study indicate a relationship between the challenging behaviours presented by learners with ASDs being time line chronic and the choice of gentle teaching management strategy (r= 0.386, $p \leq 0.01$), behavior therapy model (r=0.333, $p \leq 0.01$). Analysis also indicate a moderate correlation between time line chronic and choice of more restrictive management strategies such as augmentative communication (r=0.384 $p \leq 0.01$), mental health consultation(r= 0.294 $p \leq .05$) and Functional Experimental analysis (r= 0.255 $p \leq 0.01$). The results also indicate a moderately significant correlations between time line episodic and choice of least restrictive management strategies such as intensive interaction (r=271 $p \leq 0.01$), development of social stories(r=0.330 $p \leq 0.01$) and behavior therapy model (r=421 $p \leq .05$). It is evident from the study that teachers who perceived the behaviour presented by learners with ASDs as timeline chronic chose mental health consultations as their management strategies as indicated by a correlation (r=0.348, $p \leq 0.01$). This finding clearly indicates that teachers who perceived challenging behaviour presented by learners with ASDs as a temporary feature were more likely to use less

restrictive challenging behaviour management strategies such as intensive interaction while those who perceived it as a permanent future chose more restrictive strategies such as mental health consultation.

The findings indicate that teachers had a moderately high mean rank (3.60) which indicated that they perceived challenging behaviour as having negative consequences to the learners with ASDs. Independent variables such as age of respondents, their gender, professional qualifications and their experience were also correlated to the dependent variables (consequence of the behaviour to the learner; consequence to the teacher; Ability to control the behaviour). Further analysis showed that teachers who had high professional qualifications (Masters) and long teaching experience (15-20 years) perceived challenging behaviour presented as having no negative consequences to learners with ASDs. This indicated that they were well-experienced and perceived challenging behaviour more positively. There was no significant correlation between the age and gender and perception of consequences of challenging behaviour. Teachers perceived that they had the ability to control challenging behaviour presented by learners with ASDs (mean 3.78). There was no significant correlation between professional qualification gender and experience in perception of ability to control challenging behaviour. The findings of the present study show a relationship between cognitive perception of challenging behavior and choice of challenging behaviour management strategies. This clearly indicates that cognitive perception of challenging behaviour influenced the choice of behaviour management strategies. This finding has implications to the management of challenging behaviour presented by learners with ASDs in public primary school in Western Kenya.

5.1.4 The Relationship between Teachers Attitudes towards Challenging Behaviour and Choice of Management Strategies

The findings of the present study illustrate a moderately significant relationship between teachers' attitudes and choice of challenging behaviour management strategies. The study indicates that teachers exhibited both negative and positive attitudes towards challenging behaviour presented by learners with ASDs in public primary schools in Western Kenya. The negative feelings expressed were : guilty, hopeless, afraid angry, incompetent, frustrated, helpless, disgusted, resigned, humiliated, betrayed and sad, while the positive feelings expressed were confident, happy, self assured, relaxed, cheerful and excited. One of the most important finding of the present study was the relationship between attitude of teachers and the choice of management strategies that are either least restrictive or more restrictive. The study revealed a significant relationship between positive attitudes and the choice of least restrictive management strategies such as intensive interaction (r=0.438, $p \leq 0.01$); development of social understanding, (0.287, $p \leq 0.01$); social stories, (r=0.429, $p \leq 0.01$); gentle teaching, (r=0.473, $p \leq 0.01$); and behavior therapy (r= 0.317, $p \leq 0.01$). Negative attitudes were correlated to more restrictive strategies such as experimental functional analysis, (r=0.283, $p \leq 0.01$) and mental health consultations, (r=0.243, $p \leq 0.01$). This implies that teachers who had positive attitudes towards challenging behaviours presented by learners with ASDs chose strategies that were least restrictive whereas those who had negative attitudes chose strategies that were most restrictive such mental health consultation

The findings indicate that a significant number of teachers 50(47.2%) felt that they were not confident in managing challenging behaviour presented by learners with ASDs. This lack of confidence in managing challenging behaviour of learners with ASDs is likely to make these teachers vulnerable to experiencing negative emotional reactions, which can lead to stress

and burn out. The study also revealed that significant number of teachers felt slightly sad towards challenging behaviour presented teachers 64 (60.4%. This means that Stress is an important factor in both the development and the success of intervention of challenging behaviour and needs to be addressed by schools so that teachers can identify positive approaches of dealing with challenging behaviour.

