

**TEACHERS' KNOWLEDGE, ATTITUDES, AND PERCEPTIONS OF  
ATTENTION DEFICIT HYPERACTIVITY DISORDER AND MANAGEMENT  
STRATEGIES OF PUPILS IN KISII COUNTY, KENYA**

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## DECLARATION

This thesis is entirely original, with no submissions to other universities for degree awards.

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## CERTIFICATION BY SUPERVISORS

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## **DEDICATION**

Dedicated to my daughter, Susan, sons Edwin and Thomas.

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## ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by persistent patterns of inattention, hyperactivity, and impulsivity that are more frequent and severe than typically observed in individuals at comparable developmental levels. ADHD significantly impairs a child's academic performance, social relationships, and overall well-being. Despite its prevalence, limited research exists on how Teachers' knowledge, attitudes, and perceptions of ADHD influence the choice of classroom management strategies employed. This study investigated the extent to which these factors affect the management of pupils with ADHD in Kisii County, Kenya. The objectives of the study were to: (1) examine the relationship between Teachers' knowledge of ADHD and the choice of classroom management strategies; (2) assess the relationship between Teachers' attitudes toward ADHD and the choice of classroom management practices; (3) explore the relationship between Teachers' perceptions of the causes of ADHD and the choice of classroom management strategies; and, (4) determine how ADHD-related learner behaviours influence Teachers' choice of classroom management strategies. Grounded in behaviourism and social learning theories, the study employed a mixed-methods design and multistage cluster sampling. A total of 323 Teachers from a population of 6,154, including 8 head Teachers and 16 class Teachers responded. A questionnaire adopted from the ASKAT scale was used to collect data, interview schedules, and focus group discussion guides—refined through expert input. Instrument reliability was confirmed using the Cronbach's alpha method, yielding a coefficient of 0.87. Data analysis involved descriptive statistics, correlation, ordinal regression, and thematic analysis. Results indicated statistically significant positive correlations between: Teachers' knowledge of ADHD and management strategies ( $\rho = 0.396, p < 0.001$ ); perceptions of causes of ADHD and management strategies ( $\rho = 0.281, p < 0.001$ ); attitudes towards ADHD and management strategies ( $\rho = 0.325, p < 0.001$ ); and ADHD-related learner behaviours and management strategies ( $r = 0.268, p < 0.001$ ). The study concluded that many Teachers possess insufficient knowledge of ADHD, hold negative attitudes, and maintain misconceptions about its causes, which hinders effective classroom management.

The study recommends targeted teacher training on ADHD causes, behaviours, and evidence-based management strategies. These findings offer valuable insights for Teachers and policymakers in developing comprehensive guidelines to support learners with ADHD-related behaviours.

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## ABBREVIATIONS AND ACRONYMS

The following is a list of abbreviations and acronyms used in the study.

ADHASA	Attention Deficit Hype/Activity of South Africa
ADHD	Attention Deficit Hyperactivity Disorder
APA	American Psychiatric Association
CBT	Cognitive Behavioural Therapy
CI	Confidence Interval
DSM-V	Diagnostic and Statistical Manual for Mental Disorders 5th Edition
DVs	Dependent Variables
EBD	Emotional and Behavioural Disorders
IBM	International Business Machines
IDEA	Individuals with Disabilities Education Act
MH	Mental Health
MMUST	Masinde Muliro University of Science and Technology
NACOSTI	National Commission for Science, Technology and Innovation
SES	Socioeconomic Status

SPSS	Statistical Package for Social Sciences
WHO	World Health Organization
WM	Working Memory

# CHAPTER ONE

## INTRODUCTION

### 1.1 Overview

This chapter presents background to the study, a statement of the problem, the purpose of the study, objectives of the study, research hypotheses and justification for the study, significance of the study, assumptions of the study, scope of the study, limitations of the study, a theoretical and conceptual framework, and, finally, operational definitions of terms.

### 1.2 Background to the Study

A typical classroom comprises a diverse group of learners who vary in cognitive abilities, emotional development, behavioural tendencies, and learning styles (Zulaikha & Laeli, 2023; Nur & Rahman, 2022). Among these students are individuals diagnosed with attention deficit hyperactivity disorder (ADHD), a condition whose defining characteristics are still debated within the clinical and educational communities (American Psychiatric Association [APA], 2022; Wiesenberger et al., 2021). According to these Authors, ADHD is classified as a severe neurodevelopmental disorder characterized by persistent and impairing symptoms of inattention, hyperactivity, and impulsivity. These symptoms are chronic and often disrupt a person's ability to function effectively in daily life, maintain interpersonal relationships, and achieve academic or occupational success [APA], 2022). The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., text rev.; DSM-5-TR) defines ADHD as a sustained pattern of inattention and/or hyperactivity-impulsivity that significantly interferes with development or functioning. To meet diagnostic criteria, individuals must display at least six

symptoms from one or both symptom domains for a minimum of six months, at a level inconsistent with their developmental stage, and with clear negative effects on social, academic, or occupational performance (APA, 2022).

For children with ADHD, the classroom environment can be particularly challenging—both intellectually and socially—as it often demands sustained attention, impulse control, and regulated behaviour, which directly contrast with the core symptoms of the disorder. Without timely intervention, ADHD may contribute to diminished self-esteem and difficulties in peer relationships during childhood (Pearce et al., 2024). These challenges often extend into adulthood, where individuals with ADHD are more likely to experience low self-worth, heightened sensitivity to criticism, and persistent self-critical thinking (Beaton et al., 2022). ADHD is primarily characterized by persistent symptoms of inattention, hyperactivity, and impulsivity, which significantly impair academic, social, and emotional functioning.

Research continues to reveal demographic differences in the prevalence and diagnosis of ADHD. For instance, boys are more than twice as likely to be diagnosed with ADHD than girls (Slobodin & Davidovitch, 2019). Furthermore, recent national data indicate that the percentage of children diagnosed with ADHD increases with age—affecting approximately 2.4% of children aged 3–5, 9.6% of those aged 6–11, and up to 13.6% of adolescents aged 12–17 (Danielson et al., 2024). These figures suggest that learners with ADHD are present in virtually all educational settings, and that most Teachers will encounter such students in their classrooms. Consequently, Teachers bear a critical responsibility to adapt instructional strategies, implement effective behaviour

management, and support the overall development of Learners exhibiting ADHD-related ADHD to ensure they reach their full potential.

Research indicates that Teachers possess comparatively little understanding of behaviours associated with ADHD, which has affected the way they manage learners who exhibit ADHD-related behaviours (Alzahrani et al., 2023). Based on the available literature, there appears to be a limited number of studies examining the relationship between Teachers' knowledge of ADHD and their use of classroom interventions. However, Bolinger et al. (2020) conducted a study exploring how Teachers' awareness of ADHD influences their instructional and classroom management strategies. While the study did not find a statistically significant relationship—possibly due to sample size limitations—it highlighted a meaningful connection between Teachers' understanding of ADHD and the strategies they employ in the classroom.

Additionally, there is a strong body of research demonstrating the relationship between teacher behaviour in the classroom and their knowledge and views on ADHD in particular (Gutiérrez & Frutos 2021). Teachers are better equipped to manage learners when they are aware of behaviours associated with ADHD than when they believe that children are abnormal or oppositional. Teachers who lack the necessary information or training on ADHD may find it difficult to meet the needs of learners in the classroom and, as a result, feel ill-equipped to deal with the numerous difficulties presented by learners who display behaviours associated with ADHD. As a result, they are less likely to look for resources or assistance for their pupils (Alzahrani et al., 2023). As a result, the

current study informs Teachers about behaviours associated with ADHD and evidence-based intervention techniques that they may employ in the classroom.

According to research, Teachers hold mixed attitudes towards learners who exhibit ADHD-related behaviours. For example, Aliye et al, (2023) carried out research in Ethiopia that examined the attitudes of primary school Teachers toward ADHD. Results indicated that the mean score of the Teachers' attitudes toward ADHD was  $41.6 \pm 5.4$  (95% CI: 41.12, 42.16), and 46% of the participants had unfavourable attitudes. It is believed that attitudes influence behaviour. Therefore, the attitudes Teachers have toward learners will impact how they manage them. Teachers with mixed attitudes may struggle to govern their pupils as compared to those with a positive outlook. Although the (Aliye, et al., 2023) study is notable, its findings lack credibility due to its apparent emphasis on attitudes at the cost of other critical elements such as Teachers' awareness of ADHD and perceptions of the causes of these behaviours.

Furthermore, Amha & Azale (2022) explored Kenyan health personnel's thoughts concerning ADHD, and the findings revealed that they had a negative attitude toward the disorder because of how it manifested itself, and this attitude was shared with Teachers. When Teachers have a negative or low attitude towards the learners who exhibit ADHD-related behaviours, these learners run the danger of dropping out of school and becoming involved in criminal activity as they are unlikely to receive assistance. This is why the present research is likely to bring awareness that may help Teachers increase their

knowledge, change their attitude towards learners who exhibit ADHD-related behaviours and support them to enhance their academic performance.

Researchers indicate that ADHD is a complex chronic illness with deficiencies in several domains of functioning with no known cause (Brikell, et al. (2023); Núñez-Jaramillo, et al., 2021). However, recent reviews increasingly show that ADHD is highly heritable—estimates range from 70% to 80%—but environmental factors, particularly prenatal or early postnatal exposures, also play a role. In rare cases, ADHD has been linked to traumatic brain injury, prenatal biohazards, or nutritional influences” (Kittel-Schneider, 2023). Although specific causes remain undetermined, rare cases linked to traumatic brain injury, prenatal biohazards, and nutrition are supported by emerging evidence.” In addition, there may be intricate relationships between developmental, environmental, and genetic characteristics that are connected to these causes. Genetic factors are credited with determining about 80% of the cases (Faraone & Larsson, 2019; Lola et al., 2019).

Other demographic characteristics include poor parental education level (particularly the mother), the mother's work, and low socioeconomic position; gender (males are more affected than females); a child's birth order; and living with a single parent (Aliye et al., 2023).As a result, it appears that ADHD is produced by a complex interaction of inherited and environmental variables that alter the growing brain, resulting in structural and functional abnormalities (Mooney et al. (2023). So, family-related factors such as the mother's smoking and drinking habits, caesarean birth, and a late start to may all contribute to the causes of ADHD. Toxin or medical issues, chronic otitis media,

meningitis, Central Nervous System(CNS) infection, and mental disorders are also implicated (Mooney et al. (2023). In conclusion, both hereditary and non-inherited factors influence the development of ADHD, with distinctive impacts on each.

Teachers' perceptions on the causes of ADHD vary, but there are generally two types of perceptions: environmental factors and biological abnormalities that underlie behavioural symptoms (Faraone et al., 2021). Environmental stressors include poor family support—as evidenced by inconsistent discipline, low relational satisfaction, and disorganized attachment—along with avoidance behaviours and anger in parent–child dynamics. Such factors are common in families of children with ADHD and contribute to heightened parental stress and suboptimal interactions (Walenista, et al., 2023; Erlandsson, et al., 2022). When it comes to managing ADHD, Teachers who believe that biological or genetic abnormalities are to blame tend to favour the use of stimulants, whereas those who believe that environmental factors play a significant role are more likely to employ behavioural techniques such as association, incentives, and punishments.

Bolinger et al. (2020) assert that Teachers have probably worked with at least a few learners who exhibit behaviours associated with ADHD given the prevalence rate. These learners exhibit behavioural disturbances usually classified into three subtypes: the inattentive, the hyperactive/impulsive, and the combined sub-types (Luo et al., 2022). These symptoms cause academic struggles and behavioural problems for learners, because it affects the following skills: executive function (EF), working memory (WM), organisational, time management, and planning skills (Chacko et al., 2018). Making them

intolerable in the classroom setting, to compound that, these behaviours occur in all classrooms, Teachers have a tough time controlling these learners.

In addition, Becker et al. (2021) claim that these children have deficiencies in their ability to reason and comprehend. They may also have trouble with writing, reading, organizing their belongings, verbally expressing their feelings, and logical analysis. According to the Child Mind Institute (n.d.), learners with ADHD often struggle to remain seated, frequently talk out of turn, interrupt others, and have difficulty playing quietly or organizing materials. Kinyua (2019) notes that if peers make fun of and taunt them, it might cause social disengagement because of low social skills and peer rejection. These behaviours appear to be the focus of Teachers, who regard these learners as intolerable because they challenge their authority, interfere with education, disrupt classroom routines, and have negative consequences for classmates (Shey & Lukong, 2018).

Therefore, to keep these learners interested in studying and from becoming bored, Teachers must come up with creative strategies (CDC, 2022). Likewise, Staff et al (2022) argue that Teachers need effective intervention strategies, adequate training, and resources to help them manage ADHD-related behaviours in the classroom; thereby enhancing academic performance. This is due to the fact that taking such measures tends to lessen the disorder's long-term detrimental effects (CDC, 2022). Learners exhibiting ADHD-related behaviours can thrive academically if Teachers identify these behaviours early and implement tailored teaching methods and behavioural management strategies such as structured routines, positive reinforcement, and clear expectations (CDC, 2024: Van Zijderveld, et al., 2022). In fact, Adiputra (2019) claims that having ADHD does not

exclude learners from having great academic ability; on the contrary such learners usually have intelligent quotients (IQ) that are above average. As a result, the current study intends to raise awareness regarding ADHD-related behaviours and advocate for research-based intervention options that Teachers can utilize to improve the academic achievement of pupils, adjustment, and general functioning.

Gnanavel et al., (2020) points out that ADHD coexists with other disorders such as anxiety, depression, learning disabilities, and conduct issues, which creates additional difficulties for learners, parents, and Teachers. Comorbidity can exacerbate the difficulties of adjusting to the stress, change, and social isolation that come with learning. Therefore, what these learners need is additional support because behaviours that support an ADHD diagnosis interfere with social interactions, disrupt instruction in the classroom, and cost Teachers time (CDC, 2022). Moreover, Teachers' unpreparedness and poor Teacher Learner relationships can adversely affect overall classroom mood. Research have consistently shown that effective classroom management, thorough lesson planning, strong teacher–student relationships, and specialized training are among the most reliable indicators of learner success (Bolinger, et al., 2019; Meza, et al., 2020; Müller, et al., 2021).

Research backs up the implementation of targeted physical behaviour management techniques, computer-assisted instruction, classroom organization, executive functioning interventions, parent education, and cognitive behavioural social skills training (Benzing & Schmidt, 2019; Harrison et al., 2020). When treatments are utilized effectively, the

effects benefit affected learners while also enhancing the behavioural and academic outcomes of their classroom peers (Cordier, 2018; Gaastra et al., 2020; Bolinger et al., 2020; McDougal et al., 2022).

Recent studies indicate that general education Teachers globally express concerns about inadequate training and insufficient administrative support when teaching Learners exhibiting ADHD-related behaviours. Dwarika (2021) emphasizes that many Teachers feel ill-equipped to manage ADHD symptoms effectively due to limited professional development opportunities and a lack of systemic support within schools. Furthermore, a meta-analysis by Zee et al. (2023) reveals that Learners with ADHD often experience strained relationships with their Teachers, characterized by reduced emotional closeness and increased conflict, compared to their peers without ADHD. These findings underscore the necessity for comprehensive teacher training programs and robust institutional support to foster positive educational outcomes for Learners with ADHD.

In the United States, children diagnosed with ADHD may qualify for special education services under the "Other Health Impairment" (OHI) category of the Individuals with Disabilities Education Act (IDEA) when the condition adversely affects their educational performance. Recent data indicate that approximately 11.3% of children aged 5–17 years have been diagnosed with ADHD, with higher prevalence among boys (14.5%) compared to girls (8.0%). (Reuben & Elgaddal; 2024). Behavioural therapies remain a cornerstone of ADHD treatment. Common interventions include parent training, social skills training, peer interventions, and cognitive-behavioural therapy. These treatments have been shown

to improve academic performance and social interactions while reducing disruptive behaviours.

The economic impact of ADHD is substantial. A 2022 study estimated that the annual societal excess costs associated with ADHD in children amount to approximately \$19.4 billion, with education-related expenses comprising nearly 60% of this total. These figures underscore the importance of implementing effective, evidence-based interventions to mitigate the disorder's burden on individuals and society (Schein, et al. (2022).

Recent studies indicate that the prevalence ADHD among children and adolescents in Africa is approximately 7.47%, with reported rates ranging from 5.4% to 8.7% across various regions (Ayano et al., 2020). These figures suggest that, on average, at least one Learner in every classroom may exhibit ADHD-related behaviours.

In South Africa, while national statistics on ADHD prevalence are limited, estimates suggest that between 2% and 16% of children may exhibit symptoms consistent with ADHD. This wide variability underscores the need for comprehensive epidemiological studies to establish accurate prevalence rates (Boshomane, 2023; Schoeman, 2017). The observable symptoms of inattention, impulsivity, and hyperactivity place Teachers in a pivotal position to identify and refer Learners for further assessment. However, many Teachers face challenges in managing these behaviours due to a lack of specialized training and resources. Consequently, the current study aims to develop and implement research-based interventions to support Teachers in effectively managing Learners exhibiting ADHD-related ADHD.

Recent studies have identified the presence of ADHD among school-aged learners in Kenya and Uganda. In Kenya, a cross-sectional survey conducted in 2022 found that 6.3% of children exhibited ADHD consistent symptoms. Similarly, in Uganda, research conducted in Wakiso District reported an ADHD symptom prevalence of 11.6% among primary school learners, with inattention symptoms being more dominant than hyperactive/impulsivity symptoms (Boshomane, 2023).

In Kenya, the prevalence of various mental health difficulties among pupils and teenagers in schools has been found to range between 10% to 50.5%. A study focusing on medical Learners in Eldoret reported a self-reported ADHD symptom prevalence of 8.7%, highlighting that ADHD symptoms are not confined to early childhood but persist even into higher education levels. Furthermore, research in Kisii County revealed a deterioration in behavioural patterns among learners, including disruptive behaviours such as drug abuse, bullying, aggression, truancy, and indiscipline. These behaviours have been associated with increased criminal activity, academic underachievement, social problems, substance abuse, and accidents (Wamithi, et al., 2022). It is against this backdrop, that present study was conceived to examine Teachers' knowledge, attitudes, and perceptions of ADHD and how these factors influence their choice of classroom management strategies in primary schools within Kisii County, Kenya.

### **1.3 Statement of the Problem**

Attention-Deficit/Hyperactivity Disorder is a common yet often misunderstood neurodevelopmental disorder affecting school-aged children worldwide. In Kenya, particularly in regions such as Nairobi and Nyanza, studies report ADHD prevalence

rates of 6.3% in Nairobi (Wamithi et al., 2015) and 13.1% in Kisumu County (Ongeri et al., 2021), with Kisii County emerging as an ADHD-related behaviours hotspot.—with Kisii County emerging as an AD hotspot. Despite these high prevalence rates, many Teachers lack adequate knowledge and understanding of ADHD, leading to misconceptions, stigmatization, and inappropriate responses to affected learners.

Research and media reports suggest that Teachers often attribute ADHD symptoms to disobedience or poor parenting. Learners who display signs such as restlessness, impulsivity, forgetfulness, or poor task engagement are frequently labelled as disruptive or defiant. In extreme cases, such misinterpretation has led to incidents of teacher-perpetrated violence against pupils. Such punitive responses not only violate children's rights but also worsen behavioural and emotional outcomes for affected learners, including low self-esteem, social isolation, and academic underachievement.

Furthermore, Teachers' attitudes toward Learners exhibiting ADHD-related vary significantly. Some Teachers express empathy and consider ADHD manageable, while others experience frustration, emotional detachment, and burnout, leading to requests for transfer or exit from the profession. Inadequate pre-service and in-service training on special needs, particularly ADHD, contributes to poor management strategies that may escalate confrontations in the classroom. As a result, children with ADHD are more likely to be punished or marginalized rather than supported.

This situation underscores the urgent need for targeted interventions to equip Teachers with accurate knowledge, positive attitudes, and effective classroom management

strategies for Learners exhibiting ADHD-related behaviors. Against this backdrop, the current study investigates Teachers' knowledge, attitudes, perceptions, and management strategies for Learners exhibiting ADHD-related behaviours in public primary schools in Kisii County, Kenya. The findings are expected to inform teacher training programs and guide policy development aimed at inclusive and effective education for all learners.

#### **1.4 Purpose of the Study**

The purpose of the study was to determine Teachers' knowledge, attitudes, and perceptions of Attention Deficiency Hyperactivity Disorder and management strategies of pupils in Kisii County, Kenya.

#### **1.5 Objectives of the Study**

The objectives of this study were to:

- i) Examine the relationship between Teachers' knowledge of ADHD and the choice of classroom management strategies in Kisii County, Kenya.
- ii) Assess the relationship between Teachers' attitudes toward ADHD and the choice of classroom management practices in Kisii County, Kenya.
- iii) Explore the relationship between Teachers' perceptions of the causes of ADHD and the choice of classroom management strategies in Kisii County, Kenya.
- iv. Determine how ADHD-related learner behaviours influence Teachers' choice of classroom management strategies in Kisii County, Kenya.

## **1.6 Research Hypotheses**

For each of these research objectives, a null hypothesis (H<sub>0</sub>) was linked to an alternative hypothesis (H<sub>1</sub>). Based on the objectives of the study, the following hypotheses were formulated:

H<sub>0</sub>1 (Null): There is no significant relationship between Teachers' knowledge of ADHD and the choice of classroom management strategies.

H<sub>0</sub>2 (Null): There is no significant relationship between Teachers' attitudes toward ADHD and the choice of classroom management strategies

H<sub>0</sub>3 (Null): There is no significant relationship between Teachers' perceptions of the causes of ADHD and the choice of classroom management strategies.

H<sub>0</sub>4 (Null): ADHD-related learner behaviours do not significantly influence Teachers' choice of classroom management strategies.

## **1.7 Significance of the Study**

This study is significant in many ways. This research could help the Ministry of Education's (MOE) policymakers create guidelines for developing ADHD programs and offer ideas for integrating intervention into the classroom. The knowledge gained may also help the school administrators see a greater need for collaborations involving psychologists who can train Teachers and non-academic staff on how to identify learners displaying behaviours and symptoms indicative of ADHD. These results may also assist Teachers in managing behaviours associated with ADHD and assist learners with their cognitive, social, and psychological requirements. In a nutshell, the results could

influence how Teachers see the reasons for learner behaviours linked to ADHD and aid in the development of more effective management techniques.

### **1.8 Justification of the Study**

The modern classroom is becoming increasingly diverse due to inclusive education policies, and therefore, Teachers must manage an array of emotional and behavioural issues. Understanding ADHD-related behaviours may assist in selecting the appropriate corrective actions when behaviours associated with ADHD emerge. Understanding the causes and what can limit the display of excessive disruptive behaviour in schools is important. This is because it gives Teachers ways and means to prevent behaviour such as arson, vandalism of property and even death that are of great concern. These behaviours burden parents and the community at large in addition to impeding learning. Having a good understanding as to what triggers such disruptive behaviour is important because measures would be taken to prevent the behaviour. Considering the high burden of ADHD-related learner behaviour, finding preventive strategies to lessen their effects and improve academic achievement in schools makes sense.

### **1.9 Assumption of the Study**

This study was premised on the assumptions that; Kisii County primary school learners display behavioural traits associated with ADHD and those Teachers in public primary schools in Kisii County possess some understanding of behaviours linked to ADHD and

are aware of different management strategies used to manage behaviours of learners with special needs.

### **1.10 Scope of the Study**

This study was confined to investigating Teachers' knowledge, attitudes, perceptions of ADHD and ADHD-related behaviours and how those behaviours can be managed. Specifically, the investigation focused on the teacher's knowledge level of ADHD, Teachers' attitudes towards ADHD-related behaviours, risk factors or causes of ADHD, ADHD-related behaviours exhibited by learners; and the techniques used in managing ADHD-related behaviours. The study targeted Teachers teaching primary schools in Kisii County, Kenya

### **1.11 Limitations of the Study**

The use of questionnaires may limit a study due to biases in self-reported data, restricted response depth, varied interpretation of questions, and potential low response rates. To mitigate these issues, the researcher triangulated the findings with interviews and focus group discussions

### **1.12 Theoretical Framework**

Learner behaviours are diverse and influenced by various factors, making a single theoretical framework insufficient. This study therefore adopted both conditioning and social learning theories, based on the assumption that maladaptive behaviour is learned, can be relearned, and can be shaped through modelling.

### **1.12.1 Behaviourism Theory**

Behaviourism emerged as a reaction to introspective psychology, which relied on subjective self-reports. Pioneered by J.B. Watson and B.F. Skinner, behaviourism focused on observable and measurable behaviours, emphasizing the role of the environment and experiences in shaping actions. According to behavioural learning theory, behaviour is learned through stimulus-response associations, where actions followed by positive outcomes are reinforced and repeated, while those followed by negative outcomes are discouraged. The theory rests on three core principles: the role of reward and punishment, classical versus operant conditioning, and the idea of extinction. In educational settings, this translates to Teachers reinforcing desired behaviours with praise or rewards and discouraging negative behaviours through appropriate consequences, thereby shaping Learner conduct through consistent feedback.

The second key concept in behaviourism is the distinction between classical and operant conditioning. Classical conditioning involves learning through associations between stimuli, while operant conditioning focuses on reinforcing or discouraging behaviours through consequences. Teachers can use these principles to shape Learner behaviour by linking good conduct with rewards and misbehaviour with penalties. The third principle, extinction, occurs when a previously reinforced behaviour is no longer rewarded, leading it to fade over time. For example, a hyperactive learner may gradually learn to sit quietly if only calm behaviour is reinforced. Behaviourism has been widely applied in education

to replace negative behaviours with positive ones by consistently rewarding desirable actions and withholding reinforcement for undesirable ones.

Behaviourism identifies four main components for shaping and modifying behaviour: positive reinforcement, negative reinforcement, positive punishment, and negative punishment. Positive reinforcement encourages good behaviour by providing rewards, while negative reinforcement removes an unpleasant stimulus to increase desired behaviour. Conversely, positive punishment introduces an unpleasant consequence to reduce undesirable behaviour, and negative punishment involves removing privileges or attention to discourage it. This approach helps learners make informed behavioural choices by associating actions with outcomes. In classroom settings, behaviourism empowers Teachers to manage behaviour objectively, influence learners' actions, and consider external factors such as home environment in understanding Learner behaviour.

Neurological research shows that children with ADHD process rewards and punishments differently due to altered dopamine signalling in key brain regions. They respond more effectively to consistent, immediate positive reinforcement than to partial or delayed rewards, which can lead to reduced attention, slower learning, and fewer correct responses. Without regular feedback, these children may become frustrated, disengaged, or resistant to changing expectations. Clear communication of rules and expectations is crucial, as frequent or abrupt changes can heighten frustration. While punishment may provide short-term focus, its overuse—especially in emotionally dysregulated children—can cause long-term harm, and should therefore be applied with caution.

One limitation of behaviourism is that it focuses solely on training behaviour through reinforcement, yet not all behaviours can be effectively taught this way. To address this gap, social learning theory—which emphasizes modelling—is also necessary and is discussed in the following subsection.

### **1.12.2 Social Learning Theory**

Albert Bandura's (1977) social learning theory emphasizes that behaviour is influenced by internal psychological processes and occurs through social interaction. Learning happens when individuals observe and imitate others within their environment, shaped by the dynamic relationship between the observer, their surroundings, and their actions. The theory outlines three observational learning models: live (real-life demonstration), symbolic (media-based figures), and verbal instructional (descriptions of behaviour). Key principles include attention, retention, reproduction, and motivation. For effective modelling, Learners must relate to the model, such as a peer or teacher, and be motivated to imitate positive behaviours. Rewarding appropriate conduct—like giving stars only to well-behaved Learners—reinforces desired behaviours and encourages others to follow.

The retention principle of social learning theory emphasizes that learners must remember observed behaviours to replicate them later. In classrooms, Learners often model how Teachers treat peers, especially those with ADHD who may struggle with focus and self-regulation. If a teacher responds harshly to such Learners, others may imitate that negative behaviour; conversely, a kind, supportive teacher sets a positive example. The reproduction principle highlights the importance of learners' ability to replicate observed

behaviours, while the motivation principle focuses on internal or external incentives that encourage imitation. Social learning theory is widely applied in education for modelling positive behaviour and enhancing instruction. Its strength lies in explaining behavioural changes based on environmental shifts and accommodating both observational and experiential learning.

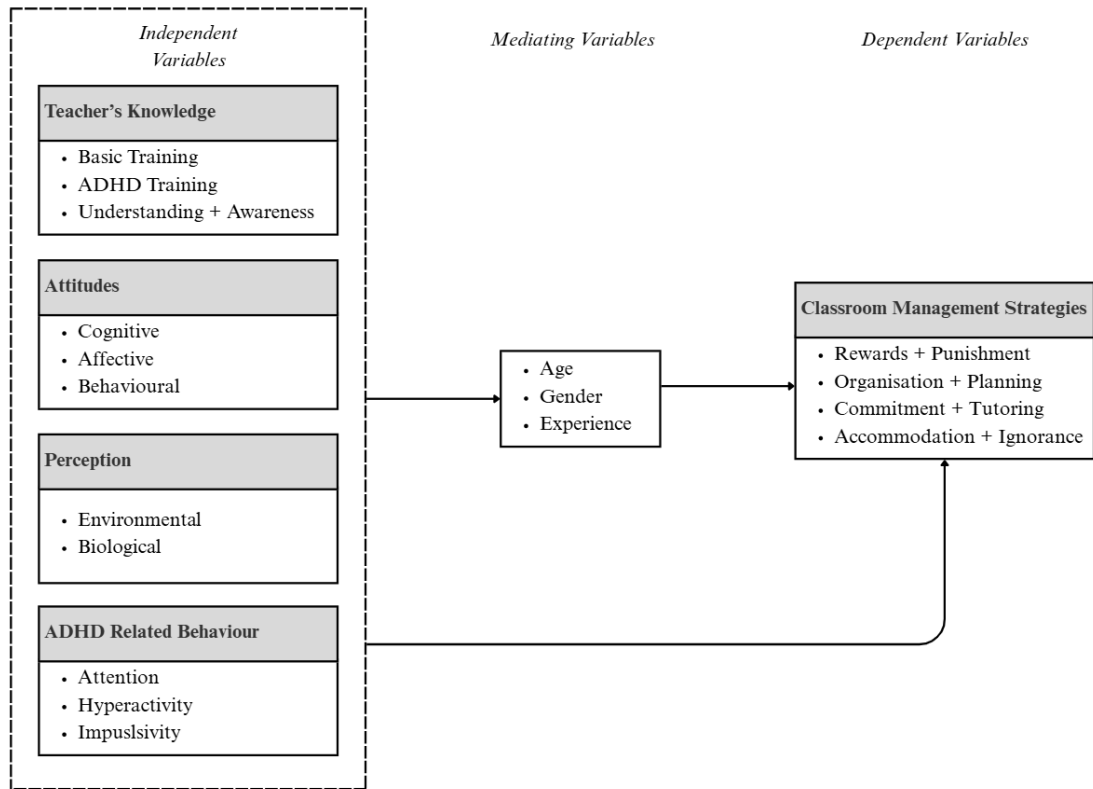
According to the social learning theory, Teachers act as role models for positive behaviour by demonstrating appropriate actions or using tools like videos to influence learners through imitation. This approach is particularly useful in addressing aggressive or impulsive behaviours by providing consistent behavioural models. However, the theory has limitations, including its minimal emphasis on personal responsibility, its assumption that behaviour is solely shaped by social context, and its neglect of developmental stages and situations lacking a clear role model. Unlike earlier theories focused solely on reward and punishment, Bandura's social learning theory views behaviour as shaped by complex social interactions. Though it does not specifically address ADHD, the theory offers valuable insights for managing ADHD-related behaviours by emphasizing the power of observed behaviour over verbal instruction.

ADHD can interfere with social learning, as children with the condition often struggle to focus, communicate effectively, and identify appropriate role models, especially when placed in specialized settings where peers may also face learning challenges. This can hinder their ability to imitate positive behaviours and impact their sense of self-efficacy. Research shows that rather than relying solely on correction, parents, Teachers, and caregivers can positively influence children with ADHD by modelling desired behaviours

and reinforcing them consistently at home and school. Strategies like clear instructions, praise, and structured routines have been shown to improve outcomes. While social learning theory emphasizes modelling and behaviourism focuses on reinforcement, both frameworks offer complementary tools for behaviour management. This study integrates elements from both, recognizing that some behaviours—like kindness—are best learned through observation, while others—like task completion or sitting still—respond better to conditioning techniques.

### **1.13 Conceptual Framework**

This study employed the conceptual framework depicted in Figure 1, which illustrates the key concepts, variables, and hypothesized relationships underpinning the research. In addition, the framework shows the relationships between the main variables and the pathways through which they are expected to influence the outcomes. Serving as a theoretical blueprint, the framework organizes ideas, clarifies how they interconnect, and provides a structured basis for data collection and analysis. Its application ensures that the study remains focused, logically consistent, and anchored in established scholarship. By adopting this framework, the research benefits from enhanced clarity, a stronger theoretical foundation, and a systematic approach to interpreting findings.



Source: researcher, 2022:

**Figure 1.1: The conceptual framework:** The relationship between Teachers' knowledge, attitudes, and perceptions and Classroom management strategies

Figure 1 shows that the independent variables consist of four main components: Teacher's Knowledge (basic training, ADHD-specific training, understanding and awareness), Attitudes (cognitive, affective, behavioural), Perception (environmental and biological perspectives), and ADHD-Related Behaviour (attention, hyperactivity, impulsivity). These variables influence the mediating variables—specifically age, gender, and experience—which in turn shape the study's dependent variable, namely Classroom Management Strategies.

