Chapter One
Introduction

1.1 Background to the Study

Behavioural dysfunction, often linked to Attention-Deficit Hyperactivity Disorder (ADHD), refers to disruption in normal patterns of behaviour, often manifesting as social withdrawal, impulsivity, aggression or cognitive deficits. These dysfunctions are core features of many psychiatric and neurological disorders, with research increasingly focusing on the underlying neutral circuits, genetic factors and brain-immune interactions that contribute to these symptoms[1].

Pupils in primary schools frequently exhibit behavioural disorder. Although some stakeholders doubt whether ADHD is a serious problem, yet the difficulties it poses, particularly in educational settings, including but not limited to social difficulties, emotional regulation problems and behavioural disorders that can have a substantial impact on pupils‘ potential lives, relationships with teachers and peers and their general functioning within the educational system are obvious.

Attention-Deficit Hyperactivity Disorder is a complex neuropsychiatric disorder that affects both children and adolescents, characterised by persistent symptoms of inattention, hyperactivity and impulsivity. ADHD often persists into adulthood, with individuals experiencing cognitive and behavioural challenges that impact academic performance, social interactions and overall well-being. The disorder‘s high prevalence, frequent comorbidities with other mental health conditions and challenges in diagnosis and treatment contribute to its ongoing scientific and clinical debate[1].

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Attention-Deficit Hyperactivity Disorder (ADHD) is a neurobehavioural condition influenced by both genetic and environmental factors, including parenting and family environment. It is characterised by difficulties in attention, impulse control and emotional regulation. Research suggests that parenting behaviours and household dynamics can significantly shape the severity and expression of symptoms[2].

In line with the two previous submissions above, it is evident that ADHD neuropsychiatric disorder is marked by persistent inattention, hyperactivity and impulsivity, often continuing into adulthood and affecting academic performance, social interactions and overall well-being. Given the disorder‘s high prevalence, frequent comorbidities with other mental health conditions, and diagnostic challenges, ADHD remains a subject of ongoing scientific and clinical debate.

Attention-Deficit Hyperactivity Disorder (ADHD) is a prevalent psychiatric disorder marked by inattention, impulsivity and hyperactivity, with pharmacological treatments – both stimulants and nonstimulants – widely used as first-line therapy. While these medications have demonstrated effectiveness in clinical trials, concerns persist regarding their potential cardiovascular risks, as studies have reported increases in heart rate and blood pressure. Given that individuals with ADHD already face an elevated risk of CVD and many require long-term medication use into adulthood, understanding the potential long- term effects is crucial. A recent Swedish study examined cumulative ADHD medication use over 14 years using national health registers, aiming to assess its association with CVD risk while considering factors such as age, sex and medication type. With the increasing global use of ADHD medications, further long-term studies are needed to provide clearer insights into the potential cardiovascular risks, informing both clinical and public health strategies[3].

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Attention-Deficit Hyperactivity Disorder (ADHD) is a complex and heterogeneous disorder with multiple underlying causes, making its pathogenesis challenging to pinpoint despite extensive genetic, neurobiological, and behavioural research. Traditional models have often sought to localise ADHD to specific brain region but emerging evidence supports a more global perspective, emphasising widespread brain network dysfunction rather than isolated impairments. The field has also been hindered by underpowered studies attempting to link neurobiology with ADHD phenotypes, limiting progress. However, with advancements in study designs, refined phenotypic classifications and more robust methodologies, ADHD research is entering a promising phase, offering hope for deeper neurobiological insights and more effective clinical interventions[4].

Attention-Deficit Hyperactivity Disorder (ADHD) diagnosis varies across demographic and socioeconomic factors, with an overall prevalence of 11.3% among children aged 5–17 years in the U.S. (2020–2022). Boys (14.5%) were more frequently diagnosed than girls (8.0%) and older children (12–17 years) had a higher prevalence (14.3%) than younger children (8.6%). Racial and ethnic differences were observed, with White non-Hispanic children (13.4%) having a higher prevalence than Black (10.8%) and Hispanic (8.9%) children, a trend consistent across most age groups. Socioeconomic status also played a role, as ADHD prevalence was higher in children from lower-income families (14.8% for those below the poverty level) and among those with public health insurance (14.4%), while uninsured children had the lowest prevalence (6.3%). These patterns highlight the multifaceted nature of ADHD diagnosis, influenced by biological, social, and economic factors[5].

Attention-Deficit Hyperactivity Disorder (ADHD) significantly impacts daily functioning and, if

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untreated, can lead to poor academic performance, emotional difficulties, social impairment, and increased risks of substance misuse, criminal behaviour and even premature death. The disorder also imposes substantial economic burdens, with ADHD-related costs reaching $122.8 billion annually in the U.S. and $12.76 billion in Australia. ADHD is frequently comorbid with other conditions, particularly sleep disorders, which have historically been overlooked in clinical guidelines but are now gaining recognition due to growing empirical evidence. Studies show that nearly half of individuals with ADHD require pharmacological treatment for sleep issues, highlighting the importance of effective management strategies. While behavioural interventions are recommended as the first-line treatment for sleep disturbances, research also supports melatonin for sleep-onset delay, though evidence for other medications remains limited. Recent randomised controlled trials continue to explore both pharmacological and non-pharmacological approaches to improving sleep in individuals with ADHD, underscoring the evolving understanding of the disorder and its broader implications[5].