5.1.5 Relationship between Teachers' Perception of Causes Challenging Behaviour and the Choice of Management Strategies

There was a moderate significant relationship between teachers' perception of causes of challenging behaviour presented by learners with ASDs in public primary schools in Western Kenya and the choice of management strategies. The main teachers perception of the causes of challenging behaviour presented by learners with ASDs were Biological, Psychodynamic, Ecological, Behavioural, Humanistic, Sociological and psychological. There were considerable divergence views in teacher's perception of the causes of challenging behaviour. This perception had a moderately significant influence on the choice of challenging behaviour management. They highly ranked attention seeking and learners 'living in unpleasant environment as the causes of challenging behaviour 57 (53.8). This indicated that teachers attributed the causes of challenging behaviour to sociological and ecological factors. This finding is consistent with Interview schedule data also indicated that teachers had many attributions to the causes of challenging behaviour. They attributed it to organic, behavioural, psychodynamic, and ecological.

Findings of the present study illustrates a moderate positive significant relationship between perception of sociological factors and social stories, (r=0.521, $p \leq 0.01$), sociological factors and TEACCH strategy (r=0.435, $p \leq 0.01$) sociological factors and development of social understanding, (r=0.411, $p \leq 0.01$). This means that teachers who perceived causes of

challenging behaviour as being rooted in sociological factors chose strategies that were more learner focused such as intensive interaction and development of social understanding.

The findings of the present study also show a moderately significant positive relationship between teachers' perception of causes of challenging behaviour being caused by psychological factors and choice of management strategies. The teachers who held this perception chose management strategies that are cognitive in nature. This is clearly illustrated by a moderate significant positive relationship between Augmentative communication, (r=0.418, $p \leq 0.01$) psychological factors and gentle teaching, (r=0.432, $p \leq 0.01$), psychological factors and Mindfulness training, (r=0.509, $p \leq 0.01$), psychological factors and structured teaching, (0.455, $p \leq 0.01$) psychological factors and Pharmacology/medical, (r=0.455, $p \leq 0.01$). There is a close relationship between this finding and Literature searches and analyses that have demonstrated that interventions that are based on psychological principles derived from learning theory are currently the most effective intervention for reducing incidences of challenging behavior.

It also emerged from the present study that teachers' perception of psychodynamic as causal factors of challenging behaviour among the learners with ASDs closely related with strategies such as augmentative communication, gentle teaching, Mindfulness training, structured teaching and Pharmacology/medical. The relationship was positive and moderately significant as shown in the results, (r=.0426, r=0.425, r=0.485,r=0.481,0.437 $p \leq 0.01$) respectively.

Pearson product moment correlation coefficient revealed a moderately positive significant relationship between ecological perception and augmentative communication, gentle teaching, Mindfulness training and structured, teaching, (r=0.545, r=0.433, 0.607; $p \leq 0.01$).

The finding of the present study also indicate that perception of challenging behaviour being rooted in humanistic factors correlated with management strategies such as gentle teaching, (r=0.522, $p \leq 0.01$), Mindfulness training, (r=0.474, $p \leq 0.01$), structured teaching, (r=0.534, $p \leq 0.01$), Pharmacology/medical,(r=0.711, $p \leq 0.01$) and Social stories,(r=0.612, $p \leq 0.01$).

On the other hand, data in the present study shows that perception of challenging behaviour being caused by biological factors had a relatively significant positive relationship with pharmacology, structured teaching and augmentative communication. Biological perception and pharmacology, (r=0.557, r=0.429, r=0.517; $p \leq 0.01$).

Multivariate analysis was carried out to determine the effect of professional qualification and experience on perception of challenging behaviour. The dependable variables were Biological, Psychodynamic, Ecological, Behavioural, Humanistic and Psychological challenging behaviour perception. The findings indicated that there were no statistically significant differences among the three independent variables on combined 6 dependable variables.

5. 2 Conclusions

5.2.1 Challenging Behaviours Presented by Learners with ASDs

The teachers rating of the frequency of challenging behaviour presented by the learners with ASDs showed that all the 59 different types of challenging behaviours categorized into seven categories enlisted in the checklist occurred in schools in western Kenya albeit at different frequencies and percentages. Also the rating of the frequency of the behaviours depended on variables such as professional qualifications, and years of working. In conclusion it is worth to note that there was significant interaction between some of the demographic information and the dependent variables. By controlling for assumed variance caused by these covariates,

there were significant differences in the rating of frequency of challenging behaviour presented by learners with ASDs. This finding has a direct impact on practice and provision of services to learners with ASDs.