The framework shows a twofold relationship: first, the independent variables exert direct effects on classroom management strategies through the mediators; second, ADHD-related behaviours have a direct influence on classroom management strategies without mediation. The dependent variable encompasses strategies such as rewards and punishment, organisation and planning, commitment and tutoring, and accommodation or ignorance. This structure reflects how teachers' knowledge, attitudes, perceptions, and encounters with ADHD-related behaviours—together with demographic and experiential factors—combine to influence the approaches adopted in managing classrooms.

A change in the independent variable has a counteracting effect on the dependent variable, as seen in Fig. 1. For example, a teacher's expertise matters when selecting the management techniques to use in the classroom. Compared to unskilled and inexperienced Teachers, it is assumed that Teachers' training and experience also contribute to a gain in knowledge. The selection of management techniques is influenced by Teachers who have a favourable attitude towards learners who exhibit ADHD-related behaviours. A clear knowledge of the elements that lead to ADHD-related behaviour is more likely to produce a clear classroom management strategy than a complex one. However, if Teachers think that the behaviour is caused by other factors such as defiance or opposition, they could choose inefficient management techniques.

Moderating variables also influence the Teachers' choice of classroom management strategies. In other words, it moderates the effects of the outcome between independent and dependent variables. Intervening variables are teacher age, teacher experience, and

teacher training, which influence the choice of classroom management strategies. Their effects are mitigated through randomization, where every participant has an equal chance of being selected, and standardizing procedures and instructions to ensure fair treatment of participants.

However, in some rare situations, independent variables have an influence on the dependent variable. In a nutshell, the independent variable, intervening variables, and dependent variables were measured using ordinal scales.

#### **1.14. Operational Definition of Key Terms Used**

The following are the operational definitions of terms used in this study.

ADHD	Persistent Childhood disruptive behaviour
ADHD-related behaviours	Refers to inattention, impulsivity, and hyperactivity.
Attitudes	Teachers emotional reaction towards learners with persistent childhood disruptive behaviour
Knowledge	Teachers understanding of persistent childhood disruptive behaviour
Hyperactivity	It refers to pupils' excessive movement.
Impulsivity	It refers to pupils hitting peers and others carelessly without thinking.
Inattention	The term is used to refer to the inability of pupils to be focused on classroom activities or learning among grade one to five pupils.

Pupils	In this study, it is used to refer to Grades one to five pupils.
Management strategies	Ways of controlling ADHD-related behaviours exhibited by learners in class.
Teachers' perception	Understanding or interpretation of the causes of persistent childhood disruptive behaviours.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter provides a critical review of the literature concerning Teachers' knowledge, attitudes, perceptions, and behaviours in relation to the choice of classroom management strategies. The review aims to identify existing knowledge gaps, highlight prevailing trends, and expose areas of conflict and unresolved questions in previous research. Specifically, the chapter explores Teachers' understanding of ADHD-related behaviours, their attitudes toward learners exhibiting such behaviours, their perceptions of the causes, and the strategies they employ to manage these learners in the classroom. By examining these dimensions, the chapter lays the groundwork for addressing gaps in both theory and practice related to the effective support of Learners exhibiting ADHD-related ADHD.

#### **2.2 Teachers' Knowledge Level of ADHD**

Research on Teachers' experiences with ADHD has not only focused on developed nations but has begun to emerge in developing countries—though gaps still exist. A 2022 study in Ethiopia documented Teachers' limited skills and negative attitudes toward ADHD learners (Amha & Azale, 2022), while Peruvian research in 2021 found that direct experience improved Teachers' understanding, though training remains rare (Mulholland, et al., 2023). A broader meta-analysis in 2022 confirmed that ADHD interventions enhance teacher practices but are largely absent in low- and middle-income settings (Akdağ, (2023).

Recent studies in Ethiopia and Egypt reveal that primary school Teachers often possess limited knowledge about ADHD, coupled with misconceptions regarding its causes and management strategies (Dessie, et al. 2021). For instance, a study in Gondar, Ethiopia, found that only 44.8% of elementary school Teachers had good knowledge of ADHD, although 84.1% exhibited favourable attitudes towards Learners with the disorder (Dessie, et al. 2021).

In Kenya, research specifically focusing on Teachers' knowledge and attitudes towards ADHD is scarce. A comparative study in Mombasa, Kenya, and Kampala, Uganda, highlighted that teacher factors such as gender and teaching experience significantly influenced the academic achievement of Learners exhibiting ADHD-related behaviours, underscoring the importance of teacher preparedness in managing such Learners (Biiarah, et al., 2018).

Teachers play a pivotal role in identifying and managing ADHD-related behaviours in the classroom. Their understanding and perceptions of the disorder directly impact their ability to support affected learners effectively. Studies suggest that Teachers with adequate knowledge of ADHD are more likely to implement appropriate classroom interventions and refer Learners for further assessment (Dessie, et al., 2021). Conversely, a lack of ADHD knowledge among Teachers is linked to widespread misconceptions, which likely contribute to misinterpretations of behaviours and hinder the adoption of supportive strategies (Woyessa et al., 2019).

Furthermore, training and professional development have been identified as crucial factors in enhancing Teachers' knowledge and attitudes towards ADHD. Teachers who have received training on ADHD demonstrate more favourable attitudes and are better equipped to manage Learners exhibiting ADHD-related behaviours (Amha & Azale, 2022). However, such training opportunities are often limited in developing countries, including Kenya.

Given the increasing prevalence of ADHD and its impact on students' academic and social functioning, there is a pressing need to investigate Teachers' knowledge, attitudes, and management strategies concerning ADHD in under-researched regions like Kisii County, Kenya. Understanding these factors is essential for developing targeted interventions and training programs to support Teachers and improve outcomes for students with ADHD. Recent studies indicate that many Teachers feel inadequately prepared to manage Learners with ADHD in classroom settings due to limited formal training. Informal information sessions often fail to provide accurate, evidence-based knowledge, leading to misconceptions that can result in inappropriate referrals and guidance to parents.

In South Africa, research has shown that Teachers often lack comprehensive knowledge about ADHD, particularly regarding its treatment and associated features. This gap in understanding contributes to heightened stress levels among Teachers when managing learners exhibiting ADHD-related behaviours (Braude & Dwarika, 2020). Children spend a significant portion of their time in school, positioning Teachers as pivotal figures in

their education and behavioural development. When a child is diagnosed with ADHD, Teachers are often responsible for implementing classroom interventions. Awareness of their own training needs enables Teachers to develop effective teaching strategies and behaviour management plans.

Leaners with ADHD-related behaviours frequently face academic challenges. However, Teachers who recognize and understand such Leaners' unique needs can tailor learning programs to support them effectively. Research indicates that teacher characteristics, including knowledge of ADHD and acceptance of intervention strategies, significantly influence the academic and behavioural outcomes of Leaners with ADHD. (Staff et al., 2022)

Despite the critical role of teacher awareness, there is a paucity of research on the impact of Teachers' knowledge, attitudes, and perceptions of ADHD in regions like Kisii County, Kenya. This gap underscores the need for studies that explore these factors and their influence on classroom management practices. ADHD is one of the most extensively researched behavioural disorders in childhood due to its profound impact on peer relationships and academic performance. Untreated ADHD can lead to low self-esteem, repeated academic failures, and social skill deficits, potentially resulting in antisocial behaviours such as substance abuse and school dropout.

Teachers may sometimes misinterpret ADHD-related behaviours as signs of poor upbringing, leading to neglect or punitive measures. Such misperceptions can exacerbate

the challenges faced by Learners with ADHD and contribute to teacher burnout and job dissatisfaction (Jaye et al., 2020).

Professional development programs focusing on ADHD have been shown to enhance Teachers' knowledge and attitudes, leading to more effective classroom management strategies. For instance, a study in Nigeria demonstrated that targeted training significantly improved Teachers' understanding and handling of ADHD. While some studies report that Teachers possess substantial knowledge about ADHD, others highlight significant gaps. These inconsistencies suggest the need for standardized training and resources to ensure Teachers are well-equipped to support students with ADHD.

Given the collaborative nature of ADHD diagnosis and management, involving parents, Teachers, and healthcare professionals, enhancing Teachers' awareness is crucial. Improved understanding can lead to better identification, referral, and support for Learners exhibiting ADHD-related behaviours.

### **2.3 Perceptions of Causes of ADHD-Related Behaviours**

Teachers may develop negative perceptions of Learners exhibiting ADHD-related ADHD due to ongoing frustrations in the classroom. These frustrations often stem from the learners' difficulties in maintaining appropriate behaviour and meeting academic demands, which place added pressure on Teachers. Teachers who lack foundational knowledge of ADHD are more likely to form inaccurate assumptions and struggle to manage the various challenges presented by these Learners. Perception—understood as

the process by which individuals interpret current stimuli based on past experiences—plays a key role in this dynamic (Bolinger, et al., 2020).

The precise causes of ADHD remain unclear, but current research strongly supports a complex interaction of genetic, neurological, and environmental factors. Over 20 large-scale genetic studies have confirmed ADHD as a highly heritable disorder, with estimates suggesting that genetics account for 70%–80% of cases (Demontis et al., 2023). However, ADHD is not caused by a single gene; rather, it is the result of numerous genes interacting in complex ways. Environmental risk factors—such as prenatal exposure to alcohol, tobacco, or drugs; lead or pesticide exposure during early childhood; premature birth; and low birth weight—also contribute to the likelihood of developing ADHD (Karalunas & Nigg, 2020; Zhang et al., 2024).

Although earlier research pointed to maternal stress and smoking during pregnancy as risk factors, recent evidence challenges this assumption, suggesting a weaker association than previously thought (Karalunas & Nigg, 2020)). Still, more investigation is needed to fully understand these relationships. Importantly, while family stress and parenting styles do not cause ADHD, they can significantly influence its expression and management of symptoms (Rajeh et al., 2023). For instance, harsh or inconsistent parenting may exacerbate behaviour problems, whereas a supportive home environment can buffer against the disorder’s more disruptive effects.

Both birth order and the number of siblings have also been explored as potential risk factors for ADHD. Although the results remain inconclusive, some studies suggest that later-born children may show more symptoms of hyperactivity and oppositional behaviour (Reimelt et al., 2021; Hsu et al., 2019), while others have found no significant correlation (Tong & Kawachi, 2021).

In a Spanish study, firstborn children were found to be twice as likely to have ADHD compared to their siblings (Reimelt, et al., 2021), while another large case-control study in Madrid suggested that being a middle child may offer some protection against ADHD (Reimelt et al. 2021). These conflicting findings point to the need for further research to determine how family dynamics, including sibling competition and parental attention, may influence the development of ADHD.

Given that ADHD is one of the most commonly diagnosed juvenile mental disorders, it is critical to investigate the influence of birth order and the number of siblings on ADHD. To date, only a few studies have looked into the relationship between birth order and ADHD, with mixed results. Some research revealed a link between birth order and ADHD (Reimelt et al., 2021; Hsu et al., 2019), whereas others did not (Tong & Kawachi, 2021; Catherine et al., 2019). In a representative epidemiological study of 13,488 children and adolescents in Germany, Reimelt et al. (2018) found that firstborns were significantly more likely to be diagnosed with ADHD compared to both youngest-born children (OR = 1.31) and only children (OR = 1.31), even after controlling for several confounding variables. This suggests that birth order—particularly being firstborn—may

increase ADHD risk, whereas being middle-born does not confer a protective effect as once thought in smaller earlier studies.

Additionally, being the firstborn has been associated with a higher likelihood of aggressive behaviours in boys with ADHD, especially when coupled with non-traditional family structures (Chen et al., 2018). Likewise, socio-economic status (SES) is a significant factor influencing the prevalence of ADHD. Children from lower SES backgrounds are more susceptible to ADHD diagnoses, with factors such as parental unemployment, low income, and limited educational attainment contributing to this increased risk (Keilow et al., 2020). A multi-country study found that children from families with lower household incomes and maternal education levels had higher rates of ADHD, underscoring the global influence of socioeconomic disparities on mental health (Spencer et al., 2022).

Perception is understood as an active cognitive process of organizing and interpreting sensory input. For example, one recent source defines perception as “a cognitive process by which we take a sampling of the information received from our senses and organize and interpret it as meaningful and recognizable experiences” (Leigh-Post, 2021). This aligns with modern cognitive theories that emphasize how perception constructs meaningful experiences from sensory data. Moreover, perception is influenced by personal factors: people tend to selectively attend to information that matches their existing values or motives. Indeed, selective-perception theory notes that individuals

“single out those aspects of a situation... that are consistent with one’s needs, values, or attitude” (Sharma, 2019).

Recent studies show that Teachers’ beliefs about ADHD aetiology influence their treatment preferences. For instance, a Chinese study trained both parents and Teachers about ADHD as a neurobiological disorder. Before training, many Teachers did *not* accept ADHD as a legitimate disorder, but after the intervention “more parents and Teachers believed that ADHD is a neurobiological disorder and that medication is the first line treatment” Zheng *et al.*, 2020). This illustrates that shifting beliefs toward biological causation increases acceptance of medication. Similarly, a teacher-focused knowledge-translation program in Canada found that participants’ attributions shifted away from social/ behavioural causes toward *brain-based* explanations of ADHD (Isenor *et al.*, 2022).

In summary, recent evidence suggests that when Teachers endorse biological causes for ADHD (vs. solely environmental explanations), they become more receptive to biomedical interventions (medication) and evidence-based supports. The alignment between Teachers' and parents' perceptions of ADHD is vital for effective intervention. Discrepancies can hinder the implementation of support strategies, as conflicting beliefs may lead to inconsistent management approaches (Bartels, 2022). Moreover, Teachers who do not recognize ADHD as a legitimate neurodevelopmental condition may misattribute learners’ behavioural challenges to discipline problems, neglecting the need for appropriate interventions (Elbalal *et al.*, 2025). Understanding and addressing these

perceptions are essential for developing effective support systems for students with ADHD.

When Teachers don't recognize ADHD as a legitimate condition, classroom management suffers. For example, one review notes that before specialized training, many Teachers "do not believe that ADHD is a disorder" (Zheng *et al.*, 2020). Such scepticism often lead Teachers to interpret ADHD behaviours as wilful misbehaviour needing punishment rather than support. In fact, recent research highlights the negative impact of these beliefs: Teachers' stereotypical or symbolic beliefs about ADHD significantly "influence [their] tendencies toward stigmatizing Learners displaying ADHD-related behaviours" and promote prejudicial, discriminatory behaviours (Vukelić & Vlah, 2024). In other words, negative beliefs create barriers to inclusive education – Teachers may exclude or punish Learners with ADHD-related behaviours rather than apply supportive interventions. These findings align with those of Elbalal, et al, (2025). Without recognizing ADHD as a real neurodevelopmental disorder, Teachers are more likely to stigmatize affected Leaners and hinder their learning (Vukelić & Vlah, 2024; Zheng et al., 2020)

#### **2.4 Attitudes Toward ADHD-Related Learner Behaviours**

Attitudes are psychological constructs that encompass evaluations of people, objects, or ideas, often reflecting a predisposition to respond in a favourable or unfavourable manner (Britannica, 2025). The tripartite model of attitudes delineates three components: cognitive (beliefs and thoughts), affective (emotions and feelings), and behavioural

(actions and observable behaviours). These components interact to shape an individual's overall attitude toward a subject.

In the educational context, Teachers' attitudes significantly influence their interactions with Learners, particularly those exhibiting ADHD-related behaviours. Recent studies indicate that while many Teachers express a desire to support Learners with ADHD, they often harbor negative perceptions of the behaviours associated with the disorder. For instance, a study by Mulholland et al. (2023) found that approximately 71% of Teachers found ADHD-related behaviours irritating, and 67% reported experiencing stress due to these behaviours. Despite these challenges, a majority expressed a willingness to improve their effectiveness in teaching Learners with ADHD, though less than half had received adequate professional development on managing such behaviours.

Research conducted in Debre Markos and Dejen Towns, Northwest Ethiopia, revealed that nearly half of the participating primary school Teachers held unfavourable attitudes toward Learners with ADHD (Amha & Azale, 2022). Factors contributing to these attitudes included lower educational attainment, limited knowledge about ADHD, and lack of training. Comparative studies have also highlighted disparities between countries; for example, Teachers in low-income countries like Nigeria often exhibit more negative attitudes toward Learners exhibiting ADHD-related behaviours compared to their counterparts in high-income countries such as Germany, potentially due to differences in awareness and resources (Amha & Azale, 2022).

Teachers' attitudes are closely linked to their perceived competence in managing ADHD-related behaviours. Braude and Dwarika (2020) emphasize that Teachers' knowledge and attitudes toward ADHD directly influence their teaching practices and the learning experiences of affected Learners. Positive attitudes are associated with the implementation of individualized instruction, effective behaviour management strategies, and collaboration with families. Conversely, negative attitudes can hinder these practices, adversely affecting Learners' academic and social outcomes.

Teachers' responses towards Learners exhibiting ADHD-related behaviours has a significant influence on how peers perceive and interact with those Learners. When Teachers exhibit negative attitudes or respond poorly to learners who display ADHD-related behaviours, it can lead to increased social rejection and withdrawal from peers. This highlights the powerful role of teacher behaviour in shaping the classroom social climate. Recent research in Sri Lanka by Herath et al. (2023) found that although many Teachers held generally positive attitudes toward Learners with ADHD, their limited knowledge and persistent misconceptions posed challenges to effective inclusion and peer acceptance. Similarly, a study in Nigeria by Ejike et al. (2017) demonstrated that a targeted ADHD training program significantly improved both the knowledge and attitudes of primary school Teachers. These findings underscore the importance of teacher education and awareness in fostering inclusive environments and reducing stigma associated with externalizing behaviours like those observed in ADHD.

Leaners with ADHD often face academic difficulties due to challenges in attention regulation, organization, and the presence of comorbid conditions. To address these issues effectively, it is imperative that Teachers receive comprehensive training on ADHD. Such training can enhance Teachers' understanding, reduce misconceptions, and equip them with strategies to support these Leaners effectively. As Teachers gain experience and knowledge, their attitudes toward Leaners with ADHD tend to become more positive, leading to improved educational outcomes (Alanazi & Turki, 2021).

## **2.5 ADHD-Related Learner Behaviour**

In classroom settings, learner behaviour is commonly categorized as internalizing (e.g., anxiety, social withdrawal, truancy) and externalizing (e.g., aggression, defiance, hyperactivity), both of which can disrupt teaching and increase teacher stress (Lawrence et al., 2021). Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental condition characterized by persistent inattention, hyperactivity, and impulsivity that often contribute to these behavioural challenges and hinder academic performance (Jogia et al., 2022). Learners with ADHD frequently fall behind their peers and face a higher risk of school dropout. Additionally, comorbid conditions such as oppositional defiant disorder (ODD), conduct disorder (CD), anxiety, and learning disabilities are common in ADHD, further exacerbating behavioural difficulties and complicating intervention efforts (APA, 2022; Gnanavel et al., 2020).

Learners with Attention-Deficit/Hyperactivity Disorder (ADHD) pose unique challenges in classroom environments due to persistent symptoms of inattention, hyperactivity, and

impulsivity. These behaviours often lead to disruptions, such as difficulty staying seated, talking out of turn, and failing to follow instructions, which negatively impact both teaching and peer learning (APA, 2022). Teachers frequently report increased stress and workload when managing learners with ADHD, as they require more individualized attention, behaviour monitoring, and classroom adjustments (DuPaul et al., 2019).

Due to comorbidity with other conditions, it exacerbate behavioural and academic difficulties, making classroom management more complex by reducing the effectiveness of standard teaching strategies (Gnanavel et al., 2020). These challenges can contribute to academic underachievement, social isolation, and strained teacher–student relationships (Jogia et al., 2022).

ADHD can be understood across a functional spectrum—from to low-functioning—based on the severity of impairment rather than just symptom count. High-functioning individuals often have average or above-average intelligence and may mask symptoms, but still face challenges in executive functioning like attention and organization (Antshel et al., 2020; Weyandt et al., 2020). In contrast, low-functioning individuals exhibit more severe disruptions in academic, behavioural, and social domains, often with comorbid conditions such as ODD or learning disabilities (Gnanavel et al., 2020). Although the DSM-5-TR classifies ADHD by symptom severity (mild, moderate, severe), functional classification helps tailor educational and therapeutic support (APA, 2022; Faraone et al., 2021). High-functioning ADHD is often underdiagnosed, while low-functioning ADHD carries higher academic and social risks (Rajendran et al., 2022).

While existing literature acknowledges that ADHD varies in functional impact—from high- to low-functioning presentations—diagnostic systems such as the DSM-5-TR continue to emphasize symptom severity rather than day-to-day functional capacity (American Psychiatric Association [APA], 2022; Faraone et al., 2021). This creates a critical gap in educational research, as functioning level often determines how learners engage in classroom activities, respond to instruction, and interact socially.

High-functioning learners with ADHD often possess average or above-average intelligence and may mask symptoms, yet still struggle with executive functioning, leading to under-identification and insufficient support (Antshel, et al., 2020; Weyandt et al., 2020). On the other hand, low-functioning learners often exhibit more visible behavioural challenges and comorbidities such as oppositional defiant disorder (ODD) or learning disabilities, which are more likely to draw teacher attention (Gnanavel et al., 2020).

Despite this, few empirical studies have explored how teachers distinguish between these functional levels or adapt classroom management strategies accordingly—especially in low-resource settings like Kenya. This gap highlights the need for research that investigates teacher awareness, perceptions, and preparedness to support both high- and low-functioning learners with ADHD. Bridging this divide could enhance inclusive education practices and inform more nuanced teacher training programs.

This section provides an overview of behaviours commonly associated with learners exhibiting ADHD, including inattention, hyperactivity, and impulsivity. The study considers both internalizing and externalizing behavioural manifestations. It includes learners who meet the formal clinical diagnostic criteria for ADHD, as well as those with subclinical (not meeting the full diagnostic threshold) presentations. The study also considers learners who display persistent disruptive behaviours that affect classroom functioning.

### **2.5.2 Inattention**

Inattention, is one of the core symptoms of ADHD characterized by difficulties in sustaining attention, distractibility, poor task completion, and disorganization (American Psychiatric Association, 2022). In educational settings, these symptoms manifest as daydreaming, failure to follow instructions, losing necessary items, and frequent careless errors—all of which undermine academic performance (Faraone et al., 2021).

Empirical evidence shows that inattentive symptoms are more strongly associated with academic underachievement. A study in the U.S. found that inattentive symptom severity—was significantly linked to poor school performance, following a dose-response pattern (Rigoni et al., 2020). Moreover, a longitudinal data from Australia reveal that by Year 9, learners with ADHD fall behind peers by approximately 2.5 years in reading, 3 years in numeracy, and 4.5 years in writing, especially when inattention is prominent (Young Minds Matter data: Australian Psychological Society, 2020) Further, genetically informed research in Norway indicates that inattention negatively affects academic

trajectories, and that school environments moderate these effects—students in high-performing schools exhibit smaller deficits (Cheesman et al., 2022). In post-secondary settings, ADHD-related inattention predicts lower GPAs and higher dropout rates in college students (Sciberras et al., 2017; Rigoni et al., 2020). Despite clear evidence of its impact, the inattentive subtype (ADHD-I) is frequently under-identified. Research shows that teachers often misinterpret inattention as laziness or emotional issues, particularly in girls, whose symptoms tend to be less disruptive and thus less noticeable (Attoe & Climie, 2023) In Kenya, studies report limited teacher awareness and training regarding inattention-related ADHD symptoms (Oburu & Nyaga, 2021)

Therefore, it should be noted that because of under-recognition of inattentive subtype by educators, it leads to underdiagnosis and lack of support Moreover, there is scant region-specific studies, particularly in Sub-Saharan Africa, on inattention identification and classroom interventions. Further, there is insufficient teacher training programs that focuses on recognizing and managing inattentive behaviours. Additionally there is limited understanding of school contextual factors that buffer or exacerbate inattention's academic impact and how interventions can be tailored to address these environmental influences making this study timely.

### **2.5.3 Impulsivity**

Impulsivity is widely acknowledged as a multidimensional construct encompassing impulsive action (the inability to inhibit a response), impulsive choice (preference for immediate over delayed rewards), and attentional impulsivity (difficulty maintaining

focus). These subtypes form the basis of widely used assessment tools such as the Barratt Impulsiveness Scale (Green et al., 2023). Recent work has introduced further distinctions, notably emotional impulsivity, which refers to impulsive behaviours triggered by affective states. Leontyev and Yamauchi (2025), using mouse-tracking methodologies, found that emotional arousal significantly alters the course of impulsive decisions, supporting the need to differentiate emotion-driven impulsivity from cognitive control deficits.

Neurodevelopmental and neuroimaging studies have deepened the understanding of impulsivity's biological underpinnings. Shulman et al. (2023) reported that adolescents with high impulsivity scores often exhibit reduced white matter integrity and cortical thickness in prefrontal and reward-related brain regions. This suggests a neurostructural basis for poor self-regulation and increased risk-taking during adolescence. Furthermore, comparative studies show structural differences across diagnostic categories: for instance, impulsivity in individuals with borderline personality disorder (BPD) is linked to prefrontal-limbic dysfunction, whereas ADHD-related impulsivity involves altered frontostriatal circuitry (Nitsche & Kaczurkin, 2025).

In terms of measurement, traditional reliance on self-report tools like the BIS-11 has been criticized for limited ecological validity. To address this, Zare et al. (2023) developed a biomechatronic system capable of assessing attentional impulsivity through behavioural tasks. Their findings show strong convergent validity with existing scales, suggesting this

method can complement subjective assessments and capture impulsivity more dynamically.

Intervention research has also advanced, though gaps remain. Green et al. (2023) reviewed the effectiveness of Goal Management Training, a cognitive remediation strategy, and found that it moderately improves decision-making in individuals with high impulsivity, especially those with substance use disorders. However, the intervention had limited effects on attentional control and executive feedback processes. In adolescent populations, contingency management—a behavioural approach using reward-based reinforcement—has demonstrated greater efficacy than cognitive-behavioural therapy for reducing impulsive behaviours (Hinds et al., 2021).

Another growing area of interest is the interaction between trait impulsivity and emotional dysregulation. Mezquita et al. (2024) found that while trait impulsivity was the strongest predictor of ADHD and oppositional defiant disorder (ODD) symptoms, difficulties in emotion regulation added significant explanatory power, particularly in younger participants. This highlights the importance of targeting both cognitive control and emotional processes in intervention design.

Despite these developments, several gaps persist. Longitudinal research examining how impulsivity evolves across developmental stages remains limited (Shulman et al., 2023). Additionally, most interventions remain generalized rather than personalized based on impulsivity subtype (Green et al., 2023). Emotional impulsivity, in particular, remains

under-integrated in many theoretical models and treatment plans (Leontyev & Yamauchi, 2025).

In conclusion, recent research has expanded our understanding of impulsivity through neurobiological, emotional, and behavioural lenses. However, future studies must refine measurement tools, personalize interventions, and incorporate emotional and developmental factors to fully address the complexity of impulsive behaviour.

#### **2.5.4 Hyperactivity**

Hyperactivity is a core symptom of Attention-Deficit/Hyperactivity Disorder (ADHD), marked by excessive motor activity, restlessness, fidgeting, and difficulty remaining still or quiet in inappropriate settings. While often clustered with impulsivity in diagnostic manuals, recent studies emphasize the need to examine hyperactivity as a distinct behavioural and neurological phenomenon.

A growing body of research has assessed the efficacy of interventions aimed specifically at reducing hyperactivity. Sadr-Salek et al. (2023), in a narrative review, found that parent training, classroom-based reinforcement strategies, and neurofeedback showed small to moderate effectiveness in mitigating hyperactivity symptoms in children with ADHD. However, interventions centred on emotional regulation and cognitive training had little impact, suggesting that hyperactivity may require more behaviourally targeted interventions.

Further complicating diagnosis and treatment is the inconsistent prevalence of hyperactivity across neurodevelopmental disorders. In a systematic review of hyperactivity in autism spectrum disorder (ASD), estimates ranged from 3% to over 90%, depending on diagnostic instruments and informants used (Hafizi et al., 2023). These variations point to a significant gap in standardized assessment procedures and highlight the need for validated tools that can accurately isolate hyperactivity symptoms across different clinical populations.

Pharmacological interventions remain the most effective treatment for hyperactivity. Cortese et al. (2024) conducted a meta-review that reaffirmed the superiority of stimulant medications like methylphenidate and amphetamines in controlling hyperactivity, particularly in school-aged children. However, the review also noted that the long-term benefits of these medications remain unclear, as most trials focus on short-term symptom reduction rather than sustained outcomes. Recent pharmacological developments such as viloxazine extended-release show promise, but long-term data are still emerging (Williams et al., 2023).

In adult populations, hyperactivity is often underdiagnosed, and research is limited. Williams et al. (2023) noted that emerging non-stimulant treatments, such as transcranial direct current stimulation, may offer alternatives for adults with residual hyperactivity symptoms. However, most studies remain in preliminary stages and lack large-scale randomized controlled trials, representing another critical gap in the literature.

Despite decades of ADHD research, hyperactivity remains understudied as a standalone construct. Few interventions specifically target hyperactivity alone, and those that do often fail to produce large effect sizes. Diagnostic inconsistency, especially in comorbid populations, further complicates both clinical practice and research design. Longitudinal studies that assess hyperactivity's developmental trajectory, particularly in adolescence and adulthood, are urgently needed. Similarly, there is a call for more nuanced, symptom-specific treatments that go beyond the traditional "one-size-fits-all" ADHD frameworks.

## **2.6 Management Strategies**

Attention-Deficit/Hyperactivity Disorder is a complex neurodevelopmental condition that necessitates a multimodal intervention strategy involving pharmacological, behavioural, and environmental approaches, as well as active participation from various stakeholders including Teachers, parents, and mental health professionals (Daley et al., 2018; Wolraich et al., 2019). While combining medication with non-pharmacological strategies such as behavioural therapy and classroom modifications generally yields more effective outcomes than either modality alone, pharmacological treatment remains the most widely used (American Academy of Paediatrics, 2019; Richardson et al., 2023).

To understanding how classroom strategies function in real-world settings, it is essential to gain insights from both Teachers and learners with ADHD including the factors that hinder or support their effectiveness (McDougal et al., 2022). While environmental supports like visual schedules and structured layouts have proven beneficial for

neurodivergent learners, they are often applied too generally and not specifically adapted to ADHD learners' unique needs (Kutscher et al., 2020).

Despite growing emphasis on inclusive education, research reveals a persistent gap in the use of ADHD-specific strategies within classrooms. While Teachers frequently employ behavioural interventions—such as movement breaks, incentives, and redirection—there is limited application of cognitive-based techniques, despite their importance in addressing the cognitive deficits associated with ADHD (Lawrence et al., 2017; Gathercole et al., 2018; van Lieshout et al., 2020). This underscores the need for implementing comprehensive, evidence-based interventions that integrate both behavioural and cognitive supports to better meet the needs of learners with ADHD.

Understanding the origins and nature of ADHD is essential to fostering greater acceptance of the condition and encouraging the adoption of diverse treatment approaches. While there is no immediate or universal cure for ADHD, individualized combinations of educational strategies and pharmacological interventions have been shown to significantly alleviate symptoms (Pedersen, 2022; Faraone et al., 2021). Current best practices recommend a multimodal treatment approach that typically combines medication to help regulate behaviour and attention, with behaviour therapy, parent and teacher education, and environmental modifications to reduce behavioural challenges (Cortese et al., 2020; Wolraich et al., 2019).

Effective treatment must address not only the core symptoms of ADHD but also the associated academic, social, and emotional difficulties that many Learners experience. Medical interventions, primarily focus on stimulating the central nervous system. However, symptom management remain central to behavioural and academic strategies and play an equally critical role in promoting long-term success (Sibley et al., 2022a). Importantly, research has shown that relying on punitive measures can be counterproductive, whereas positive behavioural interventions that focus on skill-building, problem-solving, and relationship restoration are increasingly favoured (Sciutto et al., 2020). Without appropriate, evidence-based intervention, ADHD symptoms and related behavioural or emotional issues may persist into adulthood, affecting Learners' academic trajectories and psychosocial development.

Learners with ADHD-related behaviours require differentiated teaching strategies and supportive pedagogy to thrive. Treating them as typical learners without appropriate accommodations often leads to underachievement and frustration. Research emphasizes the importance of adopting ADHD-specific strategies such as reward systems, cognitive and organizational skills training (OST), social modelling, individualized instruction, and peer tutoring—tools that support both behavioural regulation and academic engagement (DuPaul et al., 2021). These interventions not only foster self-efficacy but they also enhance learning outcomes by addressing the unique cognitive and social needs of learners with ADHD.

### **2.6.1 Behavioural Interventions**

Broadly speaking, behaviour can be defined as the way an individual act or responds to internal and external stimuli. It encompasses actions taken to either initiate change or maintain the status quo. More precisely, behaviour is a response to both internal events—such as thoughts and emotions—and external events, including interactions with the environment and other people. Learners with ADHD-related behaviours often struggle with inattention, hyperactivity, and impulsivity, which may significantly hinder their ability to engage effectively in classroom activities. These challenges underscore the importance of equipping Teachers with skills necessary to manage such behaviours constructively. This section explores behavioural intervention strategies designed to support Learners exhibiting ADHD-related ADHD, including the use of cues, incentives, and consequences. In addition, we explore approaches such as social skills and cognitive training, reward and Punishment, as some of the important strategies employed to manage ADHD.