Attention-deficit/hyperactivity disorder (ADHD) is a highly prevalent and heterogeneous neurodevelopmental condition, characterised by diverse symptom profiles, cognitive deficits, comorbidities and outcomes. This variability complicates both recognition and diagnosis, which remains primarily clinical. While research into diagnostic biomarkers spanning genetic, epigenetic, biochemical, neuroimaging, neurophysiological and neuropsychological approaches—aims to enhance diagnostic precision and treatment individualisation, no clinically valid biomarker has yet been identified. The lack of standardized methods, small sample sizes, and poor replicability across studies has hindered progress, with no candidate meeting the required sensitivity and specificity thresholds. Given the biological and clinical complexity of ADHD, future research must focus on large-scale international collaborations, integrating

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multimodal datasets to improve diagnostic accuracy and ensure reproducibility. Such efforts could help bridge the gap between biomarker discovery and meaningful clinical applications, ultimately advancing personalised approaches to ADHD diagnosis and treatment[5]. Attention-Deficit Hyperactivity Disorder (ADHD) is commonly co-occurring in autistic adults, with significantly higher prevalence rates compared to the general population, particularly among those with intellectual disabilities (ID). This association contributes to an increased risk of negative health outcomes, including higher rates of substance use, cardiovascular conditions and injury. For instance, substance use disorder was more than twice as common in autistic adults with ADHD compared to those without ADHD. However, ADHD medication prescriptions were linked to improved health outcomes, with lower rates of injury and cardiovascular issues across all ADHD groups. These findings highlight the importance of recognising and treating ADHD in autistic adults, as appropriate management may mitigate health risks and improve overall well-being[7].

Students with attention-deficit/hyperactivity disorder (ADHD) continue to face poor long-term academic outcomes, despite decades of policies aimed at providing support through special education (under the Other Health Impaired category) and Section 504 accommodations. However, these policies have proven insufficient due to a lack of evidence-based interventions in general education settings, an overemphasis on assessment rather than intervention and a fragmented approach to support. Many students with ADHD do not qualify for special education services despite significant impairments in school. As a result, contemporary recommendations suggest integrating ADHD screening and intervention within multi-tiered systems of support (MTSS) to provide timely, effective behavioural and academic support within general education, reserving special education for those with the most intensive needs. By embedding ADHD

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interventions within school-wide behavioural frameworks and ensuring continuous progress monitoring, schools can better address the needs of students with ADHD, improving both academic and social outcomes[8].

Research conducted across various parts of Nigeria consistently shows that ADHD is a common neurodevelopmental disorder among school-aged children, with prevalence rates generally ranging between 5% and 10%. In Benin City, Edo State, 7.6% of elementary school pupils between the ages of 6 and 12 had ADHD, with boys having a higher prevalence (9.4%) than girls (5.5%). The most common appearance was the inattentive subtype. A comparable male-to-female ratio of almost 2:1 and a prevalence of 8.7% were reported in the southern part of Nigeria[9]. The prevalence of ADHD among pupils in Jos North is also high. The combined type of ADHD is most common among seven (7) years old primary school pupils in the Jos North, Plateau state, Nigeria. Among 16 pupils, 10 (8.77%), comprising 6 females (60%) and 4 males (40%) with a gender mean of 1.60 (SD = 0.52) with ages 7, 8 and 10 were found[10]. Akwa Ibom State, Nigeria established that the prevalence ranged on who rated the symptoms: 12.4% by teachers and 8.5% by parents, thus revealing differences of perceptions at home and within school settings.

The University of Benin Teaching Hospital explored how common Attention-Deficit Hyperactivity Disorder (ADHD) is among children living with Sickle Cell Anaemia (SCA) and found that out of the 103 children who participated, 15 were identified as having ADHD based on the Vanderbilt ADHD Diagnostic Rating Scale completed by their parents. This represents a prevalence rate of 14.6%, which is notably higher than what is typically reported in the general population of Nigerian Children. This finding indicates that ADHD may be a significant but often overlooked comorbidity among children with SCA. Among the children diagnosed with

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ADHD, the predominantly inattentive subtype was the most frequently observed patten of symptoms. This suggests that children with SCA may be more prone to difficulties with sustained attention and concentration rather than hyperactivity or impulsivity[11].

In contrast and arising from a clinic-based small study of children in the outpatient setting among outpatient children in Nigeria was a lower prevalence rate of about 3.2% which was probably more selective (non-community sample)[12]. While most Nigerian ADHD research focuses on children, one study conducted among over 1,200 university students and adults in Ibadan and Ado-Ekiti reported that approximately 7 – 12% of respondents reported symptoms consistent with adult ADHD, depending on the diagnostic threshold used. However, because this was based on self-report rather than full clinical assessment, the true prevalence in the adult population remains uncertain. The finding suggests that ADHD symptoms are not confined to children and may persist into adulthood among Nigerians, although many cases likely remain undiagnosed. The reported prevalence range is comparable to figures from other countries, indicating that ADHD in Nigeria, may be significant yet comparable to figures from other countries[13].