5.2.2 Strategies used in Management of Challenging Behaviour

The findings of the present study indicated that teachers in public primary schools in western Kenya were using several strategies to manage challenging behaviour presented by learners with ASDs. These strategies included Intensive Interaction, Augmentative Communication, Social Stories TEACCH, Gentle teaching, Behavioural Therapy Models, Experimental Functional Analysis, Social Stories and Mental health consultations and Pharmacology. Intensive interaction was the strategy that was being used by teachers and the one that they had found effective. A significant number of teachers had not known augmentative communication, had not tried it and did not intend to try it in future. Medication had also been used though majority of teachers had not used it and had no intention to use it in future.

5.2.3 Influence Teachers Cognitive Perception of Challenging Behaviour on choice of Management Strategies

The results of the present indicate that teachers' cognitive perception had a moderate influence on the choice of challenging behaviour management strategies among learners with ASDs in public schools in Western Kenya. This is illustrated by a moderate correlation between the challenging behaviours presented by learners with ASDs being time line chronic and the choice of gentle teaching management strategy and behavior therapy. The results also indicate a moderately significant correlation between timeline episodic and intensive interaction, development of social stories, behavior therapy model and experimental functional analysis. It is evident from the study that teachers who perceived the behaviour

presented by learners with ASDs as timeline chronic chose mental health consultations as their management strategies. This finding clearly indicates that teachers who perceived challenging behaviour presented by learners with ASDs as a temporary feature chose less restrictive challenging behaviour management strategies such as intensive interaction while those who perceived it as a permanent future chose more restrictive strategies such as mental health consultation.

Teacher's perceived challenging behaviour to have negative consequences to both the learners and teachers. There was no significant correlation between the age and gender of respondents and their perception of consequences of challenging behaviour. Teachers perceived that they had the ability to control challenging behaviour presented by learners with ASDs. There was no significant correlation between professional qualification gender and experience in perception of ability to control challenging behaviour. This finding indicates that cognitive perception of challenging behaviour influenced the choice of challenging behaviour management strategies in public school in western Kenya

5.2.4 Relationship between Teachers' Attitudes towards Challenging Behaviours and the Choice of Management Strategies

There was a relationship between attitude of teachers and the choice of management strategies that are either least restrictive or more restrictive. The study revealed a moderately significant relationship between positive attitudes and the choice of least restrictive management strategies such as intensive interaction; development of social understanding; social stories; gentle teaching; and behavior therapy. Negative attitudes were correlated to more restrictive strategies such as experimental functional analysis and mental health consultations. This implies that teachers who had positive attitudes towards challenging behaviours presented by learners with ASDs chose strategies that were least restrictive

whereas those who had negative attitudes chose strategies that were most restrictive such mental health consultation

5.2.5 Relationship between Teachers' Perception of causes of Challenging Behaviour and the Choice of Management Strategies

Teachers held divergent perception of the causes of challenging behaviour. This perception had a moderately significant relationship on the choice of challenging behaviour management strategies presented by learners with ASDs in public primary schools in western Kenya. Results of the present study indicate that teachers perceived challenging behaviour presented by learners to be caused by Biological, Psychodynamic, Ecological, Behavioural, Humanistic, Sociological and psychological factors. There were considerable divergence views in teacher's perception of causes of challenging behaviour. They mostly attributed challenging behaviour presented by learners in public primary schools in western Kenya to sociological, ecological and psychological factors.

The perception of causes of challenging behaviour was moderately correlated to the choice of management strategies.

5.3 Recommendations

1. Based on the findings that learners with ASDs in public primary schools in western Kenya exhibited all the 59 behaviours identified in this study albeit at different frequencies teachers should have sufficient skills and knowledge to manage all these behaviours.

2. Based on finding that Intensive interaction was the strategy that was being used by teachers and the one that they had found effective and that a significant number of teachers had not known about augmentative communication, had not tried it and did

not intend to try it in future, efforts should be made by schools to equip them with knowledge of more challenging behaviour management strategies

3. Based on the finding that teachers who perceived challenging behaviour presented by learners with ASDs as a temporary feature chose less restrictive challenging behaviour management strategies such as intensive interaction while those who perceived it as a permanent future chose more restrictive strategies such as mental health consultation teachers should be encouraged to perceive challenging behaviour presented by learners with ASDs more positively so that they use best management strategies that can reduce challenging behaviour to enable learners with ASDs achieve their full potential.
4. Based on the findings that teachers who had positive attitudes towards challenging behaviours presented by learners with ASDs chose strategies that were least restrictive whereas those who had negative attitudes chose strategies that were most restrictive such mental health consultation schools should factor teachers' attitudes towards challenging behaviours presented by learners with ASDs when designing management strategies.
5. Based on the findings that teachers perception of challenging behaviour was significantly correlated to the choice of management strategies teachers should be equipped with the right knowledge about the causes of challenging behaviours so that they make an informed decision when the select particular management strategies.