#### **2.6.1.1 Rewards and Punishments.**

Reward and punishment strategies operate on the principle behavioural consequences modification to strengthen the desired behaviours and reduce maladaptive ones. Teachers are trained to identify problematic behaviours and respond using reinforcement or corrective consequences. This method often includes the use of stimulus control techniques, where learners are taught to adjust their behaviour in response to specific environmental cues. As a non-pharmacological classroom intervention, behavioural strategies such as these have demonstrated effectiveness in managing core ADHD

symptoms and related behavioural challenges, while also reducing teacher stress and classroom disruption (Fabiano et al., 2021; DuPaul et al., 2019).

A common approach involves positive reinforcement systems—like star charts and privileges—as well as negative consequences, such as time-outs, to influence behaviour. The primary aim of these interventions is to reduce disruptive behaviour and teach functional alternatives based on principles of behavioural psychology. Furukawa et al. (2019) found that children with ADHD exhibit heightened sensitivity to punishment, suggesting that punitive strategies may exert more behavioural control in this group than in neurotypical peers.

However, their study focused narrowly on punishment without considering other supportive measures. Altourah et al. (2022) expanded this inquiry by exploring cultural variations in the use of physical punishment among parents of children with and without ADHD. Their findings revealed that parents of children with ADHD reported more frequent use of physical discipline, raising concerns about the long-term consequences of such approaches. Research has shown that harsh punishment is associated with increased aggression, hyperactivity, and social maladjustment (Gershoff et al., 2018). Therefore, while punishment may produce short-term compliance, it may also worsen behavioural outcomes over time. These findings underscore the need for a broader range of supportive strategies, including accommodations, rewards, peer tutoring, and cognitive training, to promote sustainable behavioural improvements in Learners exhibiting ADHD-related ADHD.

### **2.6.1.2 Cognitive Training**

Learners exhibiting ADHD-related behaviours often experience deficits in EF, encompassing skills such as attention regulation, working memory, planning, and impulse control. These deficits can hinder academic performance and daily functioning. Recent studies have highlighted that children with ADHD show significant impairments in EF domains, including time management and working memory, compared to their neurotypical peers. Working memory is a core component of EF, is crucial for tasks requiring the temporary storage and manipulation of information. Deficits in WM are prevalent among children with ADHD, impacting their ability to follow instructions, complete tasks, and engage in learning activities (Lal NA, Kothari S. 2024).

Interventions targeting working memory have shown promise in mitigating these challenges. For instance, Cogmed Working Memory Training (CWMT) has been associated with improvements in attention and reductions in ADHD symptoms (Liang, et al., 2021; Westwood et al., 2023). Additionally, physical exercise interventions have demonstrated positive effects on EF. A recent systematic review and meta-analysis found that aerobic exercise significantly improved executive functioning in children with ADHD—showing moderate to large effect sizes for inhibitory control (SMD = 0.83), cognitive flexibility (SMD = 0.65), and working memory (SMD = 0.48) (Yang et al., 2024). Similarly, a network meta-analysis of exercise modalities found that cognitive-aerobic training yielded the greatest benefit for working memory (SMD  $\approx$  0.75), with ball sports also producing meaningful improvements (SMD  $\approx$  0.61) (Guo

et al., 2025). These findings underscore the value of integrating both cognitive training and physical activity into comprehensive intervention plans for learners displaying ADHD-related behaviours.

Various studies show that working memory (WM) is related to academic performance, though individual differences in WM functioning are notable. Even when children receive appropriate and effective cognitive foundations, WM impairments can still hinder academic progress and cause frustration for Learners, parents, and Teachers (Valiente et al., 2022). Children with weak WM abilities tend to struggle more with academic work than their peers of similar age without WM deficiencies (McClelland et al., 2022). Consequently, cognitive training is necessary to bolster Learners' working memory for overall academic and functional improvement. Recent research highlights the vital role of WM training as a component of comprehensive educational intervention strategies.

Wiest and colleagues demonstrated in a study that attention and WM improved after cognitive training (Wiest et al., 2022). The study investigated the effectiveness of cognitive training (conducted in a clinical setting) for Learners diagnosed with ADHD and SLD. Using paired-samples t-tests and a psychometric network modelling technique, the results revealed that cognitive training may be associated with cognitive structural changes detected between pre- and post-training among the variables tested. The preceding study focused solely on cognitive training and did not consider other ways of increasing learners' working memory.

Another study by Frisch, et al., (2023) on children with ADHD symptoms: Does POET Improve Daily Routine Management? The study sought to determine the efficacy of parental occupational executive training (POET). It also investigated POET's efficacy in improving young children's executive control over daily activities and reducing ADHD symptoms. The results showed that children's ADHD symptoms and daily routine management improved dramatically after the POET intervention.

Evidence from a recent meta-analytic study indicates that cognitive training can significantly improve attention and executive functioning in children with ADHD. The purpose of the review was to assess the efficacy of cognitive training for EF in reducing ADHD symptomatology and improving educational, interpersonal, and occupational outcomes in children and adolescents with this disorder (Chen et al., 2022). The findings suggest that cognitive training can be an effective intervention for children and adolescents with ADHD, potentially serving as a supplemental therapy option. This argument implies that cognitive training can increase learners' working memory and, as a result, their academic performance. However, the current study is looking into other management techniques for ADHD-related behaviours that the previous studies did not investigate.

This management strategy focuses on the learner's thinking processes and seeks to help Learners who display ADHD-related behaviours apply problem-solving and other acceptable tactics while also considering the implications of their actions (Ogundele, 2018). These behavioural therapies, often known as cognitive behavioural therapy, can be

classified into two types. The first refers to adjusting antecedent events, which focus on influencing the learner's behaviour before introducing a specific behaviour. Teachers need to establish, implement, and monitor classroom rules to encourage positive behaviour while discouraging negative behaviour by adjusting assignments and peer tutoring as part of their classroom management tactics. Furthermore, physical activities that help learners manage their energy levels can be effective types of treatment (Donnelly, et al., 2024).

### **2.6.1.3 Social Skills Training (Modelling)**

These Learners should be taught social skills through modelling so that they can build positive friendships. Young Learners who repeatedly fail to form and maintain friendship ties are thought to be at a higher risk of major maladjustment, social isolation, antisocial behaviour, and psychopathology (Khasakhala 2016). Because their friends ignore them, these Learners are at greater risk of social disengagement and solitude. Social isolation in childhood can be harmful to both physical and mental health. Children with neurodevelopmental disorders, such as ADHD, are at risk of becoming socially isolated. To that end, socially isolated children have fewer opportunities to observe, model, and learn age-appropriate interpersonal interactions with other children, potentially increasing ADHD behaviours.

Thompson et al. (2023) conducted a longitudinal study within-person analysis with a nationally representative sample (N = 2,232) to examine how childhood ADHD symptoms predict later social isolation. Using random-intercept cross-lagged panel

models, they found that children displaying increased ADHD symptoms—particularly hyperactivity/impulsivity—were significantly more likely to experience heightened social isolation later in childhood compared to their own stable traits ( $\beta = .05-.08$ ).

Storebo (2019) conducted a study on social skills training for ADHD in children aged 5–18 years. The study aimed to evaluate the positive and negative impacts of social skills training on children and adolescents with ADHD. The study's findings showed that social skills training improved teacher-rated core ADHD symptoms at the end of treatment in all eligible trials (SMD -0.26, 95% CI -0.47 to -0.05; 14 trials, 1379 participants; I<sup>2</sup> = 69%; P = 0.02).

Another study by Ferrario (2020) examines the effects of social skills training on children with attention-deficit/hyperactivity disorder. A Cochrane review of the summary with commentary. The aim of the Cochrane Review was to assess the effects of social skill training on children and adolescents with ADHD. The intervention may have little to no effect on social skills as rated by Teachers (SMD 0.11, 95% CI -0.00 to 0.22; 11 RCTs, 1271 participants) or parents (SMD 0.19, 95% CI 0.06-0.32; 15 RCTs, 1609 participants) at the end of treatment. However, the evidence is very uncertain. A systematic review by Willis and colleagues suggested that social skills training constitutes a promising approach to improve the social functioning of children and adolescents with ADHD (Willis et al. 2019).

Another more recent review by Storebo and colleagues which analysed 45 trials, found that participants, their parents, and Teachers in general expressed positive satisfaction with the intervention. In contrast, the perceived benefits of social skills training were limited and questionable due to the low certainty of the evidence, as half of the trials included in the review were at high risk of bias (Storebo et al. 2019).

In sum, the studies concluded that social skills training can assist a child to perform better in academic learning and become accepted among peers. However, researchers did not investigate other management options.

### **2.6.2 Academic Interventions**

Learners who demonstrate ADHD-related behaviours face greater challenges on their route to academic success than other Learners. ADHD characteristics such as failure to pay attention, difficulty sitting still, and problems managing impulses make it challenging for Learners to succeed in school. To accommodate the requirements of these Learners, schools could consider providing ADHD therapies such as behavioural classroom management or organizational training; special education services; or support such as peer tutoring and individualized direct instruction (CDC, 2022). Academic interventions involve providing structured academic support tailored to Learners diagnosed with ADHD. Without such support, children with ADHD often fall behind in school, struggle with peer and family relationships, and experience elevated stress at home. Untreated ADHD can exacerbate tensions between parents and children, leading to a cycle of blame and frustration (Bhide et al., 2024).

### **2.6.2.1 Accommodation**

Accommodations are adjustments to standardized instructional practices or assessment conditions designed to mitigate the effects of a student's disability. These changes enable Learners to participate more fully in instruction and to more accurately demonstrate their knowledge and skills (Lin, 2024). Effective accommodations should reduce the functional limitations associated with a learner's disability without conferring an unfair advantage or modifying academic expectations for Learners without disabilities (Lovett & Harrison, 2021). Learners exhibiting ADHD-related behaviours often require accommodations due to difficulties with sustained attention, task persistence, and self-regulation. These deficits significantly impair academic functioning and day-to-day classroom engagement (Staff et al., 2023). In structured educational settings where sustained focus is essential, Learners with ADHD are particularly vulnerable to academic underperformance. They tend to achieve lower grades, learn less over time, and face higher risks of grade repetition and school dropout (Sciberras et al., 2017; Sibley et al., 2022b).

To support these Learners, both academic and instructional accommodations are necessary. Common testing accommodations include extended time, alternative settings, and the oral presentation of test items—strategies shown to help mitigate test anxiety and attention-related disruptions (Langberg et al., 2020). Instructional accommodations may involve customized reminders for assignment deadlines or adjustments in homework expectations, such as completing only selected problems (Reiber & McLaughlin, 2020). These accommodations maintain the integrity of the core curriculum while modifying the

format, timing, setting, or mode of delivery to better align with the student's learning needs.

Seating arrangements can significantly support learners displaying ADHD-related behaviours. Szép, and Colleagues advocate placing students near the teacher's desk or at the front of the class to enhance attention control, enable peer modelling, and minimize distractions (Szép, Molnár, & Kiss., 2021). Such spatial adjustments, though straightforward, can markedly improve attention regulation and overall learning outcomes.

Providing extended time for assignments or exams is a prevalent accommodation for Learners with ADHD. Recent studies have examined its effectiveness. Bernard and Witmer (2025) found that while less than half of Learners with ADHD utilized the extended time provided, access to this accommodation was associated with higher test completion rates. Furthermore, Learners who spent more time on the final items of a math assessment performed better overall. However, the effectiveness of extended time may vary depending on individual characteristics. For instance, research by Maher et al. (2018) examined the effectiveness of extended time accommodations in a college context. In their classroom-simulation study with Learners diagnosed with ADHD, extra testing time (+33% and +50%) was granted—but although Learners used this additional time, their reading comprehension performance did not improve relative to standard time. These results suggest that extended-time accommodations may not automatically enhance academic success for Learners with ADHD, particularly among those experiencing more severe symptoms.

Research into educational accommodations for learners with ADHD reveals mixed effectiveness. While small-group instruction improves on-task behaviour, small-group testing and read-aloud accommodations offer limited benefits, particularly for older students (Lovett & Nelson, 2021). A randomized trial by Harrison et al. (2020) found that structured interventions like organization and note-taking training outperformed common accommodations such as extended time. Overall, evidence suggests that targeted interventions are more consistently effective than general accommodations in supporting academic outcomes for learners with ADHD.

Creating reduced-distraction or low-noise environments is another strategy to support Learners with ADHD. Research indicates that adolescents with ADHD often struggle to maintain focus, becoming easily distracted by external stimuli or internal thoughts, leading to incomplete or low-quality work (Escobar Montero et al., 2025). Implementing environmental modifications, such as strategic seating and minimizing auditory and visual distractions, can help mitigate these challenges.

Recent research has examined the effectiveness of interventions compared to accommodations for learners with ADHD. In a randomized controlled trial, Harrison et al. (2020) found that middle school learners who received interventions—such as organizational training, self-management, and note-taking instruction—outperformed those given accommodations like extended time and teacher notes. Students in the intervention group showed better organization, note-taking accuracy, and academic engagement, particularly when they actively adhered to the intervention strategies.

In a systematic review, Lovett and Nelson (2021) synthesized literature on educational accommodations for children and adolescents with ADHD. The review revealed that accommodations, particularly testing accommodations like extended time, are the most commonly implemented support strategies in educational settings for this population. However, the evidence supporting the effectiveness of these accommodations is limited. Most accommodations lack empirical studies demonstrating benefits specific to Learners with ADHD. An exception is the read-aloud accommodation, which has shown specific benefits for younger Learners with ADHD in two randomized experiments. The authors concluded that while accommodations are prevalent, they should not replace evidence-based interventions and should be considered supplementary supports

#### **2.6.2.2 Organisational Training**

Children with ADHD frequently struggle with temporal and material organizing skills. These issues endure throughout maturity and are particularly visible in the school settings. Often, they result in impairments such as misplaced and forgotten homework assignments and inadequate test preparation. Organizational deficiencies may be behavioural manifestations of an underlying deficiency in EF, which includes neurocognitive functions like planning and organizing activities that aid in decision-making and goal achievement. As a result, these learners should receive instruction on organizational skills. According to Bikic et al. (2017), OST is a behavioural intervention designed specifically to target deficits in organizational skills. These deficits commonly include losing or forgetting items, difficulty planning or organizing tasks and activities, failing to follow instructions, and failing to complete schoolwork. These deficiencies are

manifestations of executive dysfunctions displayed by learners with ADHD-related behaviours (APA, 2022).

Organizational skill deficits in Learners with ADHD tend to intensify with age due to escalating academic demands. These deficits, encompassing challenges in planning, time management, and material organization, are closely linked to academic underachievement and can persist into adulthood, affecting occupational and psychosocial functioning. Recent studies have highlighted the significant role of working memory and organizational skills in academic performance among children with ADHD. For instance, Cole et al. (2024) found that working memory and organizational skills together accounted for the majority of academic achievement and performance difficulties in children with ADHD

Interventions targeting organizational skills have shown promise in mitigating these challenges. OST programs, which employ behavioural methods to teach skills directly to Learners with ADHD, have been effective in improving organizational skills, homework performance, and academic outcomes. These interventions often include components such as the use of checklists, homework management systems, and planners to help Learners track assignments and plan for long-term projects (Chacko et al (2024). Moreover, incorporating parental involvement in these interventions has been beneficial. Parents play a crucial role in reinforcing organizational strategies at home, which complement the skills taught in school settings Overall, addressing organizational skill

deficits through structured interventions can lead to significant improvements in academic functioning for Learners with ADHD.

### **2.6.2.3 Communication**

Communication is a multifaceted process encompassing both verbal and nonverbal elements, influenced by various environmental factors. Children with ADHD often exhibit communication-related challenges, including difficulties in listening, excessive talking, interrupting others, and blurting out answers. These behaviours are linked to deficits in executive functioning, particularly in areas related to information management and social cognition.

Such deficits can lead to misunderstandings, heightened reactivity, conflicts, and stress in both home and academic settings. Moreover, impairments in EF and other ADHD symptoms, such as inattention and forgetfulness, can affect the intuitive aspects of communication. This includes challenges in interpreting social cues and unspoken social conventions, which are crucial for effective interpersonal interactions.

In educational environments, effective communication skills among Teachers are vital for problem-solving, conflict resolution, and fostering a positive learning atmosphere. Poor communication can exacerbate disruptive behaviours in the classroom, making it challenging for Teachers to manage Learners with ADHD. Establishing clear behavioural standards, rules, and regulations early on can help address the confusion and anxiety these learners may experience (CDC, 2024).

Research indicates that employing both verbal and nonverbal strategies can profoundly influence the behaviour and performance of learners with ADHD. For instance, clear instructions, visual aids, and structured routines enhance attention and compliance in classroom settings. Moreover, incorporating hand gestures with verbal communication has been shown to improve engagement and task focus specifically for students with ADHD-related behaviours. In a study by Robson and Andrade (2022), Teachers who used synchronized speech and gestures reported increased student attention and smoother task completion. These multimodal approaches—combining visual cues, gestures, and proximity—effectively support learners' understanding and engagement beyond verbal instruction alone.

In summary, addressing the communication challenges faced by Learners with ADHD requires a comprehensive approach that combines clear verbal instructions with supportive nonverbal cues. By implementing these strategies, Teachers can create a more inclusive and effective learning environment that caters to the unique needs of these learners.

#### **2.6.2.4 Individualized Instruction**

Many learners are diagnosed with ADHD, while others present with additional behavioural or academic challenges, including comorbid psychiatric conditions. Therefore, when selecting and implementing effective educational strategies, it is critical to understand each child's unique traits and needs, particularly those related to disabilities or illnesses.

Teachers should begin by identifying the specific requirements of each child and then choose appropriate educational techniques—such as academic instruction, behavioural interventions, and classroom adjustments—to meet those needs. These practices are then incorporated into an Individualized Education Program (IEP) or other individualized plans, which are integrated with the educational activities provided to other learners within the class.

Recent research underscores the importance of aligning IEPs with the specific functional deficits of Learners with ADHD. A study analysing IEPs of 209 Learners with ADHD from kindergarten through seventh grade found strong alignment in academic goals but significant gaps in addressing social, emotional, and behavioural difficulties, with fewer than half of the Learners having measurable goals in these areas (Sikov, 2024). This highlights the need for comprehensive support systems that address the diverse needs of Learners with ADHD to promote their long-term success.

Moreover, the implementation of evidence-based behavioural interventions within IEPs is crucial. The Life Course Model, for instance, emphasizes the integration of behavioural interventions and promotes better collaboration between parents and Teachers, aiming to improve classroom behaviour and academic outcomes for Learners with ADHD (DuPaul & Ariol, 2024).

It's also important to recognize that while IEPs are designed to provide individualized support, their effectiveness depends on the quality and specificity of the goals and

interventions included. Teachers and IEP teams should ensure that plans are not only comprehensive but also tailored to address both academic and behavioural aspects of ADHD, thereby facilitating a more inclusive and effective learning environment.

#### **2.6.2.5 Peer Tutoring**

Peer tutoring is an instructional strategy where Learners work collaboratively, with one student providing guidance and feedback to another under teacher supervision. This approach has been shown to enhance academic performance and classroom behaviour, particularly among Learners with ADHD. Recent research underscores the effectiveness of peer tutoring for Learners with ADHD. For instance, Sibley et al. (2023) developed the STRIPES program, wherein high school peers delivered organization training and goal-setting interventions to ninth-grade Learners with attention problems. The study found that peer-delivered interventions were generally acceptable and showed promise in improving organizational skills and academic performance, although attendance varied. Similarly, a study by Harrison et al. (2020) highlighted that peer tutoring provides Learners with ADHD opportunities for repeated practice and immediate feedback, which are crucial for their learning and behavioural improvements.

Moreover, peer tutoring has been associated with increased on-task behaviour and reduced impulsivity among Learners with ADHD. By receiving immediate feedback and engaging in structured peer interactions, these Learners can better manage their attention and behaviour in classroom settings.

Despite the documented benefits, there remains a need for further research specifically examining the impact of peer tutoring on Learners with ADHD-related behaviours. While existing studies provide a foundation, more targeted investigations could inform best practices and optimize peer tutoring strategies for this population. Peer tutoring is an instructional strategy where Learners work collaboratively, with one student providing guidance and feedback to another under teacher supervision. This approach has been shown to enhance academic performance and classroom behaviour, particularly among Learners with ADHD.

Recent studies have demonstrated the effectiveness of peer tutoring in improving reading comprehension. For instance, Robison (2022) conducted an experimental study with Grade 10 learners and found that the experimental group, which received peer tutoring, achieved significantly higher scores in reading comprehension assessments compared to the control group. Similarly, Roma et al. (2019) reported that peer tutoring had a strong effect on teaching reading comprehension of narrative texts to eighth-grade Learners. In addition, Sholikhah (2018) also supports the effectiveness of peer tutoring strategies in enhancing reading comprehension among eighth-grade Learners.

To support Learners with ADHD, peer-mediated interventions have emerged as a promising instructional approach. Recent research by Sibley et al. (2023) introduced the STRIPES program, a peer-delivered intervention for high school Learners with ADHD, which focused on improving executive functioning, organization, and academic motivation. The randomized controlled trial demonstrated that participants who engaged

with trained peer mentors exhibited improvements in academic self-management and reduced off-task behaviours. Similarly, Kariuki-Githinji et al. (2024) developed a peer-supported school engagement intervention targeting middle school Learners with attention difficulties. The study found enhancements in behavioural, cognitive, and emotional engagement. These contemporary findings validate and expand upon earlier research on class-wide peer tutoring by highlighting the continued effectiveness of structured peer-based strategies in improving academic and behavioural outcomes for Learners displaying ADHD-related behaviours.

To maximize the benefits of peer tutoring for Learners with ADHD, it is essential to provide proper training and support to peer tutors. Hsieh et al. (2017) emphasized that peer tutors should be trained in specialized tactics for working with Learners with learning difficulties, such as providing additional explanations, employing visual aids, and checking for comprehension. Continuous supervision and support from Teachers or other adults are also critical to ensure effective tutoring sessions and address any challenges that may arise.

In conclusion, peer tutoring has demonstrated positive effects on reading comprehension and classroom behaviour. However, further research is needed to explore its specific impact on Learners with ADHD and to develop strategies that address their unique learning needs.

Untreated or poorly managed ADHD-related behaviours can result in a range of negative outcomes for learners, including low self-esteem, poor academic achievement, social

isolation, and an increased likelihood of antisocial or criminal behaviour (Freckelton, 2020). When ADHD is not properly diagnosed and managed, it can significantly impair a learner's ability to concentrate, engage with instructional content, and form positive relationships, all of which are critical for academic and social development.

While a variety of treatment strategies exist—including behavioural interventions, psychoeducation, environmental modifications, and pharmacological approaches—Teachers often perceive medication to be the most effective and immediate solution (Pelham et al., 2022). However, Russell (2021) emphasizes that few comprehensive longitudinal studies have evaluated the long-term efficacy of different ADHD treatment modalities. This lack of long-term evidence has contributed to ongoing debate among practitioners, therapists, and Teachers regarding the most effective approach to managing ADHD in educational settings.

Consequently, a multimodal management approach is increasingly recommended. This includes a combination of pharmacological treatment and classroom-based strategies tailored to the individual learner's needs (Cortese et al., 2020). Such integrative interventions are more likely to promote meaningful learning and behavioural improvements than medication or classroom strategies alone.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter outlines the research methodology used to examine Teachers' knowledge, attitudes, and perceptions regarding ADHD and its influence on learner management strategies in primary schools within Kisii County, Kenya. The chapter is organized into ten sections: research paradigm, research design, location of the study, target population, sampling techniques and sample size, research instruments, piloting (quality assurance) of research instruments, data collection procedures, data analysis, and ethical considerations.

#### **3.2 Research Paradigm**

In this study, a pragmatic worldview was adopted to frame the research concerns, providing a flexible and practical approach to understanding and interpreting the issues under investigation. Pragmatism is particularly suitable because it emphasizes the question: *“How does one go about discovering the answer or reality?”* (Popenoe et al., 2021). It allows researchers the freedom to use a combination of methods and tools best suited to addressing the research objectives.

The development of learner behaviour is typically shaped by intentional interventions designed to support integration into educational environments, rather than by random factors. Consequently, understanding teacher behaviour—specifically, their responses to

learners exhibiting persistent disruptive behaviours—requires a methodological approach that encompasses data collection, analysis, and interpretation.

The pragmatic paradigm also integrates both quantitative and qualitative methods, making it well-suited for validating results and facilitating data triangulation. Quantitative data were collected using questionnaires, while qualitative data were gathered through focus group discussions and interview guides. The use of multiple data sources enhances the robustness of the findings, as insights from one method can inform and enrich the others. This comprehensive approach leads to more nuanced and informed conclusions regarding the causes, effects, and implications of Teachers' attitudes and strategies in managing Learners displaying ADHD-related behaviours.

The purpose of this study was to investigate how Teachers in Kisii County, Kenya, understand, perceive, and feel about ADHD, and how these factors influence their decision-making regarding learner management strategies. The study was guided by the assumption that individual Teachers possess varying levels of knowledge, attitudes, and perceptions of ADHD. To explore these dimensions, the researcher employed a mixed-methods approach, including interviews, focus group discussions, and questionnaires administered to Teachers of Grades 1 to 5.

The aim was to gain a comprehensive understanding of Teachers' knowledge of ADHD, their attitudes toward learners displaying ADHD-related behaviours, their perceptions of its causes, and the strategies they use to manage such behaviours. These insights are

expected to contribute to increased awareness of ADHD in classroom settings, the development of more informed and positive attitudes toward affected learners, and a re-evaluation of prevailing beliefs about the causes and management of ADHD. Ultimately, effective management of ADHD-related behaviours can lead to improved learning outcomes and enhanced social skills among learners.

### **3.3 Research Design**

A research design is a structured plan for gathering and analysing evidence in order to answer specific research questions (Fisher & Farquhar, 2018). This study adopted a mixed-methods approach, specifically using a concurrent triangulation design, to investigate Teachers' knowledge, attitudes, and perceptions of ADHD, as well as the management strategies they apply with primary school learners. In this design, quantitative and qualitative data are collected simultaneously and independently, then compared to assess convergence, divergence, or complementarity (Creswell & Plano Clark, 2018).

The concurrent triangulation design was particularly appropriate for this study because it supports simultaneous data collection, promotes independent analysis, and enables a comprehensive interpretation by integrating both data types. Blending quantitative and qualitative data offers a more nuanced and in-depth understanding of the research objectives, helping to validate findings and strengthen the credibility of the results (Mohanasundari & Padmaja, 2019).

Furthermore, this approach is well-suited to addressing complex research problems that may not be fully captured by either qualitative or quantitative methods alone (Creamer, 2018). In this study, quantitative data were gathered using questionnaires, while qualitative data were collected through focus group discussions and interviews. Data collection occurred concurrently, with each data type analysed independently before being integrated during the reporting stage to generate holistic conclusions.

### **3.4 Location of the Study**

This study was conducted in Kisii County, located in southwestern Kenya near Lake Victoria, and covering approximately 1,332.7 km<sup>2</sup>. The county borders Nyamira, Narok, Homabay, and Migori counties. Its administrative headquarters are in Kisii Town, about 310 kilometres from Nairobi. Geographically, it lies between latitudes 0°30' and 1°00' South and longitudes 34°38' and 35°00' East.

Kisii is among the most densely populated counties in Kenya, with a high poverty rate estimated at 44.5%, which is higher than the national average. In addition, its age-dependency ratio stands at 84.7%, compared to the national average of 81.6% (Kisii County Planning Unit, 2018). As a consequence, these socio-economic factors make it a relevant setting for conducting educational and behavioural research.

The high population density, poverty rate (44.5%), and elevated age-dependency ratio (84.7%) contribute to numerous educational and behavioural challenges. Issues such as school absenteeism, drug abuse, and student-teacher conflicts point to the possibility of

unmanaged conditions like ADHD. Despite this, there is little research that has focused on ADHD in the region. Investigating Teachers' knowledge and attitudes can help address gaps in intervention. This study aims to inform more effective learner support strategies in Kisii's primary schools.

### **3.5 Target Population**

This study targeted primary school teachers in Kisii County, specifically those teaching Grades 1 to 5. The total population comprised 6,154 teachers, including class and head teachers. These participants were deemed appropriate as they interact directly with learners during the foundational years when ADHD-related behaviours are most evident. Furthermore, teachers in both public and private schools share comparable professional qualifications, ensuring consistency in training and instructional standards.

### **3.6 Sampling Procedures**

This study employed a mixed method sampling procedure, which involves the use of both probability and non-probability sampling techniques (Cresswell & Creswell, 2020).” In this approach, Kisii county schools were stratified into eleven sub-counties and four sub-counties were randomly picked. The four sub-counties were divided into three zones each and two picked for the purposes of the study. It is from these Zones that Teachers were selected through proportionate random sampling. However, head Teachers were selected purposively.

This method was found particularly useful as it allows comprehensive understanding (Triangulation and complementarity). This leads to a richer and more robust understanding that neither method could achieve alone. Also, it addresses diverse research questions, which allows statistical representativeness across the defined strata. Furthermore, the methodology increases the overall rigor and trustworthiness of the research findings. when the target population is geographically dispersed, as it allows for efficient sampling while maintaining representativeness. Table 3.1 presents the methodology applied to select respondents from the target population.

**Table 3.1: Target Population and their Selection Method**

S/N	Unit of analysis	Method of selection
1	Subject Teachers	Simple random and proportionate sampling
2	Head Teachers	Purposeful sampling
3	Class Teachers	Purposeful sampling

Table 3.1 shows that subject Teachers were selected through simple random sampling method. This is a method where every unit in a defined population has an equal and independent chance of being selected. It was deemed appropriate for this population because Teachers are a homogeneous group (Gulzar, et al., 2022). This method minimizes selection bias, enhances the generalizability of findings, and is easy to implement without requiring advanced technical expertise. In addition, participants from zones, were chosen using proportionate sampling method. This technique ensured that the number of participants selected from each subgroup or stratum was proportional to the subgroup's size in the overall population. This is because proportionate sampling

enhances representativeness by preserving the population's structure within the sample, thereby allowing for more accurate and generalizable findings across different strata.

Head Teachers and class Teachers were purposively selected as key informants based on their experience and relevance to the research objectives. Purposive sampling involves deliberately choosing participants who are most likely to provide rich, contextually relevant insights and is particularly effective for targeting individuals with specific knowledge or expertise (Nyimbili & Nyimbili, 2024; Tajik et al., 2025). This approach ensures that the selected participants represent information-rich cases capable of offering deep understanding relevant to the study's main themes.

### **3.7 Sample Size**

The sample size refers to the number of participants selected to represent the target population in a study. According to Fleetwood (2023) and Andrade (2020), sample size plays a critical role in determining the accuracy, reliability, and overall quality of survey findings. An appropriately determined sample size enhances the validity of the results and ensures generalizability to the larger population. This section presents the sample size in three categories: regular subject Teachers, class Teachers, and head Teachers, each selected based on their roles and relevance to the study objectives.

### 3.7.1 Sample Size for Regular Teachers

To determine the required sample size, for the regular Teachers, the research adopted Yamane's (1973) formula because the population is definite that is it is known.

Formulae is given as:  $n = \frac{N}{1+N*(e)^2}$

*Where*

$n$  = the required sample size,

$N$  = the target population, which is 3852 Teachers;

$e$  = accepted margin of error; (5% or 0.05) for this study. A 95% confidence interval and  $p$  value equal to 0.5 are assumed.

By substituting these values into the formula, the required number of participants for this study is given by:

$$\begin{aligned}n &= (3852) / [1 + (3852 \times (0.05)^2)] \\ &= 3852 / [1 + (3852 \times 0.0025)] \\ &= 3852 / 10.63 = 362 \text{ Teachers}\end{aligned}$$

### 3.7.2 Sample size for Head Teaches and Class Teachers

To determine the sample size for head Teachers, the researcher—using the sampled schools from which the regular Teachers were selected, purposively sampled eight head Teachers. Half of the sampled heads were Males and the other half were females. This was meant to ensure that all indications of bias in the respondents' selection were therefore removed.

To determine a sample for class Teachers, at least one focus group was held in each of the two sub-counties after the researcher consciously selected a sample of the schools from which subject Teachers were drawn. The sample consisted of no more than 16 class Teachers. The distribution of the population and sample is presented in the table 3.2

**Table 3.2. Sampling frame: Teacher Category, Target and Sample population**

<b>Respondents</b>	<b>population(N)</b>	<b>Sample Size</b>	<b>Percentage</b>
Head Teachers	392	8	2
Class Teacher	1910	16	4
Subject Teachers	3852	362	94
Total	6154	386	100

Source: Researcher 2023

Table 3.2 shows that the total population of Teachers in the study area was 6,154 consisting of 392 head Teachers, 1910 class Teachers and 3852 subject Teachers. From the population, a sample size of 386 was selected for the study.

### **3.7.3 Inclusion & Exclusion Criteria**

To be included for this study, participants had to be employees of the Teachers Service Commission (TSC), ensuring they met national professional and ethical teaching standards. Secondly, only participants currently assigned to schools located within Kisii County and specifically to one of the schools selected to participate in the study. Lastly, participants were required to be teaching learners in Grades 1 to 5, as these early

primary school years are critical for observing and managing behavioural patterns associated with ADHD. This selection ensured that the data collected would reflect informed, practical classroom experiences from professionally qualified Teachers directly engaging with the target learner group.