5.4 Suggestions for Future Research

1. This study investigated the types of challenging behaviour using a checklist where teachers rated the frequency of challenging behaviours that were exhibited by learners with ASDs. The frequency of the behaviour was rated on a rating scale. These scales tend to produce total or factor scores that allocate equal weighting to all the

behaviours regardless of the impact of the behaviour on social, physical environment and the quality of life of the learner exhibiting challenging behaviour. This calls for research to look intensively in each category of behaviours presented by learners and the impact of the behaviour on the learner, other learners, peers and parents

2. The relationship between psychiatric diagnoses and challenging behaviour is a complex one. Literature bases reviewed in this study pointed out that Challenging behaviour can occur in the absence of a psychiatric disorder and not all learners with mental illness exhibit challenging behaviour. There is a need to carry out a study to determine this complex relationship specifically in determining teacher's perception on psychiatric diagnoses and challenging behaviour and how their perception influences the choice of challenging behaviour management strategy.

3. There was evidence in this study that significant number of teachers' perceived challenging behaviour presented by leaner is with ASDs to have a biological cause a factor that made them recommend the use of medication. Although there is no compelling evidence in this study that drugs are being misused or over used in management of challenging behaviour, it raises some questions on efficacy of drugs as the treatment of choice of challenging behaviour presented by learners with ASDs. Given their potentially severe side effects (Humprey, 2009) and limited demonstrative effectiveness in this study, doubts emerge as to whether drugs should be the treatment choice for challenging behaviour. This is an area that may urgently require collaborative research among different professionals to ascertain the efficacy of psychotropic drugs, whether they are effectively administered by teachers as well as their side effects in the management of challenging behaviour presented by learners with ASDs.

4. The present study investigated the perception of challenging behaviour presented by learners with ASDs by teachers. There is need for future research to investigate how learners with ASDs perceive the challenging behaviour that they present and the management strategies used by teachers.
5. The findings of this study indicated that gender of respondents did not influence the choice of challenging behaviour management strategy. There is need for further research to investigate the influence of gender on choice of management strategy on a particular challenging behaviour such as aggression, self-injury or inappropriate vocal behaviour.

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APPENDICES

APPENDIX 1:

PARTICIPANT'S INFORMATION SHEET

Participant's information sheet for teachers.

Research information teacher's perception of challenging behaviour and their management strategies among learners with Autism spectrum Disorders in Western Kenya.

Part A: Information about the Research Study

Who am I?

I am Edward Khasakhala Okaya. I am studying for a PhD degree in special education needs at Maseno University. As part of my training, I am expected to carry out a piece of research, which will go into my thesis.

I am researching on teachers' perception of challenging behaviour and how this influences the choice of challenging behaviour management strategy.

Where can I be contacted?

I can be contacted by e-mail Khasakhala@yahoo.com at Maseno university school of education department of special Needs education. My telephone number is 0722908890.

Why am I looking at this topic?

Sometimes learners with autism display behaviours in a way that is confusing to us, the way we make sense of this behaviour affects how we feel and try to help the learner. I am interested in researching whether someone with autism may affect teachers make sense of the portrayed behaviour, how they feel about the behaviour and how they may try to help the learner.

This may help us improve service provision for this group of learners.

Can you withdraw?

If at any point during the study you change your mind about taking part, you can just send me a note or give me a call and let me know that you do not want to participate in the study. I will destroy your questionnaires and any other information that you may have provided.

What will happen to the information that you give me?

All the information given to me on the consent form and questionnaires will be anonymous. The information that you provide shall be stored safely and securely.

What are the risks of taking part?

Some people may find talking about challenging behaviour presented by learners with autism distressing. If you find yourself getting distressed, let me know and you can stop taking part in the study. We can talk about what is distressing and think about what to do next.

Part B My responsibilities to you for taking part

I will not identify you in any publication. All the information that you provide will only be viewed by me and my supervisors if requested and would remain confidential.

.

If you decide to take part you can:

1. Refuse to answer any particular question and to withdraw from the study up the submission of the thesis.
2. Ask any further question that occurs to you during your participation.
3. Be given summary of the findings from the study when it is completed.