Teachers not registered by TSC and who failed to indicate the name of the school and sub-county they were working were excluded. It was expected that since they had not received teacher training, they would not be familiar with classroom dynamics. Additionally, any teacher who was teaching in a special school or special unit was excluded from the study. This is because only trained Teachers are qualified to teach a range of disabilities and their awareness of the diverse behaviours displayed by learners with special needs.

### **3.8 Research Instruments**

Using a questionnaire as a primary research instrument is well-suited for literate participants like teachers, particularly when aiming to collect data from geographically dispersed groups. Self-administered questionnaires are both cost-effective and logistically efficient, allowing broad reach with minimal resource expenditure (Zelege et al., 2021). By ensuring respondent anonymity, such instruments are particularly effective at reducing social desirability bias, encouraging more candid responses—especially when addressing sensitive topics (Gnambs & Kaspar, 2024). Moreover, eliminating interviewer presence significantly reduces interviewer bias and ensures

uniformity in question presentation, thereby enhancing the reliability and consistency of collected responses (Zelege et al., 2021).

The researcher used three tools to collect data, the questionnaire, interview schedule, and direction for focus group discussions. The questionnaire was designed utilizing elements from Mulholland's (2016) ASKAT scale. A focus group discussion and interview schedule were used to improve the dependability and trustworthiness of the data. Furthermore, they allow interviewers and researchers to gather extra information by clarifying or asking additional questions about the questions they have prepared.

### **3.8.1 Questionnaire for Classroom Teachers**

A questionnaire was employed as the primary data collection tool due to its suitability for literate respondents like teachers, who could confidently interpret and complete its items. The instrument consisted of six sections (A–F), each targeting specific study variables. Section A gathered demographic data through 12 multiple-choice items. Section B assessed teachers' understanding of ADHD using 14 statements rated on a 5-point scale (1 = untrue to 5 = accurate). Section C explored perceptions of the causes of ADHD-related behaviours with 11 Likert-scale items (1 = strongly disagree to 5 = strongly agree). Section D measured attitudes toward learners with ADHD through 19 items rated from 1 (never) to 5 (always).

Section E evaluated the frequency of ADHD-related behaviours using 20 items on the same 5-point scale. Lastly, Section F examined behaviour control strategies through 11

items rated on a 6-point scale (1 = works for me to 6 = don't want to try it). This structured format enabled comprehensive and efficient data collection across key dimensions of the study. Closed-ended questions offer several advantages in research. They are time-efficient during data collection, allow for quicker and more systematic data analysis, and are cost-effective to administer—especially in large-scale studies (Stantcheva, 2022). Among literate populations such as Teachers, these types of items are particularly suitable because they minimize ambiguity and cognitive overload. High scores on the questionnaire are interpreted as indicators of greater teacher knowledge, more accurate perceptions, more defined (often negative) attitudes, and stronger familiarity with ADHD management strategies, compared to low scores.

### **3.8.2 The Askat Scale**

Mulholland (2016) developed the ADHD-Specific Knowledge and Attitudes of Teachers (ASKAT) scale, which comprises two subscales: the ADHD-Specific Knowledge Scale (SASK) and the ADHD-Specific Attitudes Scale (SASA). These instruments assess Teachers' knowledge of and attitudes toward ADHD. The ASKAT is divided into four sections (A–D). Section B contains 20 items designed to evaluate Teachers' understanding of ADHD using a true/false/I don't know response format. Section C includes 11 items assessed on a six-point Likert scale, which measures attitudes toward ADHD and related behaviours. Section D consists of four open-ended questions intended to capture personal perspectives on ADHD.

The ASKAT scale was modified to enhance clarity, cultural relevance, and response rates for the purposes of this study. Specifically, complex or foreign terms were replaced with simple, familiar language to ensure accessibility for all participants. Additionally, redundant items that measured similar constructs were removed to reduce the length of the questionnaire and minimize respondent fatigue. To better align with the objectives of the study, new sections were incorporated to gather data on Teachers' attitudes toward ADHD and their use of management strategies.

Following ethical approval, all participants attended a debriefing session. Each respondent then completed the instrument in a private setting, with an average completion time of approximately fifteen minutes. To maintain confidentiality and facilitate data organization, each questionnaire was assigned a unique identifier. The responses were compiled and analysed as quantitative data for the study.

### **3.8.3 Interview Schedule for Head Teachers**

An interview is a qualitative research method involving the systematic use of questions to gather in-depth data. Such interviews are well suited to exploring process- or experience-focused research questions related to the significance of specific events and activities (Kallio et al., 2020; Brinkmann & Kvale, 2021). There are various interview types—structured, semi-structured, unstructured, group, and narrative. In this study, semi-structured interviews were employed due to their flexibility and conversational nature, which allows participants to elaborate freely while maintaining comparability across interviews.

To triangulate self-report questionnaire data, open-ended and semi-structured questions were deemed the most effective way to capture rich, participant-generated insights. Given that participants were experienced head Teachers capable of articulating their perspectives clearly, this format enabled deeper exploration of persistent disruptive behaviours and the reasoning behind participants' views (Kallio et al., 2020). Moreover, semi-structured interviews offered nuanced insights into Teachers' knowledge, attitudes, perceptions, and behaviours regarding ADHD—insights that would not have been accessible through closed-ended survey items alone.

The interview guide comprised four key areas: Teachers' experiences, ADHD-related knowledge, attitudes, perceptions, and management strategies. The head Teachers were divided into three groups based on their mode of interview participation. Group one included two participants who completed telephone interviews; group two consisted of two participants interviewed via Zoom; and group three involved four participants who took part in face-to-face interviews conducted by the researcher.

A structured interview guide was employed to ensure consistency across interviews while allowing for open-ended responses. Each session was conducted in a private setting to ensure confidentiality. The interviews, which lasted approximately forty minutes each, were conducted by the researcher and audio-recorded with the participants' consent. A research assistant was responsible for managing the recording equipment during the sessions.

To ensure confidentiality, all interviews were conducted in separate, private settings. Each one-on-one, semi-structured interview session lasted approximately forty minutes. With informed consent from the participants, all interviews were audio recorded. The recordings were later transcribed verbatim by the researcher to maintain accuracy and preserve the depth of participants' responses.

Initially, ten head Teachers volunteered to participate—representing a 10% surplus over the required sample size to account for possible attrition. Although all ten participants initially provided written consent and signed confidentiality agreements, three withdrew before the interviews took place. As a result, seven participants completed the interview process, representing an 87% response rate. This number was deemed sufficient for the qualitative analysis and the objectives of the study.

#### **3.8.4 Focus Group Discussion Guide for Class Teachers**

Focus group discussions (FGDs) are a qualitative research method where a small, purposefully selected group responds to guided questions within a structured yet interactive setting. By design, FGDs deepen understanding of complex issues, foster critical thinking, stimulate diverse problem-solving perspectives, and enhance group decision-making through peer interaction (Williams, 2025).

In this study, one FGD was conducted per sub-county, each comprising 7–8 participants—yielding rich qualitative data aligned with the main themes under investigation. The researcher coordinated with class Teachers and selected convenient

school venues. Participants received specific dates and meeting points, and completed confidentiality agreement forms requiring them to safeguard both shared content and participants' identities. Nevertheless, FGDs have limitations, such as small sample sizes that limit generalizability, the risk of dominant voices or groupthink, and potential moderator bias (Philomath Research, 2024). To address these, and to triangulate the data, the researcher also employed interviews and questionnaires.

According to Ning, et al. (2024); focus group discussions (FGDs) present several limitations, including susceptibility to group biases and dominance by assertive participants, the challenge of separating individual viewpoints from collective responses, and complexities in analysing and interpreting qualitative data. To ensure data triangulation, the researcher supplemented FGDs with individual interviews and structured questionnaires.

FGDs were conducted across four sub-counties to gather in-depth input (see Appendix G). All participants received timely notifications regarding the logistics—time, date, and location. At the start of each session, participants were reminded of the research objectives, ethical protocols, and the importance of maintaining confidentiality and anonymity. Each FGD session lasted approximately 60 minutes. While the researcher facilitated the discussion, a trained assistant took detailed notes and digitally recorded the session to ensure accurate capture of responses.

A notable drawback of FGDs is the risk of groupthink, where individuals might withhold dissenting opinions in favour of consensus (Morgan, 2019). To counteract this, the moderator adopted a “devil’s advocate” approach—prompting participants to critically assess the validity and coherence of shared viewpoints. This technique encouraged participants to consider alternative interpretations and articulate dissent when necessary.

### **3.8.5 Selection and Training of Research Assistants**

Eight research assistants—comprising two undergraduate and two master's level Learners—were recruited based on their ability to multitask, perform effectively under pressure, and demonstrate foundational knowledge of research methodologies. Additional selection criteria included basic proficiency in computer applications, as well as strong administrative, communication, and management skills. Prior to fieldwork, the research assistants received comprehensive training covering the study’s objectives and purpose, evaluation protocols, proper use of research instruments, data collection procedures, ethical standards (including confidentiality and integrity), and basic data processing techniques.

### **3.9 Pilot Study**

This is a pre-test of the research instruments before actual data collection. Piloting was conducted in Nyamira County primary schools. The sample consisted of 30 primary school Teachers who answered the questionnaire, two head Teachers who were interviewed and eight class Teachers who did focus group discussion. The sample

applied aligns with current recommendations for pilot testing of questionnaires, where a minimum of 30 participants is advised to adequately assess reliability and identify potential issues (Bujang et al., 2024). Finally, the instrument's validity and reliability were determined using the data collected during a pilot study.

### **3.9.1 Validity of the Research Instrument**

Validity refers to the extent to which an instrument accurately measures what it is intended to measure (van de Schoot et al., 2023). In this study, content and face validity were established through expert and peer review. Content validity was ascertained by faculty in the Department of Educational Psychology at Masinde Muliro University of Science and Technology; while face validity was ascertained by peer review. To quantify content relevance, the Content Validity Ratio (CVR) was calculated for each item using Lawshe's method, (See Appendix H); identifying essential and those not (Romero Jeldres et al., 2023). The formula is given as follows:

$$CVR = \frac{N_e - \left(\frac{N}{2}\right)}{N/2}$$

*Where:*

$N_e$ = Number of "essentials" for an item; and  $N$  = Number of experts.

The researcher recruited five experts from the department of educational psychology to rate the questionnaire's items as important or not needed. The content validity ratio ranged between 0.6 and 1, indicating a good validity. The instruments were changed in

response to the experts' final conclusions. This is significant because inferences drawn from this type of data are more precise, relevant, and insightful.

The qualitative data's validity was ensured by providing extensive, explicit accounts of the participants' experiences. These helped to indicate whether the identified themes were representative of the participants' accounts. Because the interviews were audio recorded, the data could be reviewed again and again to closely examine any emerging trends and adhere to the participants' testimonies. Finally, to find out if the themes found in the interview transcripts aligned with their opinions, the researcher asked participants to provide feedback on the transcripts.

### **3.9.2 Reliability of the Research Instruments**

In this research, reliability was assessed through test retest method. The internal consistence of the instrument was calculated using Cronbach's alpha. The reliability index for Teachers knowledge was 0.90; attitude, 0.86; perception 0.89; and behavior 0.83; which yielded a coefficient of 0.87 at an alpha level of 0.05—indicating a high level of internal consistency and suitability for use. Also, the quality of the qualitative data—derived from the focus group discussion guide and interview schedule—was ensured through several rigor-enhancing strategies.

Credibility was established through the prolonged engagement of an independent researcher, ongoing monitoring, and triangulation using data from the questionnaire.

Transferability was supported by providing rich, detailed descriptions of the context and

processes. Dependability (reliability) was ensured by maintaining a comprehensive audit trail and adhering to strict documentation protocols. Confirmability was achieved through reflexive journaling, member checking, and peer debriefing, all of which contributed to the objectivity and transparency of the research process.

To ensure reliability of the transcribed data, the researcher used several methods including High-quality recording to prevent data loss or errors; Verbatim transcription to ensure accuracy; Standard protocol to ensure consistency across transcripts; double checking or review for error detection and correction; member checking to improve authenticity and credibility.

### **3.10 Data Collection Procedures**

Prior to data collection, the researcher obtained the necessary authorizations and recruited highly trained research assistants. A recommendation letter was sought from the Director of Postgraduate Studies (DPS) at Masinde Muliro University of Science and Technology (MMUST), followed by ethical approval from the MMUST Institutional Ethics Review Committee (MMUST-IERC), and a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI). Upon receipt of the research permit, the researcher formally notified the County Commissioner and the County Director of Education in Kisii County about the intended study.

Subsequently, the research instruments were pre-tested by the researcher and the trained assistants to ensure their reliability and suitability. Once the tools were deemed

appropriate, full-scale data collection commenced. The researcher visited the selected primary schools, met with the respective head Teachers, and provided them with information about the study. Relevant documents, including the research permit and introductory letter, were shared to establish credibility and transparency. The researcher and the school administrators collaboratively scheduled appropriate dates for data collection.

In addition, the researcher met with potential respondents, explained the purpose of the study, and invited voluntary participation. Written informed consent was obtained from all willing participants (see Appendix B). The researcher and participants agreed on the specific date, time, and location for data collection. On the scheduled day, research assistants distributed copies of the questionnaire to the participants. After a 15-minute review period, participants completed the questionnaires, which were then collected for analysis.

To triangulate the data obtained from the questionnaires, the researcher conducted interviews and focus group discussions in private settings, all of which were audio-recorded to ensure accuracy and completeness. While the researcher facilitated the interviews and focus groups, a research assistant was responsible for documenting the proceedings. The use of audio recordings helped preserve the authenticity of participants' responses (Creswell & Creswell, 2020). The primary data collection phase spanned a period of three months, from March to May 2024.

### **3.11 Methods of Data Analysis**

Data analysis involves the systematic process of breaking down collected information into meaningful themes, patterns, trends, and correlations. This includes identifying underlying structures, relationships among variables, and conceptual linkages to gain a deeper understanding of the research findings.

Quantitative data were analysed using both descriptive and inferential statistics with the aid of IBM SPSS Version 25. Descriptive statistics were applied to summarise teachers' knowledge, attitudes, perceptions, and awareness of ADHD-related behaviours, as well as their preferred management strategies. This provided a clear overview of patterns and trends within the study population in Kisii County. Inferential statistics, particularly ordinal logistic regression, were then used to test the relationships between these variables and to determine the extent to which teacher characteristics influenced the choice of management strategies. This combination allowed the study not only to describe the current state of teacher preparedness but also to draw valid conclusions about the predictive role of knowledge, attitudes, perceptions, and behaviours in shaping classroom practices for learners with ADHD.

In addition, descriptive statistics help summarize and organize data to provide a clear picture of what the data show. This is important because it offers a snapshot of the data (e.g., average scores, distribution); helps identify patterns, trends, or anomalies; and, lays the foundation for deeper analysis. On the other hand, inferential statistics allow researchers to generalize or predict about a larger population based on a sample of data.

This help make conclusions about populations; determine relationships or differences between variables; and supports evidence-based decision-making

### **3.11.1 Quantitative Data Analysis**

For this study, quantitative data comprised responses that could be transformed to numeric data and collected through a structured questionnaire, reflecting how participants rated various statements. Following data collection, the responses were cleaned, coded, and entered into Microsoft Excel for preliminary organization before being exported for detailed analysis. Descriptive statistics, including frequencies and percentages, were used to summarize the data. These were visually presented through tables, graphs, and pie charts to facilitate easy interpretation. To explore relationships within the data, inferential statistical techniques such as correlation analysis, ordinal regression, and multinomial logistic regression were employed. These methods were instrumental in identifying and assessing significant relationships between the dependent and independent variables.

### **3.11.2 Qualitative Data Analysis**

Qualitative data included field descriptions, interview transcripts, and focus group discussions. The data were analysed thematically, allowing for the extraction of key themes and patterns from participants' narratives. Unlike the often lengthy, first-person accounts given by participants, thematic analysis condenses these into concise and meaningful categories (Nowell et al., 2017). To ensure the accuracy of interpretation,

audio recordings of the interviews were reviewed multiple times to capture details that might have been overlooked during initial transcription.

Thematic analysis followed a systematic process that began with coding the data, followed by reflective note-taking and memo writing in the margins. The researcher then identified similarities, relationships, and differences among themes, subgroups, and variables. This process allowed for the recognition of patterns, sequences, and emerging processes, ultimately contributing to a deeper understanding of the data (Braun & Clarke, 2021). All qualitative data were transcribed and organized into categories, which were then reported as themes or subthemes. To enhance the credibility and validity of the findings, qualitative results were triangulated with quantitative data from the questionnaire. Organizing the data thematically strengthened the overall coherence and interpretative depth of the study. Table 3.3, presents objective of the study, the variable measured and the analysis method employed.

**Table 3.3: Data Analysis Techniques**

Objective	Variable	Analysis
Establish the relationship between teacher knowledge of ADHD and management strategies of pupil's in Kisii, County, Kenya.	Teacher knowledge level- independent variable Management strategies- dependent variable	Descriptive (frequencies, mean, Ordinal regression analysis
Determine the relationship of teacher's attitude towards ADHD- and management strategies of pupil's in Kisii, County, Kenya..	Teachers' attitude	Descriptive frequencies, & Ordinal logistic regression analysis

Examine the relationship between teacher's perception of causes of ADHD and management strategies of pupil's in Kisii, County, Kenya.	Perception of causes of ADHD	Descriptive frequencies, mean, & Inferential Statistics Ordinal logistic regression analysis.
Establish the relationship between ADHD-related behaviours and teacher's choice of management strategies among Teachers in Kisii County, Kenya	Behaviour Inattention, hyperactivity and impulsivity)	Descriptive (frequencies, percentages) & Ordinal logistic regression analysis
Management strategies	Rewards, punishment, communication, and organizational training	Descriptive statistics (frequency and percentages)
Respondents' demographics	Age, level of training, experience, gender, and ADHD training	Descriptive statistics (frequencies, percentages, and ordinal regression)

Table 3.3 presents the study's analytical framework, specifying objectives, variables, and statistical techniques used to examine factors influencing teachers' management strategies for pupils with ADHD-related behaviours in Kisii County, Kenya. Independent variables included teacher knowledge, attitudes, perceptions of ADHD causes, and recognition of ADHD-related behaviours (inattention, hyperactivity, impulsivity), while management strategies (rewards, punishment, communication, organisational training) served as the dependent variable. Descriptive statistics (frequencies, percentages, means) were used to summarise the data, and ordinal logistic regression tested the relationships between variables.

Demographic factors—age, level of training, teaching experience, gender, and prior ADHD training—were also analysed descriptively and incorporated into regression models to assess their influence on management strategies. This mixed descriptive–inferential approach enabled both the identification of general patterns and the determination of statistically significant associations within the dataset.

### 3.11.3 Sampling Adequacy

The KMO test ( $=0.73$ ,  $\chi^2 (28) = 726.75$ ,  $p < .001$ ) was employed to evaluate the appropriateness of the sampling. The test assesses the suitability of sampling for each variable in the model as well as the model as a whole. The statistic expresses how much of the volatility in a set of variables may be common variance. The more favourable one's data is for factor analysis, the lower the proportion. Results for this study are presented in Table 3.4.

**Table 3.4: *KMO test of sampling adequacy***

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure		0.81
Bartlett's Test of Sphericity	Approx. Chi-Square	726.75
	Df	28
	Sig.	0.000

Table 3.4 shows that KMO= 0.81 meaning Sampling adequacy is strong and Bartlett's Test P. = 0.000 meaning that Items are sufficiently correlated. Therefore, exploratory Factor Analysis (EFA) or Confirmatory factor analysis (CFA) can be attempted. The

sample size is adequate to evaluate the study's aims, according to the findings of the KMO and Bartlett's tests.

### 3.11.4 Normality

The regression model assumes that the independent variables—Teachers' knowledge, attitudes, perception of the reasons, and behaviour linked to ADHD—and the dependent variable—class room management strategies—have a normal distribution. The study used the Shapiro-Wilk test, a normal probability plot, and a histogram with a normal curve to determine whether the data were normally distributed. The results are displayed in Figure 2.

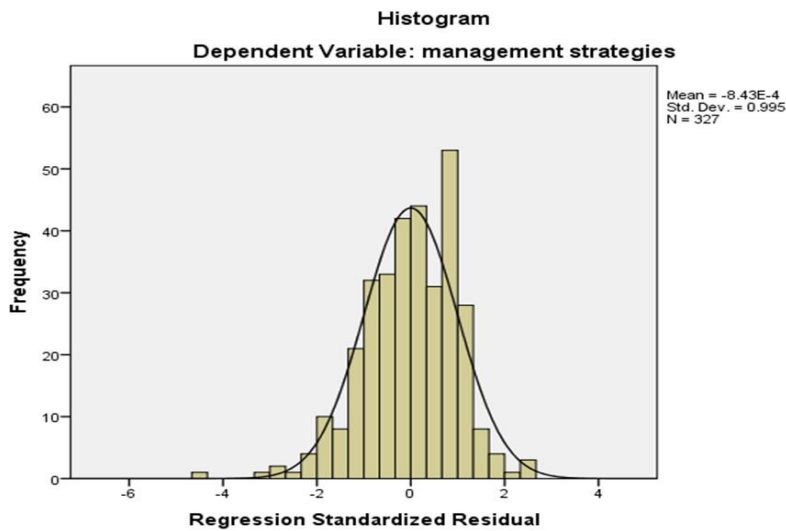


Figure 3.1: Normality Test Using Histogram with Normal curve

The histogram with the normal probability plot is oriented with the longest bars in the middle, according to the chart in figure 2. The data has a bell-shaped distribution, with the kurtosis peak located about at the mean, according to the normal probability plot. Indicating that the data was normally distributed and fitting the premise of normalcy,

the skewness is likewise regularly distributed about the mean, making it suitable for a number of basic regression models.

### 3.11.5 Linearity Test

The dependent variable (management strategies) and the independent variables (Teachers' knowledge, perception of causes, attitudes, and behaviours linked to ADHD) are assumed to have a linear relationship by the regression model. No matter how much the predictor variable changes, a change in the outcome variable resulting from that change is always the same when there is a linear relationship. Given that regression model findings underestimate the true relationship in cases where the relationship is nonlinear; therefore, a Linear regression was used to demonstrate the linearity assumption. A number further away from 0 (towards -1 or +1) indicates better correlation, whereas an r-value of = 0 indicates no correlation between the variables. The correlation coefficient calculates the correlation between the variables using this value. The model's results indicate that R is 0.470, indicating a statistically significant positive connection of = 0.470. The outcomes are shown in Table 3.5.

**Table 3.5: Model summary**

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.470 <sup>a</sup>	.221	.211	1.02058	.221	22.798	4	322	.000	1.438
a. Predictors: (Constant), disruptive behaviour, attitude, perception, knowledge										
b. Dependent Variable: management strategies										

The model summary indicates that the combined predictors—teachers’ knowledge of ADHD, attitudes towards ADHD, perceptions of its causes, and recognition of disruptive behaviours—explain 22.1% of the variance in teachers’ management strategies, as shown by the R Square value of 0.221. The adjusted R Square value of 0.211 suggests that after accounting for the number of predictors, approximately 21.1% of the variation in management strategies can still be explained by the model. The model’s standard error of estimate (1.02058) reflects the average distance between the observed and predicted values of management strategies, indicating a reasonable fit.

The change statistics reveal that the R Square change of 0.221 is statistically significant ( $F(4, 322) = 22.798, p < .001$ ), meaning the inclusion of the four predictors significantly improves the model’s ability to explain the variance in management strategies. The Durbin–Watson statistic of 1.438 is close to the acceptable range of 1.5–2.5, suggesting no serious autocorrelation in the residuals, although a slightly lower value may warrant caution. Overall, the results demonstrate that teachers’ knowledge, attitudes, perceptions, and awareness of disruptive behaviours are meaningful predictors of the strategies they choose to manage pupils with ADHD-related behaviours. This is despite the fact that a substantial portion of the variance remains unexplained, pointing to the influence of other factors not captured in this model.

### **3.12 Ethical Considerations**

The Kenya Data Collection Act of 2019 was followed in handling all data gathered for the study (Kenya Law, 2019). The researcher requested the National (NACOSTI) (see Appendix L), the County Commissioner of Kisii County (see Appendix M), and the

Institutional Scientific and Ethics Review Committee (MMUST-ISERC) for approval prior to undertaking research. After completing the informed consent form (appendix B), the focus group consent form (appendix I), and the interview consent form (appendix J), all respondents were permitted to take part in the study. This got rid of any kind of manipulation or coercion.

Second, the surveys were not signed by the respondents. A confidentiality agreement was signed by those who took part in the focus group discussions and interviews, guaranteeing the anonymity of all focus group members and interview schedule participants. Furthermore, the identities of the collaborating institutions remained a secret.

Thirdly, after recording was completed, all copies of the questionnaire were labelled with identifiers and secured with a lock. After transcription, the captured audios were likewise secured with a lock.

Fourth, before taking part in the study, participants were debriefed and explained the research goals. They were told that they would select which questions to respond to and which ones to leave unanswered. Additionally, they were convinced that since the questionnaire was just intended for academic purposes, they should attempt all of the questions and not stop participating in the study.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSIONS

#### 4.1 Introduction

This chapter presents the analysis and interpretation of data collected to examine the relationship between Teachers' knowledge, attitudes, and perceptions of ADHD and the choice of classroom management strategies in Kisii County, Kenya. The study focused on primary school Teachers responsible for learners in Grades 1 through 5.

Data were collected using structured questionnaires and analysed using both descriptive and inferential statistical methods. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the demographic characteristics of respondents and their responses to key items. Inferential analyses, such as Pearson's correlation and regression analysis, were employed to examine the relationships between variables in line with the study's hypotheses.

To guide the reader through the findings, this chapter is organized into six sections: response return rate, characteristics of respondents, Teachers' knowledge of ADHD, Teachers' attitudes toward ADHD, perceptions of the causes of ADHD, and ADHD-related learner behaviours. Each section presents the relevant data, followed by interpretation and discussion in light of the study's objectives and related literature. The findings presented in this chapter provide the empirical basis for the conclusions and recommendations discussed in Chapter Five.

## 4.2. Questionnaire Return Rate

Return rate, in the context of research, refers to the proportion of participants who respond or complete a survey or data collection process out of the total number invited or recruited. It is a crucial metric because a high return rate enhances the reliability, validity, and generalizability of the study findings, while a low return rate can introduce bias and threaten the representativeness of the data.

In this study, a total of 398 respondents were initially recruited, which is approximately 10% more than the minimum required sample size calculated using Yamane’s formula. This deliberate oversampling was implemented as a strategic measure to account for potential non-responses or participant dropouts. By anticipating and compensating for attrition, the study aimed to ensure that the final sample size would remain adequate for statistical analysis and drawing valid conclusions. Table 4.1 provides a summary of the data relating to the establishment of valid questionnaires and, hence, the sample size for this study.

**Table 4.1 Study Sample and Response Rate**

Sub-County	Recruited	Returned	Excluded	valid	Percentage
Masaba South	76	64	2	62	81.6
Kisii central	195	158	0	158	81.0
Kisii South	42	38	4	34	81.0
Kitutu Central	85	70	1	69	81.2
Total Percentage	398 100%	330 82.9%	7 1.8%	323 81.2%	81.2

Source: Field Data, 2024

The data presented in Table 4.1 summarizes the participant recruitment, response, and data validity across the four sub-counties that participated in the study. The total number of respondents recruited for the study was 398, from which 330 responded. After reviewing the collected data, 7 responses were found to be incomplete or invalid and were therefore excluded from the final analysis. This left a total of 323 valid responses, yielding an effective return rate of 81.2%.

Each sub-county recorded a relatively high return rate, all above 81%, with Masaba South slightly ahead at 81.6%. Kisii Central and Kisii South both recorded a return rate of 81.0%, while Kitutu Central followed closely with 81.2%. This uniformity across the sub-counties indicates a well-coordinated data collection process and a generally positive response from participants throughout the study area.

The strategy of over-recruiting by 10% beyond the required sample size, as calculated using Yamane's formula, proved to be both thoughtful and effective. This approach ensured that the study retained a statistically adequate sample size even after accounting for dropouts or unusable responses. By anticipating potential attrition, the researchers safeguarded the integrity of the data and maintained the representativeness of the sample. The low exclusion rate—only 1.8% of responses—further reinforces the quality of the data collected. It suggests that the survey instruments were clear, well-designed, and understood by the respondents, which in turn enhanced the overall completeness and reliability of the responses.

From a research standpoint, the final valid sample size of 323 is more than adequate for drawing statistically significant conclusions. An effective return rate of over 80% is considered high in social science research and significantly reduces the risk of non-response bias. Consequently, the findings of the study can be regarded as both credible and generalizable within the context of the target population.

### **4.3 Respondent Characteristics**

Understanding the distribution of participants across key demographic categories is essential for interpreting research findings accurately. Demographic characteristics such as age and marital status provide context for analysing patterns, behaviours, and attitudes within the study population. They also help identify potential biases, ensure representativeness, and enhance the generalizability of the results. By examining these distributions, researchers are able better to understand the background of respondents and tailor interpretations to reflect the diversity or homogeneity of the sample.

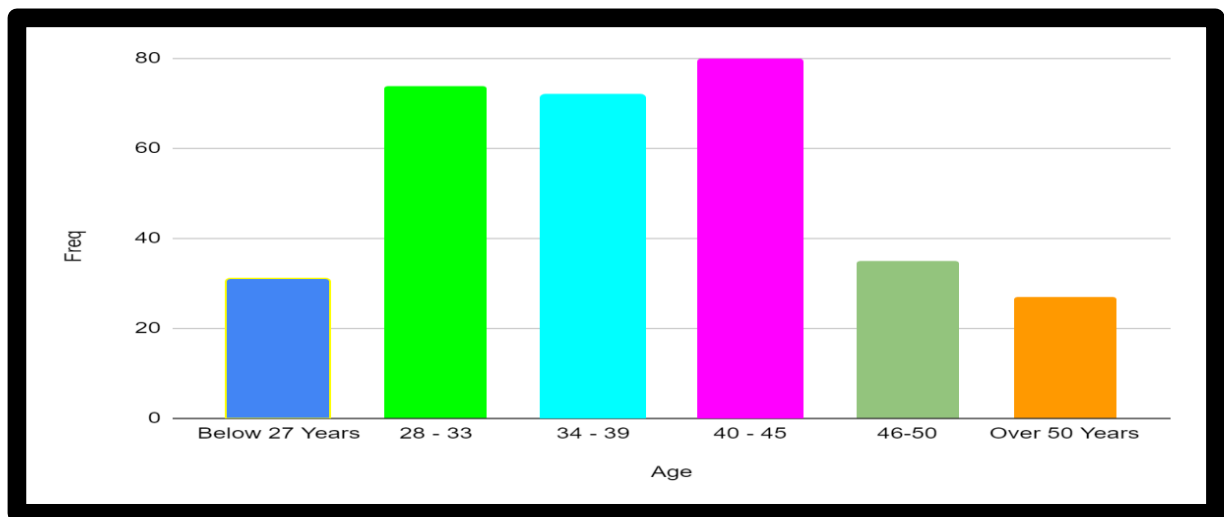
This section presents the demographic and professional profiles of the respondents who participated in the study. The participants were Teachers drawn from public primary schools across Kisii County, specifically those responsible for teaching learners in Grades One through Five. Understanding their background is essential for interpreting the study's findings within the appropriate social and educational context.

The key variables examined include gender, age, marital status, ethnicity, religious affiliation, teaching experience, and highest education level attained. These variables provide not only insight into the composition of the teaching workforce in the region but

also offer a basis for examining potential patterns and influences in teaching practices and educational outcomes.

### 4.3.1 Distribution of Respondent by Age and Marital Status

This section presents the distribution of respondents according to their age and marital status. Understanding these demographic characteristics is essential in analysing the diversity of the sample population and how these factors may influence the responses. The data provides insight into the age range and marital composition of participants, which are key variables in interpreting patterns, prevalence and attitudes in the study. Figure 4.1 illustrates the distribution of participants across different age groups.