Researcher's name EDWARD KHASAKHALA OKAYA

……

Researcher's signature Telephone number: 0722908890 Date: January 2013

APPENDIX 2:

DEMOGRAPHIC INFORMATION OF THE RESPONDENTS

Demographic Information for the Teachers

This information is being taken for information purpose only and will be kept in a safe place.

Please tick appropriately

Age

Below 18 years ☐

18 years to 24 years ☐

24 years to 30 years ☐

30 years to 36 years ☐

36 years to 42 years ☐

42 years to 48 years ☐

48 years to 54 years ☐

Above 54 years ☐

Gender Male ☐

Female ☐

Job title…… years of working……

Place of work ☐

In a special school ☐

In a special unit ☐

In an inclusive school ☐

In a regular school ☐

Any other ☐

If any other please specify …….

Length of service in the current post …….

Amount of experience working with people with autism

Professional qualification

Kindly tick in appropriate bracket your highest professional qualifications

PhD ( )

Masters ( )

Bachelors ( )

Diploma ( )

Certificate ( )

APPENDIX 3

CHALLENGING BEHAVIOUR CHECKLIST FOR TEACHERS

For each of the following behaviours, place a check mark in appropriate column to indicate behaviours that are exhibited by learners with ASDs in your class.

Key

Very Frequent	**Frequent**	**Not Frequent**	**Not Very frequent**
4	**3**	**2**	**1**

Inappropriate Vocal/Oral Behaviour as Rated by Teachers				
Repeats what is said to him/her	1	2	3	4
Talks to self	1	2	3	4
Frequently puts fingers or hands in mouth	1	2	3	4
Sucks or chews inedible objects	1	2	3	4
Re-chews swallowed foods	1	2	3	4
Spits food	1	2	3	4
Vomits following eating	1	2	3	4
Holds breath	1	2	3	4
Eats foods or objects from floor	1	2	3	4
Interpersonal Behavior as Rated by Teachers				
Avoids eye contact	1	2	3	4
Avoids group activity	1	2	3	4
Grabs objects used by others	1	2	3	4
Touches other people inappropriately	1	2	3	4
Stands too close to other people	1	2	3	4
Able but unwilling to speak	1	2	3	4
Inappropriate affectionate behavior	1	2	3	4
Personal Behavior as Rated by Teachers				
Tantrums	1	2	3	4
Often touches own genitals	1	2	3	4
Smears feces	1	2	3	4
Exposes self	1	2	3	4
Hoards objects e.g. food	1	2	3	4
Walks or runs on toes	1	2	3	4
Rapid mood changes	1	2	3	4
Unpredictable behavior	1	2	3	4
Uncontrolled urination	1	2	3	4
Uncontrolled bowel movement	1	2	3	4
Runs away from activities	1	2	3	4
Irritated by changes	1	2	3	4
Runs into traffic or other dangers	1	2	3	4

Self- Injurious Behavior as Rated by Teachers

Bites self	1	2	3	4
Picks at sores	1	2	3	4
Hits or slaps self	1	2	3	4
Bangs or hits head	1	2	3	4
Cuts self with knives or razors	1	2	3	4
Pokes eyes or nostrils	1	2	3	4
Scratches self	1	2	3	4

Property Damage Behavior as Rated by Teachers

Rips at clothing	1	2	3	4
Breaks windows	1	2	3	4
Urinates on floor or furniture	1	2	3	4
Kicks furnishings	1	2	3	4
Bites and chews objects	1	2	3	4
Breaks toys	1	2	3	4
Plays with matches or fire	1	2	3	4

Stereotypic Behavior as Rated by Teachers

Watches movement of own fingers	1	2	3	4
Repeatedly flaps arms/hands	1	2	3	4
Repeatedly swirls around	1	2	3	4
Preoccupied with spinning objects	1	2	3	4
Preoccupied with listening to scratched surfaces	1	2	3	4
Preoccupied with minor detail objects	1	2	3	4
Preoccupied with smelling things	1	2	3	4
Body rocking	1	2	3	4
Paces the floor	1	2	3	4
Grinds teeth	1	2	3	4

Aggressive Behavior as Rated by Teachers

Hits others with head	1	2	3	4
Uses threatening language	1	2	3	4
Uses threatening gestures	1	2	3	4
Bites, scratches, pinches or chokes others	1	2	3	4
Spits at others	1	2	3	4
Throws objects at others	1	2	3	4

APPENDIX 4:

CHALLENGING BEHAVIOUR PERCEPTION QUESTIONNAIRE FOR TEACHERS

Part one

The researcher is interested in what you think about challenging behaviour presented by learners with ASDs. Consider how likely it is that each of the following statements are reasons as to why children with ASDs engage in challenging behaviours. Simply think generally the most likely reason for challenging behaviour.