**Figure.4.1 : Respondent Distribution according to Age**

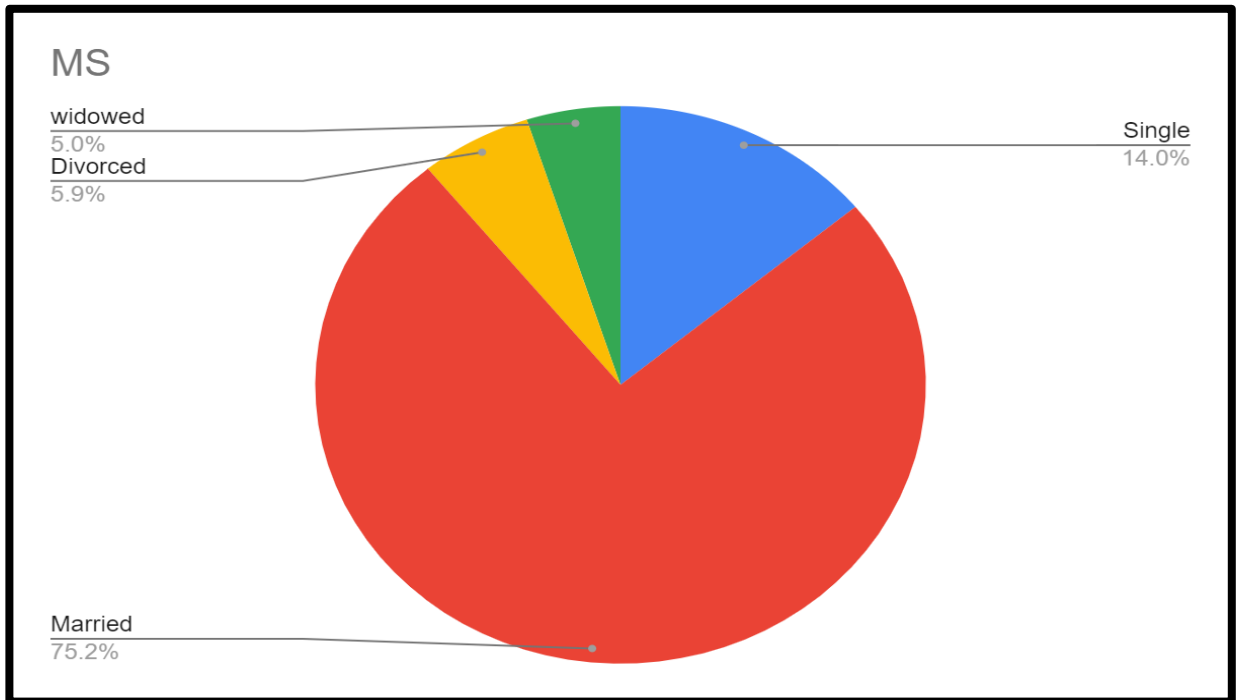
Figure 4.1 reveal that the majority of respondents (70.9%) fell within the 28 to 45-year age range. Specifically, the 40–45 years age group recorded the highest frequency, with 80

participants. This was closely followed by the 28–33 and 34–39 age groups, each with frequencies slightly above 70. In contrast, younger individuals (below 27 years) and older participants (above 50 years) were less represented, with frequencies of approximately 30 and 25 respectively. The 46–50 age group also had relatively lower representation, with a frequency around 35. These findings indicate that the sample is predominantly composed of middle-aged individuals, which may have implications for the interpretation and generalizability of age-related study outcomes.

According to Shah and Udgaonkar (2018), as Teachers grow older, they tend to gain valuable experience, which enhances their ability to support learners in realizing their potential and appreciating their self-worth. However, the authors also caution that aging Teachers may experience a decline in enthusiasm, possibly due to repetitive content delivery and increasing academic, administrative, and research-related responsibilities. This dynamic may contribute to the perception of teaching—especially at the lower primary level—as a less prestigious profession, often chosen as a last option. Consequently, many Teachers tend to advance in rank or transition out of lower-level teaching roles over time. Fig 4 shows the distribution of respondents according to Marital status.

**Fig. 4.2: Respondent Distribution by Marital Status**

Figure 4.2 displays the distribution of respondents by marital status. A significant majority, 75.2%, identified themselves as married, making this the most dominant category. Single individuals constituted the second-largest group, accounting for 14.0% of the sample. The remaining participants were either divorced (5.9%) or widowed (5.0%), each forming a



small fraction of the population. On the whole, Figure 4.2 demonstrates that married individuals constitute the majority of the study population, whereas single, divorced, and widowed respondents collectively account for only a small proportion. This demographic profile may have implications for the interpretation of responses, especially on issues where marital status could be a contributing factor. It is believed that marriage enhances a person's sense of self, and they are more likely to possess a higher level of self-efficacy in overseeing Learners than do single or separated Teachers.

### 4.3.2 Distribution by Gender, Education, ADHD Training, and Experience.

In addition, the study looked into distribution of respondent according to gender, Education qualification, ADHD training and teaching experience. Table 4.2 displays the results.

**Table 4.2: Distribution by Gender, Education qualification, ADHD Training, and Teaching Experience**

Attribute	Education Level	Freq (n)	Percentage
Gender	Male	145	45
	Female	178	55
Education Qualification	Phd	11	3.5
	Masters	39	12.3
	Bachelors	22	7.0
	Bachelors	82	25.9
	Diploma	75	23.7
ADHD Training	P1	80	25.3
	P2	7	2.2
	Yes	87	26.9
	No	236	73,1
Teaching Experience	< one year	21	6.5
	1-10	132	40.6
	11-20	105	32.3
	21-30	51	15.7
	Over 30 Years	16	4.9

Source: Field Data, 2024.

In terms of distribution by gender, Table 4.2 shows that 55% of the sample was female, while 45% were male. This implies that female primary school Teachers outnumber male

Teachers. This is a respectable finding, given that female Teachers outnumber male Teachers in primary schools. This is due to gender bias in professional aspirations, cultural beliefs and conventions, and the responsibility to teach and care for children at lower education levels.

Regarding teacher qualification, Table 4.2 shows that a substantial proportion of Teachers hold a Bachelor's degree (25.9%) and P1 certificate (25.3%), followed closely by those with Diplomas (23.7%). A smaller segment reported holding Master's degrees (12.3%), while only 3.5% had attained a PhD. The inclusion of Teachers holding P2 certificates (2.2%) further underscores the diversity of qualification levels within the teaching workforce. Overall, the data indicate that while most Teachers are formally trained, advanced academic qualifications are still limited. This is because, Teachers' educational qualifications determine the level of formal preparation among respondents.

Concerning ADHD-specific training, the results reveal a significant gap in teacher preparedness. Only 26.9% of respondents indicated having received training related to ADHD, while a majority—73.1%—reported no such training. This shortfall in specialized professional development may hinder Teachers' ability to identify, support, and effectively manage learners with ADHD-associated behaviours in inclusive classroom settings. It is also possible that Teachers will be stressed and fail to manage classrooms effectively. These findings emphasize the pressing need to integrate ADHD content into both pre-service and in-service teacher education programs.

In terms of teaching experience, the majority of Teachers (72.9%) had between 1 and 20 years of service, with the largest proportion (40.6%) having taught for 1–10 years. Teachers with 11–20 years of experience made up 32.3% of the sample, while those with 21–30 years accounted for 15.7%. Only a small fraction (4.9%) had over 30 years of experience, and 6.5% were in their first year of teaching. These results suggest that most Teachers were in the early to mid-stages of their careers, which may influence their adaptability to new pedagogical approaches and their exposure to managing diverse learning needs, including ADHD.

#### **4.3.3 Distribution by Ethnicity, Religious Affiliation and Grade Taught.**

Finally, Table 4.3 presents the distribution of respondents based on the highest level of education attained, religious affiliation, and the grade level currently taught. This demographic breakdown provides essential context for interpreting the study’s findings, as it highlights the diversity of perspectives represented in the sample. Also, analyzing these characteristics allows for a more nuanced understanding of potential influences on participants’ responses, ensuring that variations in beliefs, values, and professional experiences are appropriately considered in the discussion of results. Table 4.2 presents the findings of the analysis.

**Table 4.3 Distribution by Ethnicity, Religious Affiliation and Grade Taught.**

Attribute	Sub-group	Frequency	Percentage
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Ethnic Community	Kisii	249	77.3
	Luo	29	9.0
	Kalenjin	24	7.5
	Maasai	9	2.8
	Others	11	3.4
Religious Affiliation	Protestant	172	52.1
	Catholic	115	34.8
	Muslim	15	4.5
	Others	13	3.9
	Others	13	3.9
Grade Taught	Grade 1	30	10.7
	Grade 2	52	18.6
	Grade 3	53	18.9
	Grade 4	89	31.8
	Grade 5	56	20.0

Source: Researcher, 2024

Whereas, one may be excused to think that primary school Teachers in Kisii County entirely come from the Kisii community. Table 4.3 shows the contrary. The demographic distribution of participants by ethnic background indicates of course a strong representation

from the Kisii community, which comprised 249 (77.3%) of the Teachers. Other ethnic groups were represented in smaller proportions, with the Luo making up 29 (9.0%), the Kalenjin 24 (7.5%), and the Maasai 9 (2.8%). Participants from other communities accounted for the remaining 11 (3.4%). This distribution reflects the regional demographic dominance of the Kisii ethnic group, which is consistent with the study's geographical focus.

Religious affiliation among respondents was also diverse, though predominantly Christian. Protestant Christians formed the largest group at 172 (52.1%), followed by Catholics at 115 (34.8%). A small percentage identified themselves as Muslim 15 (4.5%), and 13 (3.9%) fell under other religious categories. The presence of multiple faiths among Teachers may influence perspectives on inclusive education and special needs support, particularly where cultural or religious beliefs intersect with perceptions of neurodiversity.

Finally, in terms of grades taught, Teachers reported teaching across lower and upper primary levels, with the majority (31.8%) assigned to Grade 4. This was followed by Grade 5 (20.0%), Grade 3 (18.9%), Grade 2 (18.6%), and Grade 1 (10.7%). The concentration of Teachers in Grades 3 to 5 suggests that the study captured experiences from both lower and upper primary levels, which is important given that symptoms of ADHD often become more pronounced as academic and behavioural expectations increase.

#### **4.4 Teachers' Knowledge of ADHD and their Management Strategies**

This section addresses the first objective of the study—to examine the relationship between Teachers' knowledge of ADHD and the choice of classroom management strategies.

Understanding how Teachers' awareness and understanding of ADHD influence their management strategies of learners is vital, as it directly impacts both teaching effectiveness and learner outcomes.

To explore this relationship, the analysis is structured in four parts: first, an overview of Teachers' knowledge of ADHD is presented using descriptive statistics; second, an overview of management strategies used to support learners with ADHD-related behaviours; third, the connection between this knowledge and the choice of classroom management strategies; and finally, testing for a relationship. The findings are interpreted in relation to existing literature and the study's conceptual framework.

Teachers were asked to provide information regarding their knowledge and perceptions of ADHD by responding to a series of 14 statements related to common behaviours displayed by learners with ADHD. These statements were designed to assess their understanding across multiple key dimensions of ADHD, including—behavioural types; ADHD Symptoms; Cause of ADHD; Management techniques and the prevalence or rates of ADHD diagnoses.

Each of these 14 items was rated using a five-point Likert scale, ranging from 1 = False to 5 = True, with the midpoint being 3 = I do not know. This format allowed Teachers to express varying degrees of certainty or uncertainty in their responses. To ensure consistency in the scoring, negatively worded statements were reverse-scored, so that in all cases, a higher score reflected a more accurate understanding or a more positive alignment with evidence-

based knowledge of ADHD. By organizing the items into thematic categories, the analysis was able to highlight specific areas of strength and potential gaps in Teachers' knowledge across different aspects of ADHD, helping to inform future training or support needs.

#### **4.4.1 An Overview of Teachers' Knowledge of ADHD**

Teachers' knowledge of ADHD is critically important for several reasons, particularly because they are on the front lines of identifying and supporting Learners with the condition.

This is because:

- (a) When Teachers have a good understanding of ADHD, they are better equipped to recognize early warning signs—such as persistent inattention, impulsivity, and hyperactivity—and can refer Learners for further evaluation and support.
- (b) In addition, early identification leads to earlier interventions, which can significantly improve outcomes.
- (c) Knowledgeable Teachers can implement appropriate classroom strategies tailored to the needs of Learners with ADHD
- (d) Misconceptions about ADHD—such as blaming it on poor parenting or believing the child is simply “lazy” or “disruptive”—can lead to unfair treatment or exclusion.
- (e) When Teachers are well-informed, they are more likely to approach Learners with empathy, patience, and evidence-based practices, which reduces stigma and creates a more supportive classroom environment.

Learners with ADHD-related behaviours often struggle academically due to difficulties with focus, organization, and following instructions. Teachers who understand the condition can adapt their teaching methods to ensure proper accommodations (such as extra time or

modified assignments), and foster an inclusive learning environment where Learners exhibiting ADHD-related behaviours can thrive. Table 4.4 displays the outcome of the analysis of respondents' responses.

**Table 4.4: Analysis of Teachers' Knowledge of ADHD**

ITEMS	F	SWF	IDNK	ST	T	Mean	SD
1	45	25	16	64	170	3.83	1.53
2.	70	40	51	93	68	3.11	1.47
3.	39	36	39	81	122	3.58	1.49
4.	52	27	44	78	118	3.50	1.53
5.	51	42	27	78	117	3.41	1.592
6.	21	49	37	87	117	3.56	1.479
7.	63	35	59	78	84	3.20	1.514
8.	65	43	74	65	73	3.07	1.475
9.	72	47	39	77	79	3.03	1.600
10.	133	32	70	48	28	2.28	1.453
11.	87	50	69	62	50	2.75	1.474
12.	63	45	60	70	79	3.10	1.523
13.	32	25	55	96	110	3.64	1.382
14.	77	22	48	64	98	3.12	1.691

Source: Field Data 2024

This study examined Teachers' knowledge of ADHD through a structured questionnaire consisting of 14 items. These items reflected common behaviours, symptoms, causes, management strategies, and perceptions related to ADHD. Teachers responded using a five-point Likert scale ranging from 1 (False) to 5 (True), with 3 indicating "I do not know."

Negatively phrased items were reverse-scored to ensure consistency, such that higher scores consistently indicated a more accurate or informed understanding of ADHD.

The analysis revealed several key insights into Teachers' understanding of ADHD. Overall, Teachers demonstrated a strong awareness of ADHD-related behaviours and symptoms, particularly in relation to classroom conduct. For example, as regards gender, boys are more likely than girls to exhibit a persistent disruptive behavior (item 14). This is because, boys tend to exhibit more externalizing behaviours, such as hyperactivity and impulsivity, compared to girls, whose symptoms are often more internalized and less disruptive. These externalizing behaviours are more noticeable and can be more challenging for Teachers to manage in classroom settings. Additionally, a significant majority—234 respondents (72.7%)—agreed that Learners exhibiting ADHD-like behaviours may display a range of persistent disruptive classroom behaviours. Such behaviours include struggling to stay seated, talk too much, or sit still. In contrast, 70 respondents (21%) disagreed with this statement, while 16 (5%) indicated uncertainty, reflecting a modest knowledge gap.

Another area where Teachers showed strong understanding was in recognizing that learners with disruptive behaviours are often easily distracted, struggle to pay close attention to details, but can benefit from individualized behaviour management strategies. These topics were associated with relatively high mean scores, ranging from 3.5 to 3.8, indicating a well-established recognition of core ADHD characteristics such as inattention, impulsivity, and hyperactivity. These findings suggest that most Teachers are well-equipped to identify the more observable manifestations of ADHD in educational settings.

However, the data also pointed to areas of moderate understanding where responses were more varied. Items such as 2, 5, 7, 12, and 14 recorded mean scores between 3.1 and 3.4, indicating partial knowledge and some uncertainty. These items often included higher proportions of “I do not know” responses, suggesting that Teachers were less confident about topics related to the causes and prevalence of ADHD, or possibly about more nuanced aspects of managing the disorder in educational contexts.

More concerning were the findings from items 10 and 11, which showed the lowest mean scores (2.28 and 2.75, respectively). These results are likely to reflect persistent misconceptions or a lack of accurate knowledge among some Teachers, particularly in areas concerning the aetiology of ADHD or the effects of treatment. These items may have been related to commonly held myths, such as attributing ADHD to poor parenting, diet, or disciplinary practices, rather than recognizing it as a neurodevelopmental disorder. In addition, several items exhibited high standard deviations, indicating significant variability in Teachers' responses. This variation suggests a lack of uniform training or exposure to consistent information about ADHD, reinforcing the need for professional development.

In summary, while Teachers demonstrated a foundational understanding of core ADHD symptoms, the findings also highlight notable gaps in knowledge—particularly concerning causes, effective management strategies, and prevalent misconceptions. These gaps may hinder the ability of Teachers to provide optimal support to learners displaying ADHD-associated behaviours. It is recommended that schools implement targeted professional

development programs that not only reinforce accurate information but also actively correct common myths and equip Teachers with practical, evidence-based strategies for classroom management. The ratings of Teachers’ responses in all the sub themes are presented in Table 4.5.

**Table 4.5 Rating of Teacher’s of Knowledge Across Subthemes**

Sub theme	frequency	percentage
Management strategies	63	19.5
Chidden exhibiting ADHD—related behaviours	75	23.2
Prevalence rate	61	18.8
Causes of ADHD	55	17.0
Symptoms	67	20.7

Source: Researcher, 2024

Table 4.5 reveals that Teachers demonstrated limited knowledge of ADHD, with only 17.0% (n = 55) identifying its causes. Prevalence rates followed at 18.8% (n = 61), then knowledge of management strategies at 19.5% (n = 63), symptoms at 20.7% (n = 67), and general awareness of ADHD-related behaviour at 23.2% (n = 75). These results align with findings by Greenway and Edwards (2020), who also reported that Teachers often lack a comprehensive understanding of ADHD.

Knowledge of management strategies was followed by awareness of symptoms, and then by understanding of specific ADHD-related behaviours. Since these behaviours often disrupt classroom activities, Teachers are generally able to recognize them and apply various strategies to manage them. These findings align with recent research by Aldabbagh et al.

(2024) and Hornstra et al. (2023), which emphasize that ADHD requires a comprehensive, multimodal management approach. Notably, some strategies—such as the use of aversive or punitive responses—may unintentionally reinforce the behaviours they aim to reduce. This indicates that Teachers are unable to provide pupils with the critical support they require; which could lead to these pupils being stigmatized and labelled.

Findings in Table 4.5 also indicate limited understanding of ADHD's three core domains—inattentive, hyperactive-impulsive, and combined. Therefore, this knowledge gap may hinder early identification and appropriate classroom interventions. Similar findings have been reported in Egypt, where only 26.7% of teachers accurately identified ADHD behaviour, and the rest often confuse them with general mis-behaviour (El-Dosoky et al., 2023). In Saudi Arabia, Alqahtani (2020) also found that most teachers lacked clarity on ADHD types. However, a contrasting study by Alshammari et al. (2022) found that 52.7% of teachers could recognize ADHD behaviours, indicating moderate understanding in some regions.

The prevalence rate received the second-highest grade, which is significant because this condition has a young origin and the symptoms fluctuate depending on the gender. These findings are consistent with Bolinger, et al, (2020) who assert that, given the prevalence of ADHD, Teachers are likely to have worked with at least a few pupils who exhibit ADHD-related behaviours and often struggle to manage such pupils.

Further, Table 4.5 shows that 55 (17%) indicated being aware of causes of ADHD. This suggests limited awareness of the causes of ADHD, with many teachers likely influenced by misconceptions like poor parenting. Similar findings were reported in Egypt, where only 43.2% had good overall ADHD knowledge and many held inaccurate beliefs about its causes (El-Dosoky et al., 2023; Alqahtani, 2020). A slightly higher rate was reported by Alshammari et al. (2022), where 34.1% of teachers understood ADHD causes.

Respondents had a challenge pinpointing the symptoms of ADHD. This is because it coexists with other conditions, which makes it challenging for Teachers to identify. These findings are consistent with Ringer et al., (2020), who note that secondary effects of the illness include learning, social, and emotional problems. As a result, it is critical that Teachers are aware of every symptom associated with ADHD. Table 4.6 presents the results of the analysis for Teachers’ knowledge.

**Table 4.6: Teacher’s Knowledge**

N	Minimum	Maximum	Mode	Median	Kurtosis	
Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
323	.00	5.00	2.034	2.7	.810	.271

KEY: 1.00-1.80 (Very Low), 1.81-2.60(Low), 2.61-3.40 (Moderate), 3.41-4.20 (High), 4.21-5.00 (Very High)

The results presented in Table 4.6 show the descriptive statistics for teachers’ knowledge of ADHD—an independent variable central to the study’s first objective—examining the

relationship between knowledge and teachers' choice of class room management strategies. . Among the 323 respondents, Knowledge scores ranged from 0.00 (minimum) to 5.00 (maximum), showing a wide variation in awareness and understanding of ADHD. The mode of 2.034 indicates the most frequently occurring score, while the median of 2.7 suggests that half of the respondents scored below this level, pointing to a generally low-to-moderate knowledge base within the sample.

The kurtosis value of 0.810 (SE = 0.271) shows a distribution slightly more peaked than normal, meaning that scores were moderately clustered around the mean. This pattern suggests that, while some teachers demonstrate higher knowledge levels, the majority have relatively limited understanding of ADHD. Given that teacher knowledge is a key factor influencing classroom management practices, these results highlight the importance of enhancing professional development and targeted training to strengthen the capacity of teachers in Kisii County to support learners with ADHD effectively.

These results aligns with recent findings from Saudi Arabia, where only a small percentage of primary school Teachers demonstrated good knowledge across various ADHD domains (Alqahtani, 2020). In a randomized controlled trial in Abha, baseline ADHD knowledge among Teachers was notably low—only 16% in the intervention group and 22% awareness in the control group. However, following a targeted two-day training program, teachers' understanding of ADHD improved significantly and was largely retained at the three-month follow-up (Alshehri et al., 2020). Similar trends have been documented globally,

highlighting that many Teachers lack sufficient understanding of ADHD and, as a result, may struggle to properly identify and support affected Learners.

Teachers' awareness of ADHD significantly influences their teaching methods and Learners' learning outcomes. Recent studies have shown that although many Teachers recognize some symptoms of ADHD, their knowledge of its causes and appropriate management strategies remains limited (Saad et al., 2022; Akdağ, 2023). This lack of understanding can result in failure to identify affected Learners, even among those with some familiarity with the disorder.

Given their extensive classroom exposure, Teachers are well positioned to notice persistent behavioural patterns and offer early referrals. However, insufficient training can delay diagnosis, lead to inappropriate disciplinary practices, and worsen behavioural issues. Misconceptions—such as the belief that ADHD medications are addictive or that the disorder only affects boys—further complicate early identification and intervention (Akdağ, 2023). A systematic review by Aldabbagh et al. (2024) highlights the importance of equipping Teachers with structured, evidence-based strategies to effectively manage ADHD-related behaviours in the classroom.

Teachers with insufficient knowledge of ADHD may struggle to distinguish it from other behaviour related disorders, such as oppositional defiant disorder and conduct disorder. Given their role in identifying pupils who may require further assessment, it is essential that teachers possess a clear understanding of ADHD. Limited knowledge not only hinders accurate identification but also contributes to gaps and weaknesses within the educational

setting. Therefore, teachers with comprehensive knowledge can play a pivotal role in the early recognition and referral of children with ADHD, thereby facilitating timely intervention and support.

#### 4.4.2 Management Strategies used to Support Learners with ADHD

Of the 11 management strategies analysed, the respondents were asked to indicate which strategy they have used; which ones they have found effective, and which ones they have never heard of. The methodologies were measured on a six-point scale. The goal of the study was to determine which of the many management techniques used to help pupils who have ADHD Teachers are acquainted with, utilize and which ones they found particularly effective. The results are presented in table 4.7.

**Table 4.7: Descriptive of Management Strategies**

Item	E	NE	MT	HNT	DKN	DIT	Mean	SD
1	103	30	43	46	51	42	3.07	2.0
2	137	40	51	35	37	13	4.33	1.5
3	14	50	59	23	28	14	4.65	1.7
4	125	54	53	29	44	13	4.81	1.5
5	154	49	37	22	29	12	4.64	1.5
6	121	51	67	30	36	12	4.43	1.6
7	138	54	68	25	24	8	4.51	1.8
8	160	53	52	25	21	8	4.42	1.6
9	148	57	53	15	26	7	4.62	1.6
10	82	98	70	28	21	19	4.40	1.7
11	214	39	29	11	18	7	3.82	1.9

**Source: Field data 2024**

KEY

E=I've found it effective.

NE=I tried it but did not find it effective.

MT=I have not tried it, but I might attempt it in the future.

HNT=I have not tried it and do not plan to try it.

DKN=I intend to learn about it and attempt it in the future.

DIT=I do not intend to try it in the future.

Table 4.7, shows that 214 (66.7%) respondents preferred ignoring disruptive behaviour compared to 7% who did not intend to try it in the future. Additionally, Teachers responded to whether gifting a child each time they behave well (rewards) is beneficial. Approximately 32.2% (103) of the respondents said that they had tried it and found it effective, while 42 (13.1%) of the respondents said that they have never tried it and don't intend to try it in the future. Moreover, 137 (42.7%) of the respondents said that they have tried using punishment for unwanted behaviour and have found it effective; 13 (4.0 %) said that they have never used it and don't intend to try in the future, while 51 (15.9%) don't know about the strategy and would intend to know.

Further, 144 (44.9%) of the respondents said that they have used teaching the child how to plan activities and have found it effective, compared to 14 (4.4%) who said that they have never used it and don't intend to try it in the future, while 28 (8.7%) didn't know it and intended to know about it. Moreover, 125 (38.9%) of the respondents agreed that they have used teaching organisation skills with the child and have found it effective, while 13 (4.0%) said they have never used it and don't intend to try it in the future. Planning and organisation skills are high-order skills that should be taught to the learner.

The use of individual instruction had been tried and found effective by 160 (49.8%) of the respondents, while 8 (2.5%) had not tried it and didn't intend to try it in the future, compared to 52 (7.8%) of the respondents who had not tried it and didn't intend to try it in the future. A

closely related strategy was teaching the child how to organize their belongings, for example, books in a locker, which has been tried by 125 (38.9%) of the respondents, while 44 (13.7%) of the respondents intended to know about it and try it in the future, while 13 (4.0%) didn't intend to try it in the future.

Interestingly, 121 (37.7%) of the respondents said that they have tried teaching the child to be empathetic (cognitive training), while 30 (9.3%) said that they have not tried it and don't intend to try it in the future. However, 138 (44.3%) had tried teaching the child good behaviour while 25 (7.8%) had not tried it and didn't intend to try it in the future, compared to 24 (7.5%) who intended to know about it and try it in the future.

Creating classroom support, allowing breaks or time for learners to move around, and muting distractions (accommodation) had been tried by 148 (46.1%) and found effective, while 57 (17.8%) said they had tried it and had not found it effective against 15 (4.7%) who had not tried it and don't intend to try it in the future. A closely related strategy was peer tutoring or coaching, which had been tried and found effective by 82 (25.5%) of the respondents, while 26 (8.1%) of the respondents intended to know about it and try it in the future, against 19 (5.9 %) who didn't intend to try it in the future.

These findings indicate that Teachers often ignore disruptive behaviours—particularly ADHD-related behaviours—as a coping strategy to maintain classroom flow and make learning productive. This avoidance aligns with previous studies suggesting that Teachers use such techniques to manage fatigue and stress. While ignoring may help in the short term,

it can undermine classroom management and teaching effectiveness (Mahvar et al., 2018; Aldrup et al., 2018; Schwab et al., 2019;).

Additionally, a respondent during an interview said:

*“I have no idea how to manage these pupils. They occasionally exhibit aggressive behaviour, which I find quite difficult to handle, so I choose to ignore”.*

This means that wherever Teachers do not know what to do, they tend to ignore the learners. Teachers should be discouraged from employing this strategy because as they ignore these behaviours they are not giving the necessary support to the learners. In turn these learners are not able to build lasting relationships with their peers and do not communicate positively with their families hence they become lonely and isolated. On the other hand, Teachers are not unable to establish clear expectations and norms for behaviour and learning outcomes, nor are they able to create a learning environment that fosters cooperation and learning. They don't enforce the rules and penalties in the classroom in a consistent, demanding, or persistent manner. These will eventually cause Learners to fall behind academically, misbehave in class, and participate in illegal activities.

Additional findings reveal that peer tutoring is a tactic used by some participants to control these learners. Because these tactics employ language suited for the target audience, they ought to be supported. These children can also imitate the actions of their peers. According to social learning theory, learning happens when people observe real models and copy their actions.

During an interview, one respondent said;

*“I place learners in groups with motivated pupils who possess group leadership abilities. When something goes awry, I'm informed by the leaders, and I manage the difficult child”.*

According to this claim, the Teachers places pupils in groups with a variety of skill levels and behavioural patterns so that they can learn from each other and report any disruptive pupils. This approach should be supported since it simplifies the material for peers to understand and uses language that is acceptable for the target audience.

In addition, the results also show that Teachers used modelling as a tactic. Since learners will copy what they see others do, this tactic needs to be promoted and emphasized. This will support the development or training of positive behaviour. Bandura's social learning theory indicates that people watch a model and reproduce the behaviours. Teachers who wish to set an example for learners must act empathically toward them in the classroom, refraining from labelling and mistreating other pupils. As a result, Teachers and Learners develop a tight bond and a sense of emotional intimacy.

Even if some of the management strategies were unknown, several of the respondents stated that they would like to learn more and assist pupils who have ADHD symptoms in the future. As a result, Teachers must receive training on various management techniques for managing learners who exhibit disruptive behaviour on a regular basis. During an interview session, one respondent said

*“Some of the instructional strategies, tactics, and procedures employed to manage these learners are unfamiliar to me”.*

This suggests that many teachers remain unprepared to manage disruptive behaviours due to insufficient ADHD training, which can hinder both teaching and learning processes. Additionally, ADHD frequently obstructs the process of teaching and learning. As a result, Teachers need to structure lessons and employ engaging activities tailored to accommodate diverse learners, especially those with ADHD-related behaviours. This is meant to help them maintain focus and reduce restlessness.

Many teaching strategies can support Learners exhibiting ADHD-related behaviours in maintaining focus and reducing restlessness. However, without adequate support, such Learners often face repeated academic difficulties and a significantly elevated risk for school dropout.—nearly 17%, as observed in an Omani cohort (Al-Farsi & Al-Busaidi, 2018).

As can be seen from the above responses, there was a considerable difference in the responses of individuals who seemed to have some notion of what ADHD was and those who showed a complete lack of information regarding ADHD and its management techniques. Teachers reported employing more complex, personalized behavioural management strategies less frequently for managing these pupils than simpler classroom management strategies, according to participants with some knowledge. one respondent stated;

*“I try to mentor the learner, inspire them, provide an example of appropriate behaviour, speak to them in an empathic manner, and establish a supportive learning atmosphere in the classroom. I assign learners extra tasks that they enjoy doing and work with breaks”.*

Consequently, there are two reasons why using a variety of tactics in the classroom is necessary; that various children respond to different techniques, and that a strategy that works for one child once could not work for that child again. A summary of the management techniques Teachers’ use is shown in table 4.8.

**Table 4.8 Summary of Types of Management Strategies**

Category	Frequency	Percentage
Rewards and punishment	55	17.0
Accommodation	70	21.6
Ignoring	57	17.6
Communication	68	21.1
Training	71	22.0

Table 4.8 shows that Teachers use various management strategies to manage learners. The study found that training was the highest used strategy (N =323, F= 71, P=22.0) followed by accommodation (N =323, F= 70, P=21.6), followed by communication (N=323, F= 68, P=21.1), followed by ignoring disruptive behaviours(N=323, F= 57, P=17.6 and finally the use of rewards and punishment (N =323, F= 55, P=17.0). Nevertheless, given that different learners exhibit different behaviours and that no single tactic is always effective; Teachers reported using a variety of techniques for managing ADHD-related behaviours at once.

The finding that Teachers use a variety of techniques is consistent with Caye, et al., (2019); and Re & Capodiecici, (2020). Their finding emphasises the importance of a multifaceted approach to the treatment of ADHD. This is because Learners with ADHD-related behaviours exhibit a wide range of behaviours, from apathy to disdain, making them challenging to manage. Teachers need to be able to use multiple tactics at once, since what works in one situation might not work in another. As a result, the Teachers needs to be aware of when to condition behaviour and when to model it.

Table 4.9 displays Teachers’ rating about use of different strategies. Generally, Teachers Overall, their rating was that they do not know some methods and have never used them as indicated in table 4.9

**Table 4.9: Mode of Management Strategies**

	N	Minimum	Maximum	Mode	median	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
m	322	.00	5.73	2.3204	2.902.	.480	.271
Valid N (list wise)	322						

KEY: 1.00-1.80 (Very Low), 1.81-2.60(Low), 2.61-3.40(Moderate), 3.41-4.20 (High), 4.21-5.00 (Very High)

Table 4.9 indicate that management strategies had a mean of 2.32 and a standard deviation of 1.05. This suggests that the majority of respondents were unaware of the many management techniques used to help learners exhibiting ADHD-related symptoms. Teachers need to be equipped with a range of management strategies—including behavioural, academic, and, when relevant, pharmaceutical approaches. Effective techniques include

nonverbal cues, strategic seating, consistent reinforcement, and minimizing distractions. Since Learners displaying ADHD-like behaviours often struggle with social awareness, targeted support is essential. Without proper knowledge, Teachers risk using ineffective methods and failing to meet these Learners' needs.

According to data on management strategies, 100 respondents (30.5%) believed that the combination of stimulant medication and behaviour therapy can be a powerful and effective intervention for persistently disruptive childhood behaviours, while 59 (18.3%) respondents, felt that there was a knowledge gap. In contrast, 162 respondents (50.3%) felt that this was false. Furthermore, 206 (60.2%) of the respondents said that Learners who exhibit disruptive behaviours on a regular basis can benefit from individualized education; 57 (17.7%) disagreed, and 55 (17.1%) either had a knowledge gap or did not state their Prevalence. With individualized training, each child's requirements are the main emphasis, and each need is addressed one at a time.

Furthermore, while 39 (12.1%) respondents lacked understanding, 156 (48.4%) respondents believed that Learners who exhibit disruptive behaviour on a regular basis could benefit from tougher school policies and stricter parenting. In contrast, 119 (37.0%) respondents disagreed. In addition, 138 (42.9%) respondents believed that special diets (lower in sugar, wheat, and lactose) were a useful treatment for persistently disruptive behaviour. In contrast, 108 (33.4%) respondents believed that this was untrue, and 74 (24.0%) respondents had a knowledge gap.