Please give your response to each of the possible reasons and use the scales below each reason to indicate your opinion.

The key shows what each point on the scale means.

Please indicate your response by placing a tick in the appropriate box in the scale

	Learners with ASDs engage in Challenging behaviour when;	VL 5	L 4	N 3	U 2	VU 1
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 level 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 wanted					
9	They live in unpleasant surrounding					
11	They enjoy the effect of behaviour on others					
12	They are in bad mood					
13	They are worried about something					
15	their surroundings are too warm/cold					
18	There is some biological process in their bodies					
18	They want something					
19	They are angry					
20	There is nothing else for them to do					
21	They live in a noisy place					
22	They feel let down by somebody					
23	They are physically disabled					
24	There is not much space in their environment to move around					
25	They are often left on their own					
26	They are hungry or thirsty					
27	They are frightened					
28	People do not talk to them very much					
29	They want to avoid un interesting tasks					
30	They don't go outdoors very much					
31	They are rarely given activities to do					

32	They want attention from other people					

KEY: V L-Very likely; L- Likely; N- Neutral- Unlikely; VU- Very unlikely

Part two

The researcher is interested in your own personal views on challenging behaviour presented by learners with ASDs.

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

No	**Views about challenging behaviour**	SD 1	D 2	NA 3	A 4	SA 5
1	Challenging behaviour has had a major consequence on lives of learners with ASDs					
2	Learners with ASDs find challenging behaviour easier to live with					
3	Challenging behaviour doesn't have great impact on their lives					
4	Challenging behaviour is very disabling for learners with ASDs					
5	Learners with ASDs challenging behaviour has affected the way I see myself as a person					
6	There is a lot that I can do to control their behaviour					
7	What I do determines whether their behaviour gets better or worse					
8	Learners with ASDs challenging behaviour is likely to be permanent rather than temporary					
9	Learners with ASDs challenging behaviour would last for a long time					
10	There would be periods of lots of challenging behaviours and periods for improvement					

KEY: SD- Strongly disagree; D- Disagree; NAD- Neither agree or disagree; A- Agree; SA- Strongly agree

APPENDIX 5

TEACHERS ATTITUDES TOWARDS CHALLENGING BEHAVIOUR SCALE FOR TEACHERS

Below is a list of emotions that teachers have said they experience when they work with learners with Autistic Spectrum disorders (ASDs) who display challenging behaviour. I want to know how you feel in response to challenging behaviour presented by learners with ASDs. Please circle the response for each emotion that best describe how you feel towards challenging behaviour presented by learners with ASDs.

Attitude	Not at all	Slightly	Moderately	Very much
Guilty	0	1	2	3
Hopeless	0	1	2	3
Afraid	0	1	2	3
Angry	0	1	2	3
Incompetent	0	1	2	3
Frustrated	0	1	2	3
Helpless	0	1	2	3
Disgusted	0	1	2	3
Resigned	0	1	2	3
Humiliated	0	1	2	3
Betrayed	0	1	2	3
Sad	0	1	2	3
Confident	0	1	2	3
Comfortable	0	1	2	3
Happy	0	1	2	3
Self assured	0	1	2	3
Relaxed	0	1	2	3
Cheerful	0	1	2	3
Excited	0	1	2	3

APPENDIX 6:

SEMI STRUCTURED INTERVIEW QUESTIONNAIRE ON CHALLENGING BEHAVIOUR MANAGEMENT STRATEGIES FOR TEACHERS

1. For how long have you been working in this institution?
2. Have you worked in any other institution before?
3. In your career, you are bound to meet many challenges particularly those that are caused by learners with ASDs. What do you consider the main challenging issue when you are working with learners with ASDs?
4. Have these challenges had any effect on your attitudes towards the learner who presents it or to your career?
5. The term challenging behaviour is commonly used to refer to behaviours exhibited by learners with SNE. According to your own understanding and experience what comes to your mind when this term is used?
6. What do you consider to be the main challenging behaviour presented by learners with ASDs that you work with?
7. What could be some of the causes of these challenging behaviour
8. How do you try to reduce challenging behaviour exhibited by learners with ASDs
9. Do you receive any external support in the management of challenging behaviour?
10. What advice can you give to your colleagues and other professionals who work with learners with ASDs on challenging behaviour management?

Thank you for accepting to take part in this interview and again thank you for the valuable information that you have volunteered to give

APPENDIX 7:

CHOICE OF CHALLENGING BEHAVIOUR MANAGEMENT QUESTIONNAIRE FOR TEACHERS

Below are some of the behaviour management strategies that are being used to manage challenging behaviour presented by learners with ASDs. 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 that you are not using and those that you have no idea about them.

	A	B	C	D	E	F
Augmentative communication						
Development of social understanding						
TEACCH						
Behavioral therapy models						
Experimental functional analysis						
Social stories						
Mental health consultations						
Mindfulness training						
Structured teaching						
Pharmacology/medical						

Key

A =6– I know about the strategy, I have tried it and I have found it effective

B=5- I know about the strategy, I have tried it but I have not found it effective

C=4- I know about the strategy, I have not tried it but I may try it in future

D=3- I know about the strategy, I have not tried it and I don't intend to try it

E=2- I don't know about the strategy, I intend to know about it and try it in future

F=1- I don't know about the strategy and I don't intend to try it in future

APPENDIX 8:

OBSERVATION SCHEDULE FOR OBSERVATION OF SESSIONS WHEN TEACHER ARE WORKING WITH LEARNERS WITH ASDS.

Name of learner……Age…… date ……

The behaviour itself

What specifically does the learner do?

……

What specifically does the learner fail to do?

……

The circumstances

What else is happening when the behaviour occurs?

……

When does the problem occur? (What time of the day? During what activities?)

……

Where does the problem occur?

……

Any specific location

How frequently does the problem occur?

……

Is there a pattern?

……

The aftermath

What does the learner do after the behaviour occurs?

……

How the behaviour is currently handled?