In the classroom, boys disobey rules, are more aggressive than girls... and dispute with adults all the time. Also, during an interview, one respondent said;

*“Compared to their female peers, boys are typically more gregarious, mischievous, talkative, and inclined to break school rules”.*

According to this view, boys tend to cause more problems in the classroom because they exhibit more externalizing behaviours than girls, which are easier to identify than internalizing behaviours. Teachers also tend to give more attention to boys' behaviours. These findings align with studies by Lau et al. (2021) and Fraticelli et al. (2022), which report that boys are generally more hyperactive and outgoing, while girls tend to be more reserved.

There was disagreement over the causes of ADHD, according to data on causes. Some respondents blamed low birth weight, food additives, parenting, and genes; others did not know. One respondent stated in an interview that:

*“I believe that a diet high in sugar additives, preterm birth, and certain parenting approaches are the root causes of these behaviours.”*

Another respondent reported that: *“I think this is an inherited condition”.*

This suggests that a multitude of factors contribute to ADHD. As a result, Teachers are likely to manage pupils in accordance with their causal theories. These findings are consistent with (Te Meerman et al., 2017; Núñez-Jaramillo et al., 2021), who's a result indicate that ADHD is a complex, long-term condition with no known cause. As a result,

respondents were unable to effectively manage particular pupils since they did not understand the reasons behind their unique behaviour.

Findings on management strategies indicate that there are various methods used to manage learners displaying ADHD-like behaviours, including a combination of medication and behaviour therapy, strict parenting, individualised instruction, and, to some extent, special diets. Nonetheless, a mix of stimulant medication and behaviour therapy is the best advised course of action. One respondent reported that:

*“Songs, actions to make connections, breaking the activity down into little, manageable chunks, or letting the learner do what they enjoy doing are all used to calm these pupils. Reward successful completion of the duties and promote teamwork”.*

Given that there are many different causes of ADHD, individuals with this disorder exhibit modest to intensely aggressive behaviours, and there is no one management technique that works for everyone. Teachers ought to be motivated to utilize the various approaches at their disposal for managing Learners, considering that pupils with ADHD exhibit a wide range of symptoms and have varying degrees of impairment

These study findings align with those of Benzing and Schmidt (2019) and Harrison et al. (2020), who emphasize that structured interventions—such as computer-assisted instruction, behaviour management techniques, parent education, classroom organization, and social skills training—are effective for Learners with ADHD. Teachers who adopt these

approaches are more likely to refer Learners for treatment and provide meaningful support. Given that ADHD stems from both genetic and environmental factors, establishing a predictable and supportive classroom environment is crucial.

The use of individualized instruction, which is an approach that concentrates on meeting the requirements of each individual kid by tailoring training to address one need at a time, should be encouraged. Respondents who thought that strict parenting should be encouraged imply that such learners need strict rules that should be enforced. As a result, these Teachers are probably going to deploy incentives for every good deed and sanctions for every bad one. Sometimes, they believe that the misbehaviour of these pupils is the result of the parents' incapacity to raise their kids. Teachers then assign labels to these kids and place the responsibility on the parents. During a focus group discussion, one respondent said;

*“I never learnt anything about ADHD during my preparation to become a teacher. As a result, I have no idea how to recognize or support pupils who may have ADHD...In situations where I have pupils acting out, I use general classroom management techniques rather than focusing on the pupil who is causing the trouble”.*

Similar sentiments were also shared with another teacher, who reported during an interview that,

*“ ... In my experience as a teacher trainer, nobody discussed behaviour issues with kids. Usually, I consult special education Teachers when I observe such youngsters in the classroom....*

Teachers often feel unprepared to support Learners with ADHD, leading to job dissatisfaction and, in some cases, career changes. The disorder's overlap with other behavioural issues can result in misinterpretation of symptoms and a lack of appropriate support. Despite having taught many Learners with ADHD-related behaviours, Teachers frequently lack the training needed to manage them effectively—potentially worsening the very behaviours they aim to address.

The findings of this study align with recent research highlighting a persistent lack of ADHD-specific training in teacher education programs. Most Teachers report minimal formal preparation, relying instead on informal resources. While targeted training improves knowledge, its effect on learner behaviour remains uncertain. This deficiency may lead to inappropriate classroom responses, including punitive discipline that can exacerbate behavioural issues (Ward, et al., 2022; Khasakhala, 2016).

Furthermore, training could help Teachers recognize the various behavioural issues that typically arise early in life and can be diagnosed by one of the most important sources of information for ADHD diagnosis and referrals is thought to be Teachers. They are also in charge of establishing an atmosphere that supports children with ADHD-related behaviours in their academic, social, and emotional endeavours.

To effectively manage ADHD-related behaviours, Teachers require to be trained in both antecedent-based and consequence-based strategies. Antecedent strategies involve providing

structure and clear expectations to guide behaviour, while contingency management uses consequences—like rewards or mild sanctions—to reinforce desired actions. These techniques, grounded in behavioural theory, can help increase positive behaviours in the classroom (Owens et al., 2018). For several decades now, the majority of contemporary interventions consist of both sets of methods to lessen the problem behaviour of youngsters, with varying emphasis on methods that are more antecedent or consequentially based (Staff et al., 2022).

#### **4.4.3 Teachers' Knowledge and Classroom Management Strategies**

Spearman's rank-order correlation analysis was performed to determine the strength and direction of the association between Teachers' ADHD-related knowledge and their application of classroom management strategies. The analysis revealed a statistically significant correlation ( $\rho = 0.396$ ,  $p = 0.000$ ), indicating that higher levels of knowledge about ADHD are associated with more effective selection of learner management strategies. Since the  $p$ -value is less than the conventional alpha level of 0.05, the relationship is considered statistically significant. This suggests that as Teachers' understanding of ADHD increases, so does their capacity to implement appropriate management techniques.

These findings align with recent research. For instance, Alshehri et al. (2020) found that brief training significantly improved Teachers' ADHD knowledge, with effects sustained after three months. Similarly, Alqifari et al. (2025) notes that while many Saudi Teachers recognized ADHD symptoms, few understood management strategies, highlighting the need for targeted professional development. In African settings, Biirah et al. (2024) and Markos

et al. (2020) linked teacher experience and training to more effective attitudes and practices. Additionally, Dahl et al. (2020) emphasized that greater knowledge enhances both intervention quality and referral accuracy.

These findings suggest that Teachers with sufficient knowledge of ADHD are better equipped to select appropriate interventions and manage affected pupils effectively. Understanding that both genetic and environmental factors contribute to ADHD is essential for tailoring suitable management strategies. Additionally, as ADHD is more prevalent among boys—who often display more externalizing behaviours—Teachers’ awareness of these gender-related differences can enhance classroom management. The severity of symptoms also varies widely, from mild inattention to aggressive or disruptive behaviours, underscoring the need for nuanced, informed responses.

Understanding ADHD enables Teachers to provide critical support to learners. Avramidis and Norwich (2022) emphasize that Teachers’ ability to adapt inclusive lesson plans and behaviour management strategies is strongly influenced by their knowledge and attitudes toward ADHD. This suggests that effective teaching requires both conceptual understanding and belief in inclusive practices. In a similar vein, Mokhtari and Stough (2023) found that as Teachers’ beliefs and contextual awareness of behavioural challenges develop—particularly through professional development such as lesson study—their instructional approaches shift from behaviour control to fostering academic engagement, allowing for more responsive and supportive classroom environments.

However, these findings contradict with those of Bolinger et al. (2020), whose research at Ball State University found no significant relationship between Teachers' knowledge of ADHD and their selection of classroom management strategies. This discrepancy may be attributed to variations in research design, sample size, or the specific instruments used to assess both knowledge and management practices. For example, differences in teacher training programs, cultural context, or levels of experience with inclusive education may influence how knowledge translates into practice. These inconsistencies underscore the importance of further research that not only replicates existing studies but also explores contextual variables that may mediate or moderate the relationship between teacher knowledge and classroom behaviour management. Future studies should aim to clarify these dynamics across diverse educational settings to provide more generalizable and actionable conclusions

#### 4.4.4 Examining the Significance of the Relationship

A simple ordinal regression was computed to test the null hypothesis, *H<sub>0</sub>*: *There is no relationship between Teachers' knowledge of ADHD and the choice of classroom management strategies.* The results are presented in Table 4.10.

**Table 4.10: Model fitting information**

Model	-2Log Likelihood	Chi-Square	df	Sig.
Intercept Only	2353.650			
Final	.000	2353.650	1	.000

Link function: Logit

Table 4.10 shows that the model’s Chi-square value was 2353.650 with a significance level of 0.000, which is below the conventional threshold of 0.05. This indicates a statistically significant relationship between the independent and dependent variables at the 5% significance level. In summary, the results suggest a significant association between Teachers’ knowledge and the choice of classroom management strategies. The results of the goodness-of-fit test are presented in Table 4.11.

**Table 4.11: Goodness-of-Fit**

	Chi-Square	df	Sig.
Pearson	1175.910	2600	1.000
Deviance	954.690	2600	1.000

Link function: Logit.

The Pearson and Deviance were used to test whether the data adequately fits the model given a significance level of 5%. Since the significance level from Chi-Square computation is higher than the level of significance, it then implies that the data adequately fits the model. Therefore, the data are consistent with the model assumptions which assume the null hypothesis to state that “the data adequately fits the model” versus the alternative stating “the data does not adequately fit the model”. To show how much variance of the dependent variable are explained by the independent variable, Table 4.12 shows the results

**Table 4.12: Pseudo R-Square**

Cox and Snell	0.888
Nagelkerke	0.950
McFadden	0.910
Link function: Logit	

Table 4.12 presents the pseudo R-squared values used to evaluate the explanatory power of the model. The Cox and Snell R<sup>2</sup> value is 0.888, the Nagelkerke R<sup>2</sup> is 0.950, and the McFadden R<sup>2</sup> is 0.910. These values are exceptionally high, especially in the context of logistic regression, where values above 0.40 are typically considered strong. Nagelkerke R<sup>2</sup> (0.950) suggests that approximately 95% of the variance in the dependent variable—Teachers' classroom management strategies—can be explained by the independent variable, Teachers' knowledge of ADHD. This indicates an excellent model fit and a strong predictive relationship. These results therefore, strongly support the conclusion that Teachers' knowledge of ADHD is a highly significant predictor of the classroom management strategies they employ. The model explains a substantial portion of the variance in the outcome variable, suggesting both statistical and practical relevance in educational settings.

Furthermore, the study assessed whether the assumptions of the ordinal regression model were met using the Test of Parallel Lines. The results are presented in Table 4.13.

**Table 4.13: Test of Parallel Lines**

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	.000			

General	.000b	.000	50	1.000
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a. Link function: Logit

Table 4.13 presents the results of the Test of Parallel Lines, which assesses whether the proportional odds assumption of the ordinal logistic regression model holds. The test compares the fit of the null model (which assumes parallel lines) with a general model (which does not assume parallelism).

In this case, the Chi-square value is 0.000 with a significance level (p-value) of 1.000, which is well above the 0.05 threshold. This means we fail to reject the null hypothesis, indicating that the assumption of proportional odds holds. The results suggest that the model meets the key assumption required for ordinal logistic regression. Therefore, the model is appropriate for interpreting the relationship between the predictors and the ordered outcome variable.

#### **4.5 Causes of ADHD and Classroom Management Strategies**

This section addresses the second objective of the study—to examine the relationship between Teachers’ perception of the causes of ADHD and the choice of classroom management strategies. Understanding Teachers’ beliefs about the causes of ADHD—whether biological, psychological, or environmental—is essential, as these beliefs influence how they respond to and support affected learners.

Understanding Teachers’ beliefs about the causes of ADHD—whether biological, psychological, or environmental—is crucial, as these beliefs significantly influence how

Teachers interpret and respond to Learners exhibiting ADHD-related behaviours. Research indicates that Teachers who attribute ADHD to neurological or genetic causes are more likely to adopt empathetic, structured, and inclusive approaches, consistent with evidence-based practices (Avramidis & Norwich, 2022). In contrast, those who view the disorder as stemming from environmental or parenting deficits may resort to punitive or dismissive strategies, which can hinder the learner's engagement and exacerbate behavioural challenges (Mokhtari & Stough, 2023). These attributions also affect how likely Teachers are to refer Learners for clinical assessment or collaborate with mental health professionals).

Moreover, causal beliefs about ADHD play a critical role in shaping instructional strategies and classroom dynamics. Teachers who understand the multifactorial nature of ADHD—including its strong genetic basis, with heritability estimated at 70–80%—are more likely to reduce stigma, seek supportive interventions, and foster inclusive learning environments. In contrast, misconceptions about the disorder can promote biased expectations and inconsistent teaching practices (Nature Reviews: Disease Primers, 2024). Therefore, exploring and addressing Teachers' perceptions of ADHD causality is essential. Doing so can inform targeted professional development, promote scientifically grounded beliefs, and ultimately improve academic and behavioural outcomes for learners with ADHD.

To explore this relationship, the analysis is structured in four parts: first, an overview of Teachers' perceptions of ADHD is presented using descriptive statistics; second, an overview of management strategies used to support learners with ADHD; third, the connection between Teachers' perception and the choice of classroom management

strategies; and fourth, testing the significance of the relationship. The findings are interpreted in relation to both the existing literature and the study's conceptual framework.

#### **4.5.1 An Overview of Teacher's Perceptions of Causes of ADHD**

The purpose of the study was to learn how Teachers perceived the causes of ADHD. Teachers were asked to share their perceptions regarding the causes of ADHD by responding to a series of 11 statements reflecting common beliefs associated with the disorder. These items were designed to assess Teachers' beliefs across several core dimensions of ADHD, including behavioural characteristics, symptomatology, perceived causes, management strategies, and the perceived prevalence of ADHD diagnoses.

Each of these 11 items was rated using a five-point Likert scale, ranging from 1 = Strongly disagree (SD) to 5 = Strongly agree (SA), with the midpoint being 3 = Neutral (N). This format allowed Teachers to express varying degrees of certainty or uncertainty in their responses. To ensure consistency in the scoring, negatively worded statements were reverse-scored, so that in all cases, a higher score reflected a more accurate understanding or a more positive alignment with evidence-based knowledge of ADHD. By organizing the items into thematic categories, the analysis was able to highlight specific areas of strength and potential gaps in Teachers' knowledge across different aspects of ADHD, helping to inform future training or support needs. Table 4.14 presents the findings.

**Table 4.14: *Description of Teachers' Perceptions of Causes of ADHD.***

Items	SD	D	N	A	SA	MEAN	SD
1	60	66	63	79	47	2.85	1.447
2	75	66	50	60	68	2.86	1.537
3	111	72	68	32	31	2.26	1.376
4	52	86	61	69	49	2.83	1.408
5	77	63	78	62	29	2.60	1.802
6	84	69	68	56	36	2.55	1.439
7	70	74	57	63	47	2.67	1.486
8	76	61	74	72	34	2.68	1.397
9	49	44	64	71	70	2.94	1.621
10	31	57	59	89	81	3.30	1.424
11	84	71	71	57	35	2.57	1.391

Source: field data 2024

KEY SD= Strongly Disagree; D = Disagree; N = Neutral; A= Agree; SA = Strongly Agree

Based on the findings presented in Table 4.13; 126 (39.1%) respondents agreed that ADHD-related behaviours are normal, while an equal number disagreed, and 63 (19.6%) were neutral. This division suggests a significant variation in Teachers' understanding of ADHD symptomatology, with some potentially underestimating the clinical nature of the behaviours. Such perceptions may hinder early identification and referral, given that mislabelling ADHD behaviours as typical can delay necessary interventions.

Regarding the belief that the cause of ADHD is unknown, 92 (28.6%) respondents agreed, 155 (48.1%) disagreed, and 84 (26.1%) were neutral. The proportion who view the cause as

unknown reflects a level of uncertainty that may stem from insufficient training or exposure to conflicting information, as discussed by Ajmal and Anis-ul-Haque (2021).

A notable 128 (39.7%) respondents agreed that persistent disruptive behaviours in childhood could be indicators of mental disorders, while 141 (43.8%) disagreed. This mixed perception may reflect differing beliefs about the threshold between typical misbehaviour and clinical concern. As Mokhtari and Stough (2023) argue, understanding when behaviours signify a developmental disorder is crucial for effective classroom management and referral.

When asked whether genetics contributes to ADHD, only 91 (28.3%) respondents agreed, whereas 140 (40.7%) disagreed, and 78 (24.2%) were neutral. This finding reveals a disconnect between current scientific consensus—which recognizes genetics as a major contributor to ADHD (Avramidis & Norwich, 2022)—and teacher beliefs. Similarly, 106 (33.0%) respondents supported the idea that brain injury may cause persistent disruptive behaviour, yet 137 (42.5%) disagreed. While brain injury is a known but less common risk factor, its lower acceptance may reflect limited understanding of ADHD's neurodevelopmental underpinnings.

Interestingly, 141 (43.7%) respondents agreed that such behaviours can be inherited, aligning with established genetic explanations of ADHD. This partial alignment suggests that while some Teachers recognize heredity as a contributing factor, a comprehensive understanding of ADHD's aetiology remains inconsistent across the sample.

Another frequently cited cause of disruptive behaviour is poor parenting, with 110 (34.2%) respondents agreeing, 144 (44.9%) disagreeing, and 57 (17.8%) remaining neutral. A related view—that specific parenting styles contribute to such behaviour—was supported by 170 (53.1%) respondents, while 88 (27.3%) disagreed and 59 (18.3%) were neutral. These findings indicate that a notable portion of respondents still advance foods as a potential cause of ADHD. For example, 91 (28.3%) respondents agreed that foods with added sugar may positively influence excessive disruptive behaviour against 153(47.7%) who disagreed while 68(21.2 %) were neutral.

A small proportion of respondents (63, or 19.7%) identified low birth weight as a possible cause of childhood disruptive behaviour, while the majority—183 (57%) disagreed, and 68 (21.1%) were neutral. Another suggested cause was maternal health during pregnancy. Specifically, 118 respondents (36.8%) agreed that expectant mothers who smoke or experience high levels of stress are at greater risk of having children with persistent disruptive behaviours. In contrast, 138 (43.0%) disagreed, while 61 (19.0%) were neutral. These mixed responses indicate that Teachers hold varied and, at times, scientifically unsupported views about the prenatal and perinatal causes of ADHD.

Overall, the findings reveal a significant gap in Teachers' understanding of ADHD. Many respondents cited a range of possible causes—including typical childhood behaviour, heredity, food additives, and poor parenting—reflecting inconsistent and sometimes inaccurate beliefs. This was further illustrated during a focus group discussion, where one participant remarked:

*“I believe that this behaviour stems from impulsivity in childhood. Growing up in the age of discovery, learners are captivated by a wide range of subjects.”*

The finding that some respondents interpret ADHD-related behaviours as part of a normal developmental trajectory rather than as symptoms of a neurodevelopmental disorder is serious and disturbing. When Teachers view these behaviours as merely disruptive or developmentally typical, they may be less likely to offer support or implement appropriate interventions. Instead, affected learners’ risk being labelled as problematic, overlooked in classroom settings, or subjected to punitive measures.

The failure to recognize ADHD symptoms accurately may contribute to adverse long-term outcomes, such as academic failure, school dropout, and increased vulnerability to risky behaviours—including substance abuse, early sexual activity, and even criminal behaviour. Therefore, it is crucial to address these misconceptions through targeted teacher training programs, which can enhance knowledge, promote early identification, and encourage inclusive, supportive classroom practices.

Some responses pointed to genetics or heredity as potential causes of ADHD. During an interview, one respondent remarked:

*“I believe that this is a genetic disorder. In my class, there is a pupil who behaves exactly like his father did back in the village. The child fights with adults, breaks school rules, cannot focus or remain seated, and often loses his belongings.”*

Some respondents held the belief that ADHD may run in families, an interpretation that aligns with current scientific understanding. Genetic factors are widely recognized as a major contributor to ADHD, with research showing that the condition often appears in family members. Further, genetic influences can manifest through inherited traits or novel mutations in the child's genome that are not present in the parents. Teachers who acknowledge a hereditary basis may be more inclined to refer affected learners for clinical screening or intervention.

These findings are consistent with Barkley (2017) and Kerekes et al. (2022), who observed that families of children with ADHD-like behaviours often include other relatives with the disorder. The closer the genetic relationship, the higher the risk. Similarly, Kring and Johnson (2019) report that siblings of children with ADHD have a 33% likelihood of developing the condition, while children with at least one parent diagnosed with ADHD have a 50% chance of experiencing it themselves.

In light of these findings, it can be concluded that respondents hold divergent opinions regarding the causes of ADHD. Attributions ranged from heredity and genetics to environmental factors, as well as uncertainty about the cause. These perceptions align with the findings by Faraone & Larsson, (2019) who emphasized that no single risk factor accounts for ADHD; instead, both genetic and non-genetic elements contribute independently to its development. These findings underscore the importance of viewing ADHD through a biopsychosocial lens, which acknowledges the interplay between biological vulnerability and environmental stressors in shaping the disorder's manifestation.

Teachers' beliefs about the causes of ADHD significantly influence how they respond to affected learners. Those who attribute the condition to genetic or biological factors are generally more likely to refer Learners for professional diagnosis and intervention. In contrast, respondents who view environmental factors as the primary cause tend to favour behaviour management strategies involving rewards and punishments. Meanwhile, Teachers who believe that ADHD stems from poor parenting may be more prone to stigmatize, label, or unfairly discipline Learners, which can lead to negative outcomes both academically and socially.

These varied responses reflect broader theoretical perspectives. For instance, behaviourist theory suggests that all behaviours—whether desirable or undesirable—are learned through interaction with the environment. Through mechanisms such as classical and operant conditioning, behaviour can be shaped using reinforcement and punishment. This theoretical orientation helps explain why some Teachers prefer structured behavioural interventions over clinical referrals. A summary of Teachers' perceptions regarding the causes of ADHD is presented in Table 4.15.

**Table 4.15** *Teacher's Rating on Perception on Different Causes of ADHD*

Sub Scale	Frequency	Percentage
Not known	75	23.0
Normal	83	25.6
Heredity	84	26.0
Environment	81	25.0

Evidently, Table 4.15 shows that Teachers' perception of causes of ADHD was quite low, those who attributed cause to a condition that was not known were (N =323, F=75, P=23) followed by environment (N=323, F=81, P=25), followed by normal (N=323, f=83, P=25.6) and finally heredity received the highest perception with (N =323, F= 84 P=26.0). This suggests that Teachers had diverse ideas about the causes of ADHD, which suggests that Teachers will select a management approach based on their ideas. For instance, people who do not know what causes ADHD may use aversive stimuli or other management techniques that inadvertently encourage the very behaviours they are intended to discourage.

#### **4.5.2 Correlation Analysis**

To determine whether there is a relationship between Teachers' perceptions of the causes of ADHD and learner management strategies employed, a Spearman correlation analysis was conducted. The results revealed a statistically significant positive correlation ( $\rho = 0.281, p = 0.000$ ), indicating that Teachers' beliefs about the causes of ADHD are meaningfully associated with their choice of classroom management strategies. Since the  $p$ -value is less than the conventional alpha level of 0.05, the relationship is statistically significant.

This finding suggests that Teachers' understanding of the underlying causes of ADHD influences how they choose to manage Learners exhibiting ADHD-related behaviours. For example, Teachers who attribute the disorder to environmental causes are more likely to rely on behaviour modification strategies, such as rewards and punishments. In contrast, those who view the disorder as genetically or neurologically based are more inclined to use supportive approaches, including classroom accommodations, targeted training, and modelling appropriate behaviour.

Recent evidence underscores that Teachers' beliefs about ADHD's origins directly shape their instructional approaches and classroom practices. A national survey comparing teacher perspectives from 1999 and 2019 found enduring support for both behavioural management and medication, with a modest decline over time in favouring behavioural strategies (Moore et al., 2019). Moreover, cross-cultural studies reveal that teachers in contexts attributing ADHD to environmental factors are less likely to recognize or label behaviours as ADHD, while those viewing it as biologically based are more open to medical or neurobiological frameworks of intervention (Brault et al., 2022; DeGroot et al., 2022).

Teachers' perceptions are shaped by multiple factors, including their cultural context, personal experiences, attitudes, and prior knowledge. Similarly, Toye et al. (2019) emphasized that Teachers' perceptions of ADHD affect their approach to instruction, the use of individualized education plans (IEPs), collaboration with families, and the broader educational environment. Therefore, a limited or inaccurate understanding of ADHD may

foster negative attitudes and ineffective responses to Learners with the condition. Because perception directly influences decision-making and subsequent behaviour, improving Teachers' understanding of ADHD requires addressing their background knowledge, belief systems, and cultural context. Only through this lens can professional development efforts effectively reshape their responses to learners with ADHD.

### 4.5.3 Hypothesis Testing

A simple ordinal logistic regression was computed to test the null hypothesis; *Ho2: There is no significant relationship between Teachers' perception of causes of ADHD and the choice of classroom management strategies.* The results are presented in Table 4.16

**Table 4.16: Model Fitting Information**

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1390.747			
Final	1318.525	72.221	1	.000

Link function: Logit

Table 4.16 presents the results of the model Chi-square test, which yielded a value of 72.221 with a corresponding p-value of 0.000. Since this p-value is less than the significance threshold of 0.05, the result is statistically significant. This indicates evidence of a relationship between the independent and the dependent variable at the 5% level of significance. Overall, the findings suggest a statistically significant association between

perception and management strategies. The results of the goodness-of-fit test are detailed in Table 4.17.

**Table 4.17: Goodness-of-Fit**

	Chi-Square	df	Sig.
Pearson	4429.778	1988	.000
Deviance	916.097	1988	1.000

Link function: Logit.

The Pearson and Deviance statistics were employed to assess whether the data adequately fit the model at a 5% level of significance. Since the p-values derived from the Chi-square computations exceed the significance threshold, it can be concluded that the model fits the data well. This outcome supports the null hypothesis, which posits that "the data adequately fit the model," as opposed to the alternative hypothesis stating that "the data do not adequately fit the model." The results for the pseudo R-square statistics are presented in Table 4.18.

**Table 4.18: Pseudo R-Square**

Cox and Snell	.201
Nagelkerke	.201
McFadden	.031

The pseudo R-square statistic is used to estimate the proportion of variance in the dependent variable that is explained by the independent variable. In this case, the Nagelkerke R-square value is 0.201, indicating that approximately 20.1% of the variance in the dependent variable can be explained by the model. This suggests that perception accounts for 20% of

the variance in Teachers' choice of management strategies. The results for the test of the parallel lines assumption are presented in Table 4.19.

**Table 4.19 Test of Parallel Lines**

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	1318.525			
General	302.443b	1016.083c	50	.000

The findings indicate a Chi-square value of 1016.0835 with a corresponding significance level of 0.000, which is below the standard threshold of 0.05. This provides sufficient evidence to reject the null hypothesis. As shown in Table 4.19, the Chi-square results demonstrate a statistically significant relationship between Teachers' perceptions of the causes of ADHD and the choice of classroom management strategies ( $\chi^2 = 1016.0835$ ,  $p = 0.000$ ). The p-value being less than 0.05 supports the conclusion that there is a positive correlation between the independent and dependent variables. Therefore, the results suggest that Teachers' perceptions of the causes of ADHD significantly influence their selection of learner management strategies, leading to the rejection of the null hypothesis.

#### **4.6 Attitudes towards ADHD and Choice of Management Strategies**

This section addresses the third objective of the study—to investigate the relationship between Teachers' attitudes toward ADHD and their selection of classroom management strategies. Understanding this relationship is critical, as Teachers' attitudes can significantly shape how they perceive and respond to Learners with ADHD. By examining both the

cognitive and affective dimensions of these attitudes, the study aims to determine how such beliefs influence the choice of strategies employed to manage learners' behaviour and support their academic engagement. This objective is approached through a mixed methods lens, combining quantitative analysis to identify patterns and correlations, with qualitative insights that provide deeper understanding of Teachers' perceptions and decision-making processes.

Understanding teachers' attitudes toward ADHD is crucial, as these attitudes directly shape classroom practices and student experiences. Positive attitudes foster inclusive and effective strategies, while negative or uninformed views may result in stigma, mismanagement, or inappropriate discipline. Teachers' beliefs also influence their willingness to adapt instruction and pursue further training. Insight into these attitudes can guide professional development, inform inclusive education policies, and promote early intervention, ultimately fostering supportive learning environments for learners with ADHD-like behaviours.

Therefore, when exploring and addressing Teachers' attitudes toward ADHD, it is important to consider the multidimensional nature of attitudes, which encompass cognitive (beliefs and knowledge), affective (emotional responses), and behavioural (actions and intentions) components. A comprehensive understanding must account for all three, as they collectively influence how Teachers perceive and respond to learners with ADHD. Misconceptions and stereotypes—such as viewing ADHD as simply a behavioural issue or the result of poor parenting—must be identified and challenged to foster more accurate and empathetic

perspectives. Additionally, Teachers' attitudes are shaped by contextual and cultural factors, including societal norms, institutional expectations, and educational policies.

Also, Professional development and training play a critical role too in shaping these attitudes, particularly when they provide both theoretical knowledge and practical classroom strategies. Experience as well matters. Teachers with greater exposure to learners displaying ADHD-related behaviours often report more positive attitudes and increased confidence in their management strategies. Finally, systemic factors such as class size, administrative support, and resource availability must be considered, as they can either reinforce or help reshape teacher attitudes. Addressing these elements holistically can lead to improved teaching practices and more inclusive learning environments for Learners with ADHD.

#### **4.6.1 An Overview of Teachers' Attitude towards ADHD-Related Behaviours**

The purpose of the study was to explore Teachers' emotional responses to behaviours commonly associated with ADHD, which are collectively referred to as their attitudes. Teachers were asked to report the emotions they experience when instructing learners who exhibit ADHD-related behaviours. Using a set of 19 previously identified emotional descriptors, the questionnaire captured Teachers' perceptions across several key dimensions of ADHD, including behavioural characteristics, symptomatology, perceived causes, management strategies, and the perceived prevalence of diagnoses.

Each of the 19 items was rated on a five-point Likert scale ranging from *Never (1)* to *Always (5)*, with *Sometimes (3)* as the midpoint. This scale allowed participants to express varying

degrees of certainty or uncertainty in their responses. To maintain consistency in scoring, negatively worded items were reverse-scored, ensuring that higher scores uniformly indicated a more accurate understanding or a more positive evidence-aligned attitude toward ADHD. By organizing the items thematically, the analysis was able to identify both areas of strength and potential knowledge gaps in Teachers’ understanding, offering insight into where further training or support may be beneficial. The results are presented in Table 4.20.

**Table 4.20: Emotions When Managing Learners with ADHD**

Item	N	R	ST	F	A	MEAN	SD
Guilt	89	89	78	27	32	3.41	1.431
Inadequacy	52	76	92	66	32	3.05	1.325
Relaxation	53	60	121	50	25	2.62	1.299
Hopelessness	79	60	98	52	31	3.23	1.369
Confidence	34	46	103	75	60	3.15	1.340
Fearfulness	53	68	82	77	35	2.95	1.377
Anger	49	46	109	78	36	2.88	1.305
Cheerfulness	52	60	81	64	64	2.29	1.429
Incompetence	82	67	81	50	36	3.21	1.452
Comfort	46	57	90	85	35	2.87	1.358
Frustration	47	61	96	80	33	2.92	1.315
Helplessness	61	61	89	66	41	3.01	1.390
Disgust	60	71	78	68	34	3.00	1.437
Self-Assurance	54	69	93	58	41	2.76	1.368
Resignation	63	69	74	86	21	3.06	1.390
Humiliation	62	71	103	45	35	3.12	1.370
Betrayal	69	65	84	55	44	3.07	1.438
Sadness	48	69	84	64	52	2.88	1.393
Excitation	63	70	81	68	39	2.78	1.354

Source: field data 2024: KEY: N=Never R=Rarely ST=Sometimes Frequently A=Always M=mean SD=standard deviation

The findings presented in Table 4.20 reveal a range of emotional responses experienced by respondents when instructing learners with challenging behaviours. A small proportion of the respondents, 8.4% (59), reported feeling guilt, while 18.3% (78) sometimes experienced guilt. Notably, a larger percentage, 56.5% (178), indicated that they never felt guilt in such situations. This suggests that guilt, while present among some respondents, is not a predominant emotional response.

In terms of feelings of inadequacy, 30.4% (98) of the respondents acknowledged feeling inadequate in managing these learners, while another 30.4% (92) reported sometimes experiencing such feelings. However, 39.4% (128) stated that they never felt inadequate. These results indicate that a significant portion of respondents—over 60%—experience feelings of inadequacy either regularly or occasionally, highlighting a possible lack of confidence or sufficient preparation in handling these learners effectively.

A closely related emotion—incompetence, was also prevalent among the respondents. About 26.7% (86) felt incompetent, while 25.2% (81) reported feeling incompetent sometimes. Conversely, 46.3% (149) said they never felt incompetent. This suggests a divide in self-perceived competence among respondents, which may be influenced by factors such as experience, training, or support systems.

Further, emotional responses such as frustration and helplessness were notably frequent. A significant 35% (113) of the respondents reported feeling frustrated by the behaviour of learners displaying ADHD-related behaviours, while 33.2% (127) indicated feelings of

helplessness. These responses point to the emotional burden associated with managing complex learner behaviours and possibly a perceived lack of control or effective strategies.