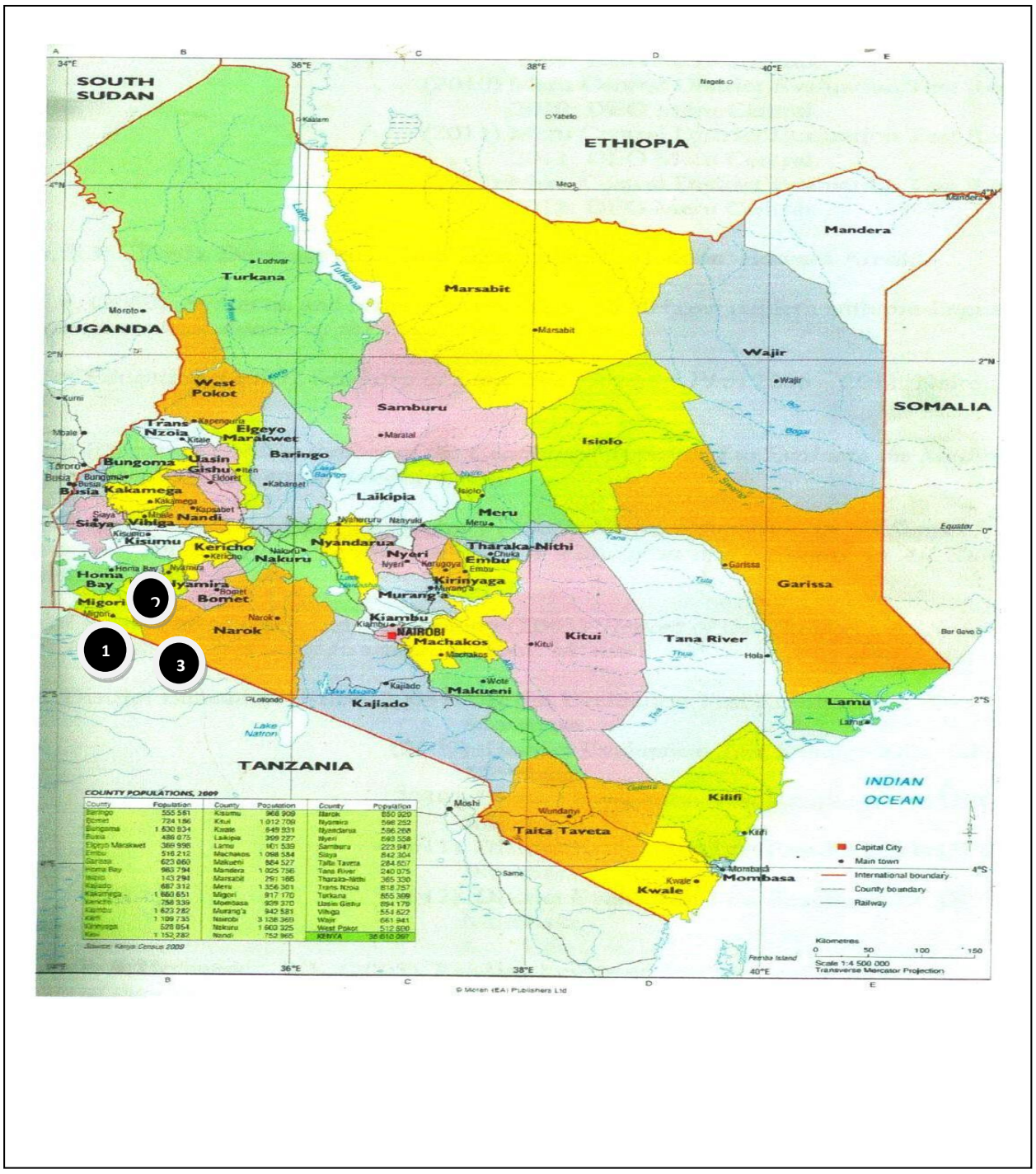
……

Is anything being done to prevent the behaviour from occurring

……

APPENDIX 9:

KENYA MAP SHOWING COUNTIES WHERE STUDY WAS CARRIED OUT



Key: 1- BUSIA COUNTY 2. KAKAMEGA COUNTY 3. VIHIGA COUNTY

Source*: Moran Publishers (2011). Moran Secondary School Atlas. Nairobi: Moran East African Publishers.*

APPENDIX 10: LETTERS OF AUTHORITY TO COLLECT DATA

MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: Secretary - MUERC

DATE: 21st January, 2016

TO: Edward Khasakala
PG/PHD/034/2009
Department of Special Needs Education
School of Education, Maseno University
P.O. Private Bag, Maseno, Kenya

REF: MSU/DRPI/MUERC/00246/15

RE: The Influence of Practioners Perception of Challenging Behaviour on the Choice of Management Strategies among Learners with Autism in Schools in Western Kenya. Proposal Reference Number MSU/DRPI/MUERC/00246/15

This is to inform you that the Maseno University Ethics Review Committee (MUERC) determined that the ethics issues raised at the initial review were adequately addressed in the revised proposal. Consequently, the study is granted approval for implementation effective this 21st day of January, 2016 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 20th January, 2017. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 21st December, 2016.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 21st December, 2016.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advice MUERC when the study is completed or discontinued.

Thank you.

Yours faithfully,

DIRECTORATE OF RESEARCH PUBLICATION & CONSULTANCIES 21 JAN 2016 MASENO UNIVERSITY

Dr. Bonuke Anyona,
Secretary,
Maseno University Ethics Review Committee.

Cc: Chairman,
Maseno University Ethics Review Committee.

MINISTRY OF EDUCATION, SCIENCE AND TECHONOGY
STATE DEPARTMENT OF EDUCATION

Telegrams: .....

Telephone: 30035 and 31413
When replying please quote
e-mail:kakcentdeo@yahoo.com
e-mail:moe_kakamegacentral@yahoo.com

SUB COUNTY EDUCATION OFFICE
KAKAMEGA CENTRAL
P. O. BOX 39
KAKAMEGA

REPUBLIC OF KENYA

Ref: KKC/SCEO/ADM/20/(119) **Date:** 5th October, 2015

TO WHOM IT MAY CONCERN

RE: PROPOSAL APPROVAL FOR EDWARD KHASAKHALA OKAYA – PG/PHD/034/2009

This is to introduce Mr. Edward Khasakhala Okaya to you. He is a Phd student at Maseno University.

Mr. Khasakhala has been granted authority to carry out his research in Busia, Kakamega and Vihiga Counties. His research proposal is titled, "The Influence of Practitioners Perception on Challenging Behaviour on the Choice of Management Strategies among Learners with Autism in Schools in Western Kenya."

The purpose of this letter is to kindly request your esteemed office to accord him the necessary assistance and cooperation to enable him complete his research successfully.

Thanking you in advance for your continued support and cooperation.

DISTRICT KAKAMEGA CENTRAL

INDIATSI MABALE
SUB-COUNTY DIRECTOR OF EDUCATION
KAKAMEGA CENTRAL

CC:
The Dean of Students
Maseno University
P.O. Private Bag
MASENO.