Anger was another commonly reported emotion, with 35.4% (114) of respondents acknowledging that they felt angry when managing these learners. Additionally, 33.9% (109) sometimes experienced anger, while 29.5% (95) reported never feeling angry. This suggests that anger is a relatively common response, potentially indicating underlying stress or burnout among Teachers dealing with persistent behavioural challenges.

Finally, 31.6% (102) of the respondents reported feeling disgusted by the behaviours of these learners, while 23.0% (74) experienced this emotion occasionally. However, a larger portion, 40.6% (131), indicated they never felt disgust. Although less dominant compared to other emotions like frustration or anger, feelings of disgust still affect a notable minority of respondents, potentially reflecting discomfort or aversion to certain behaviours displayed by the learners.

In summary, the data in Table 4.20 suggest that Teachers frequently experience a complex mix of emotional responses—most notably frustration, anger, inadequacy, and helplessness—when working with learners who exhibit challenging behaviours. These emotional reactions underscore the need for enhanced emotional support, training, and resources to better equip Teachers for such demanding teaching environments.

Further, Table 4.20 highlights a range of other complex emotional responses among respondents when working with learners exhibiting challenging behaviours. Notably, 36% (116) of the respondents reported experiencing sadness, while 26.1% (84) stated they sometimes felt sad. In comparison, 36.3% (117) indicated that they never experienced sadness in these situations. These nearly even distributions suggest that sadness is a common, though not universal, emotional response, with a significant number of respondents experiencing it either regularly or occasionally.

Regarding feelings of humiliation, 24.9% (80) of the respondents admitted to having felt humiliated, while 32.0% reported that they sometimes experienced this emotion. However, a larger percentage, 41.3% (133), stated they never felt humiliated. This implies that although a notable portion of respondents associate their experiences with feelings of humiliation, it is not as widely reported as other emotions such as frustration or helplessness.

In relation to hopelessness, 25.7% (83) of the respondents acknowledged feeling hopeless in the face of challenging behaviours, and 30.4% (98) reported sometimes experiencing this emotion. Conversely, 43% (139) indicated they never felt hopeless. These results suggest that while hopelessness is present among a significant subset of respondents, a majority maintain at least some level of optimism or resilience in such contexts.

Closely linked to hopelessness is the emotion of resignation. The findings show that 32.2% (107) of respondents felt resigned when managing these learners, and 23.0% (74) sometimes felt resigned. In contrast, 41% (132) reported never experiencing this emotion. The

prevalence of resignation among over half of the respondents (when combining those who felt it regularly or occasionally) may indicate a tendency among Teachers to mentally disengage or lower expectations when faced with ongoing behavioural difficulties.

Overall, these findings underscore the emotional challenges faced by Teachers, with many experiencing negative emotions such as sadness, humiliation, hopelessness, and resignation. Although not all respondents reported these feelings, the frequency with which they appear suggests the importance of psychological support, resilience training, and emotional coping strategies within educational environments. Addressing these emotional responses is essential to sustaining teacher well-being and promoting effective classroom management.

Table 4.20 also explored the prevalence of positive attitudes among respondents in relation to managing learners with challenging behaviours. When asked about feeling cheerful, 19.9% (128) of the respondents reported consistently experiencing cheerfulness, while a larger proportion, 39.8% (128), indicated having sometimes the feeling of cheerfulness. In contrast, 34.7% (112) stated that they did not feel cheerful. Although cheerfulness is present among respondents, the data suggest that it is not a dominant emotional state, with over a third lacking this positive disposition.

Regarding self-assurance, 30.7% (99) of the respondents reported feeling self-assured in managing these behaviours, while 28.9% (93) sometimes experienced this feeling. However, a slightly higher percentage, 38.2% (123), indicated that they were never self-assured. These findings suggest that more than half of the respondents either do not feel or only

occasionally feel self-assured, pointing to a lack of consistent confidence and potentially reflecting the challenges they face in behaviour management.

Comfort in managing learners was also assessed. Approximately 37.3% (120) of respondents reported feeling comfortable, with another 28.0% (90) indicating they sometimes felt comfortable. In comparison, 32% (103) said they never felt comfortable managing these behaviours. While a significant proportion expressed a level of ease, nearly a third still struggled with discomfort in such situations.

Confidence was another positive trait examined in the study. A relatively small percentage, 18.6% (135), reported always feeling confident in managing learners with challenging behaviours. Meanwhile, 32.0% (103) of the respondents indicated they were sometimes confident, and 24.9% (80) stated they never felt confident. This distribution points to a limited but notable presence of confidence, suggesting that while some Teachers feel equipped to handle these situations, a considerable number continue to experience doubt or insecurity.

Overall, these findings reveal that although some respondents demonstrate positive attitudes such as cheerfulness, comfort, self-assurance, and confidence, these emotions are not predominant. In fact, the data indicate that a significant portion of respondents lack consistent positive emotional experiences when managing challenging behaviours, reinforcing the need for emotional support, targeted training, and confidence-building strategies within educational settings.

Furthermore, Table 4.19 revealed that Teachers generally hold more negative than positive attitudes towards learners with ADHD-related behaviors. This trend is reinforced by qualitative data from interviews, provide deeper insight into the emotional and professional challenges faced by Teachers. One respondent candidly remarked, *"When I'm having trouble teaching these Learners, I feel frustrated and helpless."*

This statement reflects a common sentiment among Teachers, particularly when confronted with learners who frequently engage in disruptive behaviours. Such behaviour not only hinder instructional flow but also erode the teacher-student emotional bond, often resulting in emotional distancing and professional detachment.

A similar concern was voiced by another participant who stated, *"These behaviours irritate me so much. Additionally, it is frustrating, distressing, and irritating."* This triple emphasis on negative emotional states underscores the intense psychological strain Teachers endure when managing persistent behavioural challenges in the classroom.

Moreover, another respondent expressed an even more intense level of emotional exhaustion, sharing,

*"I find it challenging, humiliating, and disheartening to manage the learner; I feel so stressed and don't know what to do. I sometimes fake sick leave because of the many behaviours this learner exhibits. The class can occasionally get out of hand because when I chastise a learner for a long period, the other learners become*

*bored and start to murmur. I eagerly await the day when the pupil advances to the subsequent grade."*

This narrative illustrates not only the personal toll that challenging behaviours can take on Teachers but also the broader classroom disruptions they can trigger. The respondent's admission of feigning illness to avoid the classroom signals a critical level of burnout and professional disillusionment.

These testimonials collectively paint a picture of Teachers struggling to cope with the demands posed by learners with ADHD. The emotional discomfort stems from the continuous attention these learners require, the difficulty in maintaining discipline without alienating the rest of the class, and the perceived lack of effective strategies to manage these behaviours without compromising instructional quality.

Despite these challenges, it is crucial for Teachers to adopt a more constructive and empathetic outlook. As professionals charged with nurturing all learners, especially in their formative years, Teachers play a pivotal role in setting the foundation for these children's academic and behavioural development. A positive, proactive approach not only benefits the learners themselves but also eases the burden on future Teachers by addressing behavioural issues early in the educational journey. Therefore, promoting resilience, empathy, and targeted training among Teachers is essential for improving outcomes for both Learners and Teachers.

These findings align with those of Mulholland et al. (2023), who reported that over two-thirds of Teachers acknowledged, to varying degrees, that pupils exhibiting behaviours characteristic of ADHD contribute significantly to their stress levels. As a consequence, Teachers tend to become less emotionally engaged with these learners. The study further noted that the majority of respondents did not express positive feelings toward such behaviours

This is primarily attributed to the disruptive nature of ADHD symptoms, which often monopolize instructional time and divert the attention of both Teachers and other Learners. In response to these challenges, some Teachers may resort to inappropriate intervention strategies, including stigmatization, labelling, or the use of aversive techniques. Such responses can exacerbate behavioural issues, leading to increased resistance, rule-breaking, and conflict among learners within the school environment.

Positive Teachers play a crucial role in fostering a supportive learning environment where Learners displaying ADHD-related behaviours can approach challenging behaviours with a realistic mindset and demonstrate increased effort in achieving their academic goals. When Teachers adopt a constructive and empathetic attitude toward learners with ADHD, they are more likely to design instructional settings that are task-oriented, criterion-referenced, and pedagogically diverse. Such environments actively encourage engagement and participation from these learners, enhancing their educational experience. A summary of Teachers' attitudes is presented in Table 4.21.

**Table 4.21 Summary of Teachers' Attitudes Towards ADHD.**

Subscale	Frequency	Percentage
Negative	197	60.6
Positive	126	39.4

Findings from Table 4.21 indicate that a greater proportion of Teachers expressed a negative attitude toward ADHD-related behaviours, with a mean response of  $N=323$ ,  $F=197$ , representing 60.6%. In contrast, a smaller proportion showed a positive attitude, with a mean of  $N=323$ ,  $F=126$ , accounting for 39.4%. These results suggest that the majority of Teachers hold negative perceptions toward Learners exhibiting ADHD-related behaviours.

This trend aligns with the findings of Adamis et al. (2024), which revealed that many Teachers harbour negative sentiments toward learners displaying ADHD-related behaviours. Additionally, these findings are supported by research conducted by Amha and Azale (2022), who reported that nearly 50% of participants held negative attitudes toward children exhibiting ADHD-related behaviours. These patterns suggest that Teachers often experience heightened irritation and anxiety when working with Learners who display ADHD characteristics, which contributes to the development of negative attitudes. However, it contradicts the results reported by Greenway and Edwards (2020), who found that teaching assistants, in comparison to Teachers, were generally more knowledgeable about ADHD and held more positive attitudes toward affected learners.

Leaners who are consistently disruptive often trigger negative emotional responses from Teachers, leading to an increase in disciplinary actions. This dynamic can erode the quality of teacher-student relationships, reducing emotional closeness and escalating conflict. In such situations, Teachers may adopt behaviour management strategies that are largely ineffective—such as harsh punishment, verbal reprimands, criticism, and negative consequences. These reactive measures can reinforce a negative label, causing Teachers to perceive the Leaners as inherently problematic. As a result, peer rejection often follows, further isolating these learners within the school environment.

This cycle can be understood through the lens of attachment theory, which emphasizes the importance of warm, supportive relationships for emotional and behavioural regulation. When Teachers respond with rejection or hostility, they undermine the secure attachments necessary for positive developmental outcomes. Additionally, behaviourist theory suggests that punitive strategies, if not paired with consistent reinforcement of positive behaviours, can unintentionally reinforce the very conduct they aim to correct. In this context, misbehaving Leaners—perceived as wilfully defiant—may receive negative attention that unintentionally sustains their disruptive patterns.

These findings indicate that many Teachers' attitudes and responses to Leaners with ADHD-related behaviours are misaligned with both developmental needs and evidence-based practice. Interpreting these behaviours as intentional misconduct rather than manifestations of neurodevelopmental challenges can result in hostile responses that exacerbate rather than reduce the problematic behaviour. To sum it all, the evidence points to a widespread need

for improved teacher training on ADHD. Equipping Teachers with accurate information and effective classroom strategies is essential for fostering more positive attitudes and better outcomes for Learners with ADHD-related behaviors.

#### **4.6.2 Correlation Analysis Between Attitudes and Choice of Management Strategy**

The researcher aimed to determine whether there is a relationship between Teachers' attitudes the choice of classroom management strategies. A Spearman's rank-order correlation was conducted to assess the relationship between teachers' attitudes toward learners with ADHD and their classroom management strategies. The results revealed a moderate, statistically significant positive correlation,  $\rho = .325, p < .001$ . This indicates that more positive attitudes toward learners with ADHD were associated with more adaptive and effective classroom management strategies.

This implies that Teachers who hold negative attitudes toward persistent disruptive behaviour are more likely to apply inappropriate or ineffective intervention strategies. In contrast, those with positive attitudes are more inclined to engage constructively with learners—communicating effectively, fostering prosocial behaviour, and employing supportive, developmentally appropriate interventions. From a behavioural perspective, this finding supports the notion that a teacher's mindset significantly influences the reinforcement or correction of student conduct. Positive attitudes may lead to consistent, empathetic reinforcement, which is known to shape behaviour more effectively than punitive approaches.

These findings align with the observations of Adamis et al. (2024), who noted that teachers' attitudes toward learners with ADHD significantly influence not only academic performance and classroom behaviour but also learners' overall well-being. Moreover, these attitudes directly impact the types of behavioural management strategies teachers are likely to adopt, potentially reinforcing either supportive or exclusionary classroom environments. These perspectives underscore the foundational role of teacher attitude in shaping inclusive and supportive learning experiences. Importantly, a teacher can only deliver effective instruction when a psychologically safe and well-managed classroom climate has been established. Positive attitudes toward learners with ADHD are therefore essential for fostering environments that promote both academic engagement and behavioural development.

#### 4.6.3 Hypothesis Testing

A simple ordinal logistic regression was computed to test the null hypothesis; *Ho3: There is no significant relationship between the Teachers' attitudes towards ADHD and the choice of classroom management strategies.* Results are presented in Table 4.22.

**Table 4.22 Model Fitting Information**

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1559.544			
Final	1558.117	1.426	1	.002

Link function: Logit

Table 4.22 shows that the Chi-square value for the model was 1.426, with a corresponding p-value of 0.002—well below the conventional significance threshold of 0.05. This provides evidence that there is a statistically significant relationship between the independent variable (Teachers' attitudes) and the dependent variable (management strategies) at the 5% level of significance. In essence, the results confirm that Teachers' attitudes significantly influence the behavioural management strategies Teachers choose to implement in the classroom.

Further evaluation of model adequacy is presented in Table 4.23 through the goodness-of-fit test. The results indicate that the model adequately fits the observed data, suggesting that the relationship identified between attitude and management strategies is not only statistically significant but also well-supported by the underlying data structure. This strengthens the reliability of the model's conclusions and reinforces the importance of addressing teacher attitudes in behaviour management training and policy interventions.

**Table 4.23 Goodness-of-Fit**

	Chi-Square	Df	Sig.
Pearson	3546.877	2753	.067
Deviance	1147.970	2753	1.000

Link function: Logit

The Pearson and Deviance goodness-of-fit tests were employed to assess whether the data adequately fit the model, using a 5% level of significance. Since the p-values derived from the Chi-square computations exceed the 0.05 threshold, the results indicate that the model

fits the data well. In other words, the observed data are consistent with the assumptions of the model. This supports the null hypothesis—which posits that “the data adequately fit the model”—against the alternative hypothesis, which suggests otherwise. Additional model performance indicators, including the pseudo R-squared values, are presented in Table 4.24.

**Table 4.24 Pseudo R-Square**

	Measurement	Pseudo R Squared Values
1	Cox and Snell	.024
2	Nagelkerke	.024
3	McFadden	.011

Link function: Logit

Secondly, to assess whether Teachers’ attitudes significantly predicted the outcome variable—learners’ management strategies—the pseudo R-squared results were examined. The pseudo R-squared value indicates the proportion of variance in the dependent variable that can be explained by the independent variable. The analysis revealed that approximately 2% of the variance in learner management strategies could be attributed to Teachers’ attitudes. This aligns with Panzarella et al. (2021) who affirm that an effect value of 0.02 should be viewed as small yet potentially meaningful within behavioural science research. In educational research, where behaviour is influenced by numerous interacting variables, even small effect sizes can hold practical significance, particularly when they relate to foundational factors such as teacher attitudes.

**Table 4.25 Test of Parallel Lines**

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	1558.117			
General	945.168b	612.950c	50	.000

Findings from the test of parallel lines presented in Table 4.25 indicate that the chi square value (612.950) and df (50) is 0.000; which is less than the p value of 0.005. This means that there was enough evidence for there being a significant relationship between the independent and dependent variable and thus the null hypothesis was rejected.

These results align with spearman correlation which revealed that there was a statistically significant, moderate positive association between teachers' attitudes toward ADHD and their classroom management strategies,  $\rho = .325$ ,  $p < .001$ . The results from both Spearman's correlation and linear regression analyses indicated a positive and statistically significant relationship between teachers' attitudes toward ADHD and their classroom management strategies. This consistency suggests that not only do more favourable attitudes correspond with more effective management approaches, but also that attitudes significantly predict how teachers manage learners with ADHD-related behaviours. The convergence of findings across both methods enhances the robustness of the results and supports the conclusion that improving teachers' attitudes may lead to better classroom practices.

#### **4.7 ADHD-related Behaviours and Choice of Classroom Management Strategies**

Understanding the relationship between ADHD-related behaviours and classroom management strategies is crucial for improving educational outcomes and creating supportive learning environments. Learners displaying ADHD-related behaviours often struggle with attention, impulsivity, and hyperactivity, which can disrupt learning and classroom dynamics. Research in this area helps identify effective strategies that promote focus, reduce disruptive behaviours, and support academic success. It also enables more personalized approaches, recognizing that ADHD symptoms vary widely among Learners and require tailored interventions.

Moreover, this research benefits Teachers by providing evidence-based tools to manage challenging behaviours, reduce stress, and foster positive classroom climates. It supports inclusive education by helping Learners displaying ADHD-related behaviours learn alongside their peers while minimizing stigma and exclusion. The insights gained can also inform teacher training, educational policy, and disciplinary practices, ultimately leading to more equitable and effective schooling for all Learners.

To effectively address this area, the researcher began by systematically identifying and describing the specific ADHD-related behaviours exhibited by learners. This foundational step provided a clear understanding of the challenges these Learners present in classroom settings, such as inattention, impulsivity, and hyperactivity. By first establishing a detailed behavioural profile, the researcher was then able to draw meaningful connections between these behaviours and the classroom management strategies employed by Teachers. This

approach allowed for a nuanced analysis of how particular strategies align with, respond to, or mitigate the behaviours associated with ADHD, ultimately informing more targeted and effective interventions.

#### **4.7.1 An Overview of ADHD-Related Behaviours**

In line with inclusive education policies, contemporary classrooms comprise a diverse range of learners who exhibit a wide spectrum of behaviours, from disengagement to overt defiance. It is essential for Teachers to understand and effectively respond to these behavioural differences. To identify ADHD-related behaviours in particular, Teachers were asked to rate how frequently their Learners displayed specific behaviours commonly associated with ADHD.

A total of 20 ADHD-related behaviours were assessed using a five-point Likert scale, ranging from 1 (Never) to 5 (Always). These behaviours were grouped into three core subscales: impulsivity, hyperactivity, and inattention. This categorization allowed for a more nuanced understanding of the behavioural patterns that Teachers encounter. The primary aim of this section was to determine how frequently Teachers observe ADHD-related behaviours in their classrooms. The results are summarized in Table 4.26.

**Table 4.26: Description of ADHD-related Behaviour**

Item	N	R	ST	F	A	MEAN	SD
1	42	28	95	84	44	2.88	1.5616
2	19	48	118	83	49	3.23	1.175
3	17	38	137	81	41	3.19	1.150
4	22	76	115	65	35	2.94	1.198
5	17	62	107	74	55	1.38	1.232
6	22	57	117	71	45	3.09	1.210
7	26	65	101	79	48	3.14	1.217
8	39	48	125	69	34	2.93	1.246
9	20	46	145	67	40	3.14	1.117
10	31	52	116	64	55	3.13	1.260
11	42	73	85	53	62	2.97	1.387
12	12	48	115	79	59	3.28	1.226
13	17	45	118	81	53	3.24	1.211
14	14	62	85	89	64	3.30	1.273
15	40	48	92	79	58	3.14	1.334
16	35	42	92	70	68	3.13	1.440
17	21	50	111	72	45	2.97	1.378
18	43	51	127	62	35	2.91	1.223
19	21	81	100	67	49	3.08	1.223
20	43	34	94	54	94	3.34	1.413

Source: Field Data

KEY N= Never R=Rarely, ST=Sometimes, F=Frequently A=Always

The researcher sought to determine whether respondents could identify the frequency with which learners display different subtypes of ADHD-related behaviours, based on data presented in Frequency Table 4.26. The statements were organized into three subscales reflecting the core symptoms of ADHD: impulsivity, hyperactivity, and inattention. Respondents were asked to rate the frequency of these behaviours using the seven items comprising the inattention subscale.

For the item "fails to give close attention to details," 128 respondents (40.0%) indicated this behaviour is always observed, 95 (29.5%) said it occurs sometimes, while 70 (21.9%) reported it never occurs. Regarding the tendency to make careless mistakes in schoolwork or tasks, 132 respondents (41.2%) stated this happens always, 118 (36.9%) said sometimes, and 67 (20.9%) said never. When asked if learners have difficulty sustaining attention in tasks or play activities, 122 (35.1%) responded always, 137 (42.8%) said sometimes, and 55 (17.2%) indicated never.

In response to whether learners seem not to listen when spoken to directly, 100 respondents (31.2%) said always, 115 (35.9%) said sometimes, and 98 (30.7%) said never. For the item "does not follow through on instructions and fails to finish schoolwork or duties," 129 (40.3%) reported always, 107 (33.4%) sometimes, and 79 (24.7%) never. Regarding avoidance or reluctance to engage in tasks requiring sustained mental effort, 116 (36.3%) indicated always, 117 (36.3%) said sometimes, and 79 (26.2%) said never. Lastly, 127 respondents (39.7%) reported that learners frequently lose things necessary for activities

(e.g., toys, school assignments), while 101 (31.6%) selected sometimes, and 111 (28.4%) said never.

Based on the hyperactivity subscale data presented in Frequency Table 4.24, 103 respondents (32.2%) indicated that learners frequently fidget with their hands or feet or squirm in their seats, while 125 (39.1%) reported this behaviour occurs sometimes, and 87 (27.2%) said it never occurs. Regarding leaving their seats in the classroom or in situations where remaining seated is expected, 107 respondents (33.4%) reported this happens frequently, 145 (45.3%) indicated sometimes, and 66 (20.6%) said never.

In terms of difficulty engaging in leisure activities quietly, 119 respondents (37.2%) observed this behaviour frequently, 116 (36.2%) said sometimes, and 83 (25.4%) reported never. When asked whether these learners are constantly on the go or act as if driven by a motor, 115 respondents (36.0%) agreed, while 85 (26.6%) indicated sometimes and another 115 (36.0%) stated never—highlighting a split in perceptions. Finally, 138 respondents (43.1%) reported that these learners talk excessively, 115 (35.9%) said sometimes, and 60 (18.8%) indicated never.

According to the impulsivity subscale data, 134 respondents (41.9%) reported that learners frequently blurt out answers before questions are completed, while 118 (36.9%) indicated this happens sometimes, and 62 (19.4%) said it never occurs. Additionally, 153 respondents (47.8%) agreed that these learners often have difficulty waiting their turn, with 85 (26.6%) indicating sometimes, and 76 (23.8%) reporting never. A similar pattern was observed in the

behaviour of interrupting or intruding on others—such as butting into conversations or games—with 153 respondents (47.8%) saying this occurs frequently, 85 (26.6%) indicating sometimes, and 76 (23.8%) reporting never.

When asked whether learners frequently lose their temper, 138 respondents (43.1%) agreed, 92 (28.0%) said sometimes, and 77 (24.0%) said never. In terms of arguing with adults, 117 respondents (36.6%) reported this happens always, 111 (34.7%) said sometimes, and 71 (22.4%) said never. For the behaviour of actively defying or refusing adult requests or classroom rules, 97 respondents (30.3%) said this happens always, 94 (29.0%) indicated sometimes, while the highest share—127 (39.7%)—reported it never occurs.

Furthermore, 116 respondents (36.2%) agreed that these learners frequently do things to annoy others, while 100 (31.2%) indicated sometimes, and 102 (31.9%) said never. Lastly, 148 respondents (46.3%) reported that learners often blame others for their own mistakes or misbehaviour, with 94 (29.4%) indicating sometimes, and 77 (24.0%) stating never.

Children diagnosed with ADHD typically exhibit three core behavioural characteristics—hyperactivity, impulsivity, and inattention. These behaviours often become apparent in structured environments such as schools and homes, where children are expected to follow rules and routines. During an interview, one respondent offered the following observation:

*"Despite having a short attention span, these learners are not unintelligent. They become bored quickly and are constantly on the move. They also tend to seek attention. I often find myself repeatedly telling them to be quiet."*

Another respondent shared the following observation:

*"One of the pupils in my class struggles significantly with maintaining focus. He often appears not to be listening, as if he is daydreaming or lost in his own world. He rarely completes his homework and frequently loses his belongings on the playground."*

This suggests that such learners often lack attention to detail and are prone to forgetfulness, especially regarding their personal items. During the focus group discussion, another participant noted:

*".....Such learners are often preoccupied with issues unrelated to their academic tasks while in the classroom. They may injure themselves by frequently jumping up and down, talk excessively, make unnecessary noise, and disrupt other learners who are trying to concentrate. Additionally, they often request to use the restroom repeatedly, which can further interrupt the flow of the lesson".*

During an interview, another respondent commented:

*"...They have trouble focusing, misplace things, and are easily distracted by just about anything.*

Additionally, findings from respondents indicated that some learners exhibit sudden aggressive behaviours, such as striking others without warning. During a focus group discussion, one participant noted:

*"Some learners become upset when others take their belongings without permission. They often hit their peers unexpectedly and attempt to control or manipulate situations by refusing to wait their turn."*

These behaviours were reported to be more common among boys, who tend to exhibit higher levels of hyperactivity and aggression than girls. Several respondents also highlighted that some Teachers demonstrate bias by stigmatizing or labelling boys as more disruptive. As a result, boys are more frequently punished, while girls are often judged less harshly due to perceptions that they are better behaved or more compliant. One respondent remarked:

*"I simply can't stand how learners are behaving".*

These findings suggest that learners who exhibit ADHD-related behaviours can overwhelm Teachers and increase classroom stress. Even when Learners attempt to mask ADHD symptoms in structured settings, core traits—impulsivity, hyperactivity, and inattention—often persist and remain relatively easy to observe. Learners who consistently display disruptive behaviours are more likely to face prolonged behavioural difficulties and academic setbacks, negatively affecting their educational outcomes.

DeShazer et al. (2023) found that Learners with elevated ADHD symptoms are rated by Teachers as significantly more stressful to teach ( $d = 1.52$ ), though this stress can be

mitigated by strong teacher–student relationships. Aldabbagh et al. (2024) demonstrated that teacher-led interventions can effectively reduce externalizing behaviours and ADHD symptoms while improving prosocial behaviour. Qualitative studies underscore that managing ADHD-related behaviours can overwhelm Teachers, especially when support and training are lacking (e.g., Russell et al., 2023; Smith et al., 2023). Teachers’ ratings of learner behaviours are presented in Table 4.27.

**Table 4.27** *Frequency of ADHD-related behaviours*

Sub scale	Frequency	Percentage
Hyperactivity	115	35
Inattention	88	27
Impulsivity	120	37

Based on Teachers’ ratings, impulsivity, hyperactivity, and inattention were reported with the following frequencies: impulsivity (F = 120, P = 37%), hyperactivity (F = 115, P = 35%), and inattention (F = 88, P = 27%). These results indicate that hyperactivity and impulsivity are more prominently observed than inattention. This may be attributed to the externalizing nature of hyperactive and impulsive behaviours, which are more visible and disruptive in classroom settings. Externalizing behaviours tend to pose greater challenges for Teachers compared to internalizing behaviours, as they directly interfere with classroom management and instruction.

These findings are consistent with Makondo et al. (2023), who reports that Teachers often struggle due to limited training in inclusive education and a lack of motivation to engage

learners exhibiting ADHD—related behaviours and further compounded by large class sizes. Similarly, Muzata et al., (2021) found that many Teachers lack the necessary skills to effectively support learners displaying ADHD-related behaviours. Further, Ward, et al. (2021) underscores that much of the difficulty teachers experience stems from managing hyperactivity and impulsivity—challenges that contribute to heightened occupational stress and highlight the urgent need for targeted professional development.

During an interview, one respondent stated;

*"Such Learners' behaviour often tests your patience. You may find yourself saying or doing something that could get you into trouble with the Ministry of Education or school authorities."*

These sentiments reflect the frustration many Teachers experience when managing Learners who display persistent disruptive behaviours. Over the years, such stress has led to instances where Teachers have mishandled learners, often stemming from the belief that these Learners are unmanageable and that their behaviour should be addressed primarily by their parents. This perception is supported by scholars such as Amha and Azale (2022) and DuPaul et al. (2018), who argue that many children with ADHD begin to exhibit symptoms before entering formal schooling. At this early developmental stage, they frequently struggle to meet age-appropriate classroom expectations.

Additionally, research has highlighted a concerning link between ADHD and criminal behaviour. Young and Cocallis (2021) found that 96% of offenders with ADHD also

suffered from comorbid conditions, including conduct disorder, mood and anxiety disorders, substance abuse, and personality disorders. These individuals often experience a lower quality of life and face increased health risks, underscoring the importance of early intervention and comprehensive support for learners displaying ADHD-related behaviours.

In addition to experiencing a lower quality of life and engaging in high-risk health behaviours, offenders with ADHD are more likely to make false confessions, exhibit higher rates of recidivism, and display disruptive behaviour while in detention.

#### **4.7.2 ADHD-Related Behaviours and Classroom Management Strategies**

A Spearman rank-order correlation was conducted to examine the relationship between ADHD-related behaviours and the classroom management strategies employed by Teachers.

A Spearman's rank-order correlation was conducted to examine the relationship between ADHD-related behaviours (independent variable) and teachers' classroom management strategies (dependent variable). The analysis revealed a statistically significant, positive correlation,  $\rho = .268$ ,  $p < .001$ . This indicates that as the frequency or intensity of ADHD-related behaviours increases, teachers tend to report using more varied or adaptive classroom management strategies. Although the strength of the correlation is weak to moderate, the significant  $p$ -value suggests that this relationship is unlikely to have occurred by chance.

These findings correspond with recent evidence indicating that teachers adapt management strategies based on the dominant types of ADHD-related behaviours—whether impulsivity, hyperactivity, or inattention—in learners. Supporting this, Ozer and Gökçay (2022) reported

that educators employ both general classroom strategies and individualized interventions tailored to students' specific ADHD-related difficulties, highlighting the importance of context-sensitive and individualized approaches in effective support. The researchers noted that conventional methods used for managing neurotypical learners often prove inadequate for Learners with ADHD, highlighting the need for differentiated instructional and behavioural management techniques. This perspective was echoed in an interview, where one respondent observe

*"The majority of Teachers ignore learners with ADHD and continue using the same strategies they apply to the rest of the class.*

"

The findings above indicate that some strategies for managing learners with ADHD are ineffective. This ineffectiveness stems from the fact that such learners often struggle with concentration and quiet attention due to deficits in EF skills, particularly those related to organization and planning. Consequently, Teachers may find themselves frequently intervening to redirect the learners' attention and manage disruptive behaviour. According to behavioural theory, children learn behaviours through interactions with their environment; therefore, Teachers can apply operant or classical conditioning techniques, such as reinforcing appropriate behaviour with rewards. Additionally, Teachers can serve as role models by consistently demonstrating the desired behaviours themselves.

#### **4.7.3 Hypothesis Testing**

A simple ordinal logistic regression was computed to test the null hypothesis; *Ho4: There is no significant relationship between learners' ADHD-related behaviours and the choice of*

*classroom management strategies*. Results for model fitting information is presented in Table 4.28

**Table 4.28 Model Fitting Information**

Model	-2 Log Likelihood	Chi-Square	df	Sg.
Intercept Only	1647.912			
Final	1517.647	130.265	1	.000

Link function: Logit.

Table 4.28 reveals that the probability of the model Chi-square (130.265) degree of freedom (1) was 0.000 less than the significance level of 0.05. Therefore, there exists evidence of a relationship between the independent and the dependent variable at 5% level of significance. Overall, there is a statistically significant relationship between attitude and management strategies. Results of goodness of fit test are presented on Table 4.29

**Table 4.29 Goodness of Fit**

	Chi-Square	df	Sig.
Pearson	3698.467	3314	.000
Deviance	1139.961	3314	1.000

Link function: Logit.

The Pearson and Deviance were used to test whether the data adequately fits the model given a significance level of 5%. Since the significance level from Chi-Square computation is higher than the level of significance, and then it implies that the data adequately fits the

model. Therefore, the data are consistent with the model assumptions which assume the null hypothesis to state that “the data adequately fits the model” versus the alternative stating “the data does not adequately fit the model”. The Table 4.30 shows results of pseudo R square.

**Table 4.30 Pseudo R-Square**

Measure	Pseudo R-Square
Cox and Snell	.334
Nagelkerke	.335
McFadden	.056

Pseudo R square shows the variance of the independent variable that can be explained by the independent variable. From the findings Nagelkerke shows that 33.5 % of the variance in the dependent variable (ADHD-related behaviours) can be explained by the independent variable (management strategies)

**Table 4.31 Test of Parallel Lines**

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	1517.647			
General	1371.300b	146.347c	50	.000

Findings from the test of parallel lines indicate that the chi square value (146.347) and df(50) is 0.000. The significance of 0.00 is less than the p value of 0.005. This means that there is enough evidence of relationship between the independent(ADHD-related

behaviours) and dependent variable(management strategies) and the null hypothesis is rejected

#### 4.8 Multiple Logistic Regression

Multiple logistic regression models were employed to identify the most significant predictors of Teachers' likelihood of selecting appropriate management strategies. The analysis aimed to determine whether a statistically significant association existed between the dependent variable (management strategy) and a combination of independent variables—namely, Teachers’ knowledge, attitudes, perceptions, and ADHD-related behaviours. The selection of predictors was based on the statistical significance of the final model's chi-square value. Table 4.32 displays the results of the Model fitting information.

**Table 4.32 Model Fitting Information**

Model	Model Criteria	Fitting Likelihood Ratio Test		
		Chi-Square	df	Sign
Intercept Only	2339.295			
Final	1992.478	346.817	1020	1.000

Table 4.32 reveals that the probability of the model Chi-square (346.817) was 1.000 more than the significance level of 0.05. Therefore, there is no relationship between the final and the reduced model. The Y intercept only is 2339.295 and the final model is 1992.478. Results for pseudo R-square is presented in Table 4.33

**Table 4.33 Pseudo R-Square**

Pseudo R-Square	Pseudo R-Square
Cox and Snell	.999
Nagelkerke	1.000
McFadden	1.000

Further, Table 4.33 shows that the independent variables, teacher's knowledge, attitudes and behaviour best predicts the dependent variable (management strategies by 100%. The likelihood ratio test results are presented in table 4.34.

**Table 4.34: Likelihood Ratio Tests**

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	1790.519	1790.499	51	.000
knowledge2	1938.200	1938.180	51	.000
perception2	14.712a	14.692	51	1.000
attitude2	.006a	.	51	.
behaviour2	.028a	.008	51	1.000

The chi-square statistic represents the difference in the -2 log-likelihood values between the final model and a reduced model. In this case, the reduced model includes only the intercept, with a -2 Log Likelihood value of 1790.499. The resulting chi-square value for the likelihood ratio test is also 1790.499. The significance level (p-value) is reported as .000, indicating that the model is highly statistically significant. This suggests that the inclusion of

the predictor variables significantly improves the model fit. The degrees of freedom (df) for the likelihood ratio test in the intercept-only model is 51.

For the model examining the effect of the predictor variable *knowledge*, the -2 Log Likelihood value of the reduced model (containing only the intercept) is 1938.200. The corresponding chi-square value for the likelihood ratio test is 1938.180, with 51 degrees of freedom. The significance value (p-value) is reported as .000, indicating a highly significant result ( $p < .001$ ). This suggests that the inclusion of *knowledge* as a predictor significantly enhances the model's fit compared to the intercept-only model. Thus, *knowledge* is a statistically significant predictor of Teachers' likelihood to choose appropriate management strategies.

For the model assessing the effect of *perception*, the -2 Log Likelihood of the reduced model (intercept only) is 14.712. The chi-square value for the likelihood ratio test is also 14.712, with 51 degrees of freedom. The significance value (p-value) is reported as 1.000, indicating a non-significant result ( $p > .01$ ). This suggests that the inclusion of *perception* as a predictor does not significantly improve the model's fit compared to the intercept-only model. Therefore, *perception* is not a statistically significant predictor in this context.

For the *attitude* effect, the -2 Log Likelihood of the reduced model is 0.006. However, the chi-square value is not reported (denoted as “.”), and the degrees of freedom remain at 51. The significance value (p-value) is also listed as “.”, indicating a lack of computable results and suggesting a non-significant relationship ( $p > .05$ ). This implies that the inclusion of

*attitude* as a predictor does not contribute meaningfully to the model's performance, and its effect is weaker than the previously tested predictors.

For the predictor variable *behaviour*, the -2 Log Likelihood of the reduced model (intercept only) is 0.028, with a corresponding chi-square value of 0.008 and 51 degrees of freedom. The significance value (p-value) is reported as 1.000, indicating a non-significant result ( $p > .001$ ). This lack of significance suggests that the inclusion of *behaviour* as a predictor does not significantly improve the model's fit compared to the intercept-only model. Therefore, *behaviour* is not a statistically significant predictor of the management strategies chosen by Teachers.

Regression Model:

The association between the dependent and independent variables was assessed using the following multiple logistic regression equation:

**Model**

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

- $Y$  = Dependent variable (management strategies)
- $X_1$  = Teachers' knowledge
- $X_2$  = Teachers' perception
- $X_3$  = Teachers' attitudes
- $X_4$  = Disruptive behaviour

- $\varepsilon$  = Error term

In the regression model,  $\beta_0$  represents the constant (intercept) term, while the coefficients  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , and  $\beta_4$  indicate the effect of each predictor variable ( $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_4$ , respectively) on the dependent variable ( $Y$ ), which is the Teachers' Choice of class room management strategy. Each coefficient reflects the sensitivity of the dependent variable to a one-unit change in the corresponding independent variable. The term  $\varepsilon$  represents the error term, capturing unexplained variation in the model. The final predictive model can be expressed as follows:

$$\text{Teacher's Choice of class-room management strategy (Y)} = 1790.519 + 1938.200X_1 + 14.712X_2 + 0.006X_3 + 0.028X_4$$

Where:

- $Y$  = Management strategies
- $X_1$  = Teachers' knowledge
- $X_2$  = Teachers' perception of causes
- $X_3$  = Teachers' attitudes
- $X_4$  = ADHD-related behaviours
- $\varepsilon$  = Error term

The intercept value of 1790 represents the predicted value of the dependent variable—Teachers' choice of classroom management strategies—when all predictor variables are set to zero. Based on the statistical analysis, the study rejected the null hypothesis, which stated

that there is no significant relationship between Teachers’ knowledge, perceptions toward ADHD, attitudes toward ADHD, and ADHD-related behaviours, and the choice of classroom management strategies. In summary, the findings indicate that *Teachers’ knowledge* emerged as the most significant and reliable predictor of the choice of classroom management strategies.

#### 4.8.1 Moderating Effects of the Respondent

Demographic on the independent variable analysis Ordinal logistic regression was performed with Moderating effects (respondent’s demographics) was performed to check whether controlling variables has an effect on the independent variables and results are indicated in Table 4.35.

**Table 4.35: Model Fitting Information**

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	2339.295			
Final	1992.478	346.817	1020	1.000

Table 4.35 shows that the model chi-square value is 346.817, with a corresponding probability of 1.000—well above the conventional significance level of 0.05. This indicates that there is no statistically significant difference between the reduced model and the final model, suggesting that the addition of predictors did not significantly improve the model. However, model performance appears to have improved when intervening variables were added, as the -2 Log Likelihood value decreased from 2339.295 to 19912.478. Additional

insights into model performance are provided by the pseudo R-square values, which are presented in Table 4.36.

**Table 4.36: Pseudo R-Square**

Cox and Snell	.662
Nagelkerke	.662
McFadden	.148

Results of Pseudo r square value of Nagelkerke is 66.2 %. This means that when controlling variables are added, it explains 66.2% of the dependent variable. Results of the likelihood ratio tests is presented in table 4.37 below

**Table 4.37 Likelihood Ratio Tests**

Effect	Model Fitting Criteria		Likelihood Ratio Tests		
	-2	Log Likelihood	ofChi-Square	df	Sig.
	Reduced Model				
Intercept	1992.478a		.000	0	.
knowledge2	2100.002b		107.524	51	.000
perception2	2033.240b		40.762	51	.847
attitude2	2022.227b		29.749	51	.992
behaviour2	2027.374b		34.896	51	.959
YT	11249.134b		9256.657	255	.000
TRAINING	2037.011b		44.533	102	0.000
EQ	2298.850b		306.372	357	.975
GENDER	2041.511b		49.034	102	1.000

Results from the Likelihood Ratio Tests indicate that when all independent variables are at zero, the management strategy is at 1992.748. Findings of Table 4.36 indicated that the performance of the model is better than the reduced model. The findings also indicate that, the moderating variables of age, training, educational qualification and ADHD training have any effect on the teacher's knowledge, attitudes, perception and behaviour. However, there is more effect on teacher's knowledge. Teacher's knowledge and ADHD-training have the highest impact. Finally, the new regression line is

$$Y=1992.478+2100.002+2033.240+2022.227+2027.374$$

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the summary of the main findings, conclusions, recommendations made from the findings and suggestions for further research.

#### **5.2 Summary of Research Findings.**

The purpose of the study was to determine Teachers' knowledge, attitudes and perceptions of Attention Deficiency Hyperactivity Disorder and their influence on learner management strategies in Kisii County, Kenya. The objectives of this study were to: (1) examine the relationship between Teachers' knowledge of ADHD and the choice of classroom management strategies; (2) assess the relationship between Teachers' attitudes toward ADHD and the choice of classroom management practices; (3) explore the relationship between Teachers' perceptions of the causes of ADHD and the choice of classroom management strategies; and, (4) determine how ADHD-related learner behaviours influence Teachers' choice of classroom management strategies. The independent variables were knowledge, attitudes, perception of ADHD, ADHD- related behaviours and the dependent variable was management strategies. The findings of the study are summarised below.

##### **5.2.1 Teachers Knowledge of ADHD**

Teachers' knowledge levels on ADHD was measured using subthemes; knowledge of causes of ADHD, Prevalence rate of ADHD in the population, knowledge on management

strategies and knowledge of ADHD symptoms. Results on table 4.5 indicated that knowledge on causes of ADHD was quite low (N = 323, frequency = 55, percentage 18.5, followed by the Prevalence rate (N = 323, frequency = 61 percentage=22), followed by knowledge on management strategies (N=323, F= 63, P=19.6) finally symptoms of ADHD (N = 323, F = 67, P=19.5) and finally N=323 F=75, P=20. Teachers' knowledge differed from high to low levels. It was found that the knowledge level of ADHD among Teachers is (N=323 Mo= 2.304) which is moderate. The relationship between Teachers' knowledge levels and the choice of classroom management strategies was found to have a positive significant relationship.  $\rho = 0.396$  at p value 0.00 and the null hypothesis was rejected.

Respondents in the study sample stated, based on the focus group discussions and interview guidelines, that they were not trained for ADHD and, as a result, lacked sufficient information regarding ADHD and its management techniques.

### **5.2.2 Teachers perception of causes of ADHD**

Teachers attributed the cause of disruptive behaviours to several factors like normal behaviour, poor parenting, heredity and genetics. Table 4.8 findings indicate that those who attributed cause to a condition that was not known were (N =323, F=75, P=23) followed by environment (N=323, F=81, P=25), followed by normal (N=323, f=83, P=25.6) and finally heredity received the highest perception with (N =323, F= 84 P=26.0). There was a statistically significant relationship between Teachers' perception of causes and learner management strategy  $r = (\rho = 0.281 \text{ } p < 0.05)$  and the null hypothesis was rejected.

### **5.2.3 Teachers Attitudes towards ADHD**

Due to lack of adequate knowledge about ADHD, Teachers' attitudes towards learners with persistent disruptive behaviour seem to compromise the interaction between Teachers and such learners. From the findings of table 4.15, results indicate that Teachers negative attitude ranking high (N =323, F=197 P=60.6) followed by a positive attitude with a mean (N=323, F=126 =39.4) It is therefore evident that Teachers have negative feelings about ADHD-related behaviours. The relationship between attitudes and the choice of classroom learner management strategies were positive ( $\rho=0.325$   $p= 0.05$ ) and the null hypothesis was rejected.

### **5.2.4 ADHD-related Behaviour**

Findings of the research, there are three categories of ADHD-related behaviours that are visible in the classroom context. These behaviours include inattentiveness, hyperactivity, and impulsivity. These behaviours are common across all classrooms. However, Teachers were able to identify more externalizing behaviours than internalizing behaviours. This is because these behaviours stress out Teachers and disrupt classroom learning. According to the Teachers' ratings in Table 4.27, impulsivity, hyperactivity and inattention scored as follows; (F=120 P= 37, F=115 P=35 and F=88 P=27) respectively. The connection between ADHD-related behaviours and learner strategy selection was shown to be positive ( $\rho=.268$   $p=0.00$ ), and the null hypothesis was rejected.

### **5.3 Conclusions**

The study's conclusions showed that Teachers' attitudes toward behaviours connected to ADHD were negative, their understanding of the disorder's origins was lacking, and their knowledge of ADHD was insufficient. This could be due to the fact that the respondents were unaware of what ADHD is, how it can appear in educational settings, and why they weren't using appropriate, effective, and efficient interventions when working with these learners. The general level of participant knowledge regarding ADHD was low in the study location.

### **5.4 Recommendations**

The following recommendations are made based on the findings and conclusions of the study:

- i. Training of Teachers about ADHD. Consequently, schools ought to offer capacity-building for their Teachers, and the Ministry of Education ought to host conferences and workshops to educate Teachers on how to cope with learners who have ADHD. The Ministry of Education and the Ministry of Health ought to work together to increase public awareness of the growing prevalence of ADHD in the general population. Teachers who receive on-going training on ADHD symptoms, kinds, causes, diagnosis, and treatment may find it easier to deal with the pressure of teaching while dealing with learners who exhibit disruptive behaviour on a regular basis.

- ii. It is imperative that Teachers have a positive attitude towards every behaviour that Learners display within the classroom. Positive attitudes enable Teachers to successfully manage every learner and carry out lessons.
- iii. In order to accommodate every learner, including those with ADHD, Teachers should be urged to structure their classrooms by giving clear rules and guidelines and a sequence of events. This is because learners with ADHD find it unpredictable when their surroundings are less ordered.
- iv. All behavioural issues that Learners display in the classroom, regardless of whether they are a result of the environment or heredity, should be understood and managed by Teachers.

### **5.5 Areas for Further Research**

- i) The study was conducted in Kisii County, Kenya; similar research should be carried out in other parts of the country.
- ii) Research should be carried out to determine the prevalence of disruptive behaviours in Kenyan primary schools.
- iii) More studies should be conducted on Teachers' experiences with learners who exhibit behaviours related to ADHD

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## APPENDICES

### **Appendix A Letter of Introduction**

Nyamwange, Josephine Nyaboke

P.O BOX 42-40200

Kisii, Kenya

November 15<sup>th</sup>, 2023.

Dear Sir/Madam,

RE: Research Questionnaire

I am Josephine Nyamwange, a PhD student at Masinde Muliro University of Science Technology, and I am now conducting research on "Teachers' knowledge, attitudes, and perceptions of ADHD and management strategies of primary school learners in Kisii County, Kenya."

This is to extend my invitation to you to participate in this study, intended for Teachers teaching learners in grades 1-5 and enrolled in primary schools in Kisii County. The purpose of this proposed study is to investigate the correlation between "Teachers' knowledge, attitudes, and perceptions of ADHD and management strategies of primary school learners in Kisii County, Kenya."

The primary goal of this study is to raise awareness about ADHD-related behaviors and improve understanding of their management options. This is to respectfully request that you take approximately 15 minutes of your valuable time to complete this questionnaire. Rest assured that all information provided was kept confidential and used solely for educational purposes. In any case, the information you supply is provided anonymously, and I agree not to expose it to anyone in any way that could reveal your identity. To protect your identity, please do not write your name anywhere on the study tools.

Yours faithfully,

Nyamwange, Josephine

**Appendix B      Informed Consent Form**

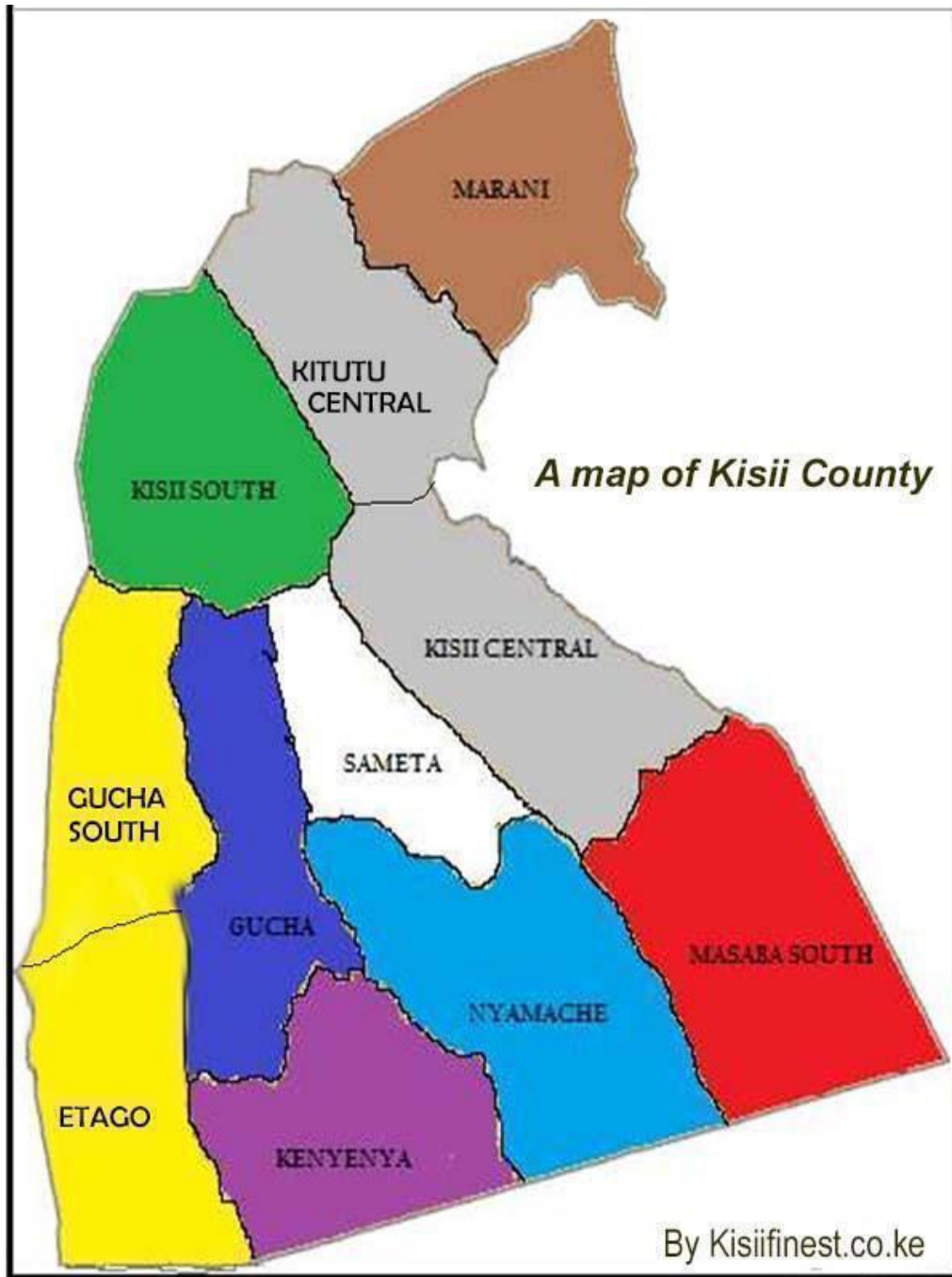
I .....would like to express my willingness to participate in the study named "Teachers' knowledge, attitudes, and perceptions of ADHD and management strategies of primary school learners in Kisii County, Kenya." The decision to engage was made on my own free will, without being compelled. I accept that this study will only be used for educational purposes and that any information I provide will be kept strictly confidential and not revealed to anyone.

Furthermore, I realize that I have the right to withdraw at any moment and pick which questions to answer and which not to respond to without providing an explanation.

Yours

Name.....Signature.....Date.....

Appendix C A Map of Kisii Sub-Counties



Source: Kisiifinest.co.ke

## Appendix D      Teacher Questionnaire

Please tick an answer in the spaces provided.

### Part A: Demographic Data

1,(a) Which one of the following best describes your age bracket?

- (i) Belo-27 ( ) (ii) 28-33 ( ) (iii) 34-39 ( ) (iv) 40-45 ( ) (v) 46-50 ( ) (vi) 50 and above ( )

1(b) Which of the following best describes your Gender?

- (i) Male ( ) (ii) Female ( )

1(c) Which of the following best describes your Religious Affiliation?

- (i) Protestant ( ) (ii) Catholic ( ) (iii) Muslim ( ) (iv) Others specify ( )

1(d) Which of the following best describes your ethnic .....

- (i) Kisii ( ) (ii) Luo (iii) Kalenjin ( ) (iv)(v) Any Other Specify

1(e) Which of the following best describes your Job title?

- (i) Assistant Teacher ( ) (ii) Senior Teacher ( ) (iii) Deputy Head Teacher ( ) (iv) Head Teacher ( ) (v) principal ( )

1(f) Which of the following best describes your current Marital status

- (i) Single ( ) (ii) married ( ) (iii) divorced ( ) (iv) widowed ( )

1(g) Which of the following best describes the number of years you have been a teacher?

(i) Below one year ( ) (ii) 1-10 yrs ( ) (iii) Over 10-20 yrs ( ) (iv) Over 20-30 yrs. ( )

(v) Over 30 Yrs ( )

2, Tick against all the grades you teach?

(i) Grade I ( ) (ii) grade II ( ) (iii) grade III ( ) (iv) grade IV ( ) (v) grade v ( )

- In which Sub-County is your school situated? (i) Masaba South ( ) (ii) Kisii Central ( )

(iii) Kisii South ( ) (iv) Kitutu Central ( ) (v) Gucha ( ) (vi) Marani ( ) (vii) Kenyena ( )

(viii) Nyamache ( ) (ix) Sameta ( ) (x) Etago ( ) (xi) Gucha South

4, What is your highest educational qualification? (Please tick)

(i) PhD in Education ( ) (ii) Masters In Education ( ) (iii) Bachelor of Education

Degree ( ) (iv) Post Graduate Diploma in Education (PGDE) ( ) (v) Diploma in Education

( ) (vi) P1 ( ) (vii) P2 ( )

- Have you received any training about Attention Deficit Hyperactivity Disorder (ADHD)? Yes/ No

6. If yes, indicate where? (I) college ( ) (ii) University ( ) (iii) In service ( )

**Part B: Knowledge Survey of Disruptive Childhood Behaviours**

Please answer the following statements to the best of your ability by selecting the applicable option.

KEY: 1=False 2=Somewhat false 3= I do not know 4=somewhat true 5=True

	Statements pertaining to classroom childhood behaviours	1	2	3	4	5
1	Learners can exhibit different types of persistent disruptive behaviours while in the classroom.					
2	Learners who are unable to sit still, are always on the move, or do not listen when talked to may be suffering from a mental disorder.					
3	Learners with persistent disruptive behaviours are easily distracted.					
4	Learners with persistent disruptive behaviours are not able to sit still, talk excessively, and have difficulty staying in their seat.					
5	Learners with persistent disruptive classroom behaviour tend to have poor concentration.					
6	Learners with persistent disruptive behaviours fail to give close attention to their work and make careless mistakes.					

7	A combination of stimulant medication and behaviour management is an effective treatment for persistent disruptive childhood behaviours				
8	Special diets (reduced sugar, wheat free and lactose free)are an effective treatment for persistent disruptive behaviour				
9	Learners with persistent disruptive behaviour can benefit from stricter parenting and strict school rules.				
10	Persistent disruptive behaviour is caused by too much sugar in the diet.				
11	Prematurely born children are at risk of exhibiting persistently disruptive childhood behaviours				
12	Expectant mothers facing stressful situations risk bearing children who exhibit persistent disruptive classroom disruptive behaviours				
13	Learners who present persistent disruptive behaviours, regardless of diagnosis, can benefit from individualized behaviour management strategies.				
14	Boys exhibit more persistent disruptive behaviour than girls.				

### Part C: Teachers' Perceptions of Causes of Childhood Disruptive Behaviour

Please answer appropriately all of the following questions regarding disruptive childhood behaviour.

**Key** 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree

S/No	Teacher perceptions of the causes of disruptive childhood behaviours	1	2	3	4	5
1	Childhood persistent disruptive behaviours are normal.					
2	Persistently disruptive childhood behaviors are indicators of mental disorders.					
3	Persistent childhood classroom disruptive behaviours are influenced by the weight of the child at birth.					
4	Expectant mothers who smoke are at greater risk of bearing children with persistently disruptive classroom behaviours					
5	Childhood persistent classroom disruptive behaviours are genetic.					
6	Foods with added sugar may positively influence excessive childhood disruptive behaviours					
7	Persistent disruptive behaviour is caused by poor					

	parenting.					
8	Learners who exhibit persistent disruptive behaviors in childhood may have suffered brain injuries.					
9	Persistent disruptive behaviour can be inherited.					
10	Some parenting styles may lead to learners exhibiting persistently disruptive childhood behaviors.					
11	The cause of persistent disruptive behaviour is not known.					

**Part D. Teachers' Attitudes toward Learners Who Exhibit Persistent Disruptive Behaviours**

Indicate by marking how frequently you experience the following emotions when dealing with learners who exhibit persistent disruptive behaviour.

**KEY**

1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Always

	Range of possible emotional experiences	1	2	3	4	5
1	Guilt					
2	Inadequacy					

3	Relaxation					
4	Hopelessness					
5	Confidence					
6	Fearfulness					
7	Anger					
8	Cheerfulness					
9	Incompetence					
10	Comfort					
11	frustration					
12	Helplessness					
13	Disgust					
14	Self-assurance					
15	Resignation					
16	Humiliation					
17	Betrayal					
18	Sadness					

19	Excitation					
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**Part E: Childhood Disruptive Behaviour Rating Scale**

Indicate the frequency with which learners with disruptive behaviours exhibit each of the specified behaviours listed in the table below.

Tick 1=Never, 2=Rarely, 3=Sometimes, 4=Frequently, 5=Always

S/No.	Statements pertaining behaviour	1	2	3	4	5
1	Fails to give close attention to details					
2	Makes careless mistakes in schoolwork or tasks					
3	Has difficulty sustaining attention in tasks or play activities					
4	Does not seem to listen when spoken to directly.					
5	Does not follow through on instructions and fails to finish schoolwork, house chores, or duties					
6	Avoids, dislikes, or reluctantly engages in tasks requiring sustained mental					

	effort.					
7	Loses things necessary for activities (e.g., toys, school assignments, pencils, or books).					
8	Fidgets with hands, feet, or squirms in the seat					
9	Leaves seat in classroom or in other situations in which remaining sitting down is expected					
10	Has difficulty playing or engaging in leisure activities quietly					
11	Is “on the go” or often acts as if “driven by a motor”					
12	Talks excessively					
13	Blurts out answers before questions are completed.					
14	Has difficulty awaiting their turn					
15	Interrupts or intrudes on others (e.g., butts into conversations/games)					

16	Loses temper					
17	Argues with adults					
18	Actively defies or refuses adult requests or school or classroom rules					
19	Deliberately does things that annoy other people.					
20	Blames others for his or her mistakes or misbehaviour					

**Part F: Choice of Classroom Behaviour Management Strategies**

The following are some classroom behaviour management tactics that can be used to manage the behavior of learners who exhibit persistent disruptive behaviour.

Please reflect on your own strategies that best describe the management strategies you are currently applying, as well as others that you are unfamiliar with, and mark them properly.

**Tick**

A=I've found it effective.

B=I tried it and found it ineffective.

C=I have not tried it, but I might in the future.

D=I have not tried it and do not plan to try it.

E=I plan to learn about it and try it in the future.

F=I don't intend to try it in the future.

	Management strategy	A	B	C	D	E	F
1	Gifting a child each time they behave well (rewards)						
2	Punishing unwanted behavior (punishment)						

3	Teaching the child how to plan their activities						
4	Teaching the child how to organize their belongings, e.g books in a locker (organization skills)						
5	Give regular feedback to the learner (communication).						
6	Teaching the child to be empathetic (cognitive training)						
7	Training good behaviour in the child (modelling)						
8	Teaching the child individually where they have problems (individualized instruction)						
9	Creating classroom support, allowing breaks or time for learners to move around, and muting distractions (accommodation)						
10	Peer tutoring/coaching						
11	Ignoring persistent disruptive behaviour						

Thank you for your cooperation.

## **Appendix E            Interview Guide for Head Teachers**

1. How can you describe a learner with persistent disruptive behaviour?
2. What do you think are the causes of persistent disruptive behaviour in childhood?
3. How do you feel when managing learners who exhibit persistent disruptive behaviour?
4. What steps do you take when managing a learner who is exhibiting disruptive behaviour in class?

Probe for

- i.     Cognitive strategies
- ii.    Environmental modification
- iii.   Behavioural strategies

## **Appendix F            Focus Group Discussion Guide for Class Teachers**

1. How can you describe a learner with persistent disruptive behaviours?
2. How does Teachers' knowledge of persistent disruptive learner behaviours affect their choice of classroom management strategies?
3. How do you manage various persistent disruptive behaviours exhibited by learners?
4. What are your experiences when handling learners who exhibit persistent disruptive behaviours?
5. In your opinion, what could be the causes of persistent disruptive learner behaviours?
6. How do the causes of childhood disruptive behaviours affect the teacher's choice of management strategy?

## Appendix G Critical Values For Lawshe's Content Validity Ratio

**Table I.** CVR<sub>critical</sub> One-Tailed Test ( $\alpha = .05$ ) Based on Exact Binomial Probabilities.

N (Panel Size)	Proportion Agreeing Essential	CVR <sub>critical</sub> Exact Values	One-Sided $p$ Value	N <sub>critical</sub> (Minimum Number of Experts Required to Agree Item Essential)—Ayre and Scally, This Article	N <sub>critical</sub> Calculated From CRITBINOM Function—Wilson et al. (2012)
5	1	1.00	.031	5	4
6	1	1.00	.016	6	5
7	1	1.00	.008	7	6
8	.875	.750	.035	7	6
9	.889	.778	.020	8	7
10	.900	.800	.011	9	8
11	.818	.636	.033	9	8
12	.833	.667	.019	10	9
13	.769	.538	.046	10	9
14	.786	.571	.029	11	10
15	.800	.600	.018	12	11
16	.750	.500	.038	12	11
17	.765	.529	.025	13	12
18	.722	.444	.048	13	12
19	.737	.474	.032	14	13
20	.750	.500	.021	15	14
21	.714	.429	.039	15	14
22	.727	.455	.026	16	15
23	.696	.391	.047	16	15
24	.708	.417	.032	17	16
25	.720	.440	.022	18	17
26	.692	.385	.038	18	17
27	.704	.407	.026	19	18
28	.679	.357	.044	19	18
29	.690	.379	.031	20	19
30	.667	.333	.049	20	19
31	.677	.355	.035	21	20
32	.688	.375	.025	22	21
33	.667	.333	.040	22	21
34	.676	.353	.029	23	22
35	.657	.314	.045	23	22
36	.667	.333	.033	24	23
37	.649	.297	.049	24	23
38	.658	.316	.036	25	24
39	.667	.333	.027	26	25
40	.650	.300	.040	26	25

## **Appendix H            Invitation to Participate in an Interview.**

Dear ..... This letter is an invitation to consider taking part in a study. I am Nyamwange N Josephine, and I am undertaking research as a PhD student titled "Teachers Knowledge, Attitudes, and Perceptions of Attention Deficit Hyperactivity Disorder and Management Strategies of Primary School Learners in Kisii County, Kenya." I purposefully chose you as a potential volunteer because of your unique knowledge and skills in my research area. I'd like to tell you more about this research and what your involvement would entail if you agreed to participate. Your participation in this study is entirely voluntary. It will involve an interview of approximately 60 minutes in length that will take place in a mutually agreed-upon location at a time convenient to you. You may decline to answer any of the interview questions.

Furthermore, you may withdraw from the study at any moment with no consequences. With your consent, the interview will be audio-recorded to aid the collection of accurate information and then transcribed for analysis. Shortly after the transcription is completed, the researcher will send you a copy of the transcript so you may confirm the correctness of the talk and add or clarify any points. All information you provide will be kept 100% secret.

Your name will not be included in any publication resulting from this study, and any information likely to identify you will be removed from the report. With your consent, anonymous quotations may be utilized. There are no known or expected hazards for you as a participant in this. I look forward to speaking to you and thank you in advance for your

assistance in this research. If you accept my invitation to participate, I will request that you sign the consent form.

Yours sincerely.....(Sign).....

Date.....

**Appendix I Focus Group's Consent and Confidentiality Agreement**

I..... grant consent that the information I disclose during the focus group may be utilized by Nyamwange N. Josephine for research purposes. I am aware that the group talks will be digitally recorded, and I consent to these recordings as long as my privacy is maintained. To ensure anonymity, I agree not to disclose any material revealed during the group discussion to anybody outside the group for any reason.

Participant's Name : \_\_\_\_\_

Participant's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Researcher's Name : \_\_\_\_\_

Researcher's Signature: \_\_\_\_\_

Date:.....



## Appendix K: Institutional Permit



### MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

Tel: 056-31375  
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E-mail: [ierc@mmust.ac.ke](mailto:ierc@mmust.ac.ke)  
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P. O. Box 190,  
50100,  
Kakamega,  
KENYA

#### Institutional Scientific and Ethics Review Committee (ISERC)

REF: MMU/COR: 40312 Vol 6(01)

Date: February 20<sup>th</sup>, 2024

To: Ms. Josephine N Nyamwange.

Dear Ms.,

**RE: Teachers' Knowledge, Attitudes and Perceptions towards Attention Deficit Hyperactivity Disorder on Learners' Management Strategies in Kisii County, Kenya.**

This is to inform you that the *Masinde Muliro University of Science and Technology Institutional Scientific and Ethics Review Committee (MMUST-ISERC)* has reviewed and approved your above research proposal. Your application approval number is MMUST/IERC/014/2024. The approval covers for the period *February 20<sup>th</sup>, 2024 to February 20<sup>th</sup>, 2025*.

This approval is subject to compliance with the following requirements;

- i. Only approved documents including informed consents, study instruments, MTA will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by *MMUST-ISERC*.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to *MMUST-ISERC* within 72 hours of notification
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to *MMUST-ISERC* within 72 hours
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to *MMUST-ISERC*.

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke> and also obtain other clearances needed

Yours Sincerely,

Prof. Gordon Nguka (PhD)

**Chairperson, Institutional Scientific and Ethics Review Committee**

Copy to:

- The Secretary, National Bio-Ethics Committee
- Vice Chancellor
- DVC (PR&I)