Overall, the 7 – 12% prevalence underscores that ADHD remains a relevant public health issue across different age groups in Nigeria. These findings emphasise the importance of increasing awareness, improving diagnostic services and promoting early intervention strategies for both children and adults. When compared with the 14.6% prevalence among children with sickle cell anaemia found in UBTH study, it becomes clear that certain medical or neurological conditions can further elevate the risk of ADHD symptoms[13].

Taken together, these findings suggest that ADHD is relatively prevalent in Nigeria, with rates broadly similar to those reported globally. Most studies find that boys are more frequently

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affected than girls and that the inattentive subtype tends to be the most common. Variations across studies likely reflect methodological differences, such as whether screening tools or diagnostic interviews were used, whether ratings came from parents or teachers and whether the sample was urban, semi-urban or clinical.

On the other hand, while behaviour describes the way a person or living thing acts or responds to people, situations or the environment, behavioural dysfunction, refers to a range of behaviours that meet three key criteria: severity, frequency and chronicity. It is characterised by the difficulty maintaining satisfactory relationships, inappropriate behaviours or feelings in normal situations, a pervasive mood of unhappiness or depression and a tendency to develop physical symptoms or fears related to personal or school issues[14].

Behavioural dysfunctions caused by ADHD can manifest in various forms, ranging from restlessness to fidgeting. This is a cause for concern, as students in schools need optimal behavioural functioning to perform at their best academically and integrate well with others within the school system. Successful functioning in the school environment also prepares them to thrive in society. For students to learn effectively, all aspects of their development are crucial. This is particularly important for teachers, stakeholders, and counselling psychologists, who work with learners at all educational levels, from elementary school to higher education[5].

Furthermore, behavioural dysfunction refers to persistent patterns of behaviour that significantly deviate from age-appropriate norms and disrupt a child‘s development, learning or social relationships. Such dysfunctions are typically marked by the frequency, intensity and duration of behaviours that adversely affect the child or others in their environment. These behaviours are considered problematic when they violate societal expectations, provoke distress or hinder the

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child‘s ability to function effectively in home or school settings. The root causes are often multifaceted, stemming from a complex interplay between home environment, school context and individual child characteristics[5].

Inattentiveness, a core symptom of ADHD, represents a significant behavioural dysfunction that affects individuals' cognitive, academic and social performance. Despite its pervasive and long-term impact on quality of life, inattentiveness has received less research attention than hyperactivity or impulsivity. Characterised by difficulty sustaining focus, disorganisation and forgetfulness, this symptom contributes substantially to functional impairments across the lifespan. Neuropsychological and neuroimaging evidence emphasise the need to better understand the brain-based underpinnings of inattentiveness to inform more effective interventions. This form of behavioural dysfunction disrupts everyday functioning and demands a more integrated scientific approach for comprehensive understanding and management[5].

Inattentiveness emerges as a complex interplay between cognitive lapses and emotional processes such as repetitive negative thoughts (RNTs) like worry and rumination. While commonly experienced through phenomena like mind-wandering (MW), when these internal diversions become persistent, unintentional and negatively valenced, they can interfere with goal-directed behavior and emotional well-being. Research shows that spontaneous MW, often linked to executive function deficits, mirrors the dysfunctional cognitive patterns seen in anxiety and depression, leading to diminished task performance and increased negative mood states. This convergence of cognitive and clinical perspectives underlines inattentiveness not merely as a fleeting distraction but as a maladaptive behavioural dysfunction, particularly when executive control fails to regulate internal attention and task-relevant focus[6].

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Impulsivity is not only a disruptive behavioural symptom but also a marker of broader emotional and motivational dysregulation. Individuals with hyperactive/impulsive symptoms frequently exhibit emotional disturbances, such as intense and poorly regulated positive affect, heightened frustration and reactive aggression, which significantly impair social functioning. These symptoms are thought to reflect both bottom-up mechanisms, such as exaggerated reactivity to emotionally salient stimuli involving the amygdala and reward circuits, and top-down deficits in regulatory control associated with the prefrontal cortex[17].

For example, children with ADHD show greater pupil dilation to emotional stimuli, including happy faces, indicating increased arousal and reduced regulatory control. Moreover, impulsivity is often comorbid with externalising disorders like Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD), and may be particularly associated with irritability and emotional reactivity. This complex interplay between impulsivity and emotional dysregulation highlights the need for dimensional analyses in ADHD research, as these behaviours often extend across diagnostic boundaries and have a profound effect on daily functioning[6].

The school system remains an important institution to provide education for all learners with diverse needs and abilities to enable them to achieve their potential and subsequently contribute to society. Thus, the inclusion of children with special needs in general classrooms is becoming the current trend. One of the most prevalent neurodevelopmental conditions in children is Attention-Deficit Hyperactivity Disorder (ADHD)[i]. It is one of the most publicised and controversial psychiatric disorders in schools and one of the 17th most studied of all psychological disorders in children. With a prevalence of 14–30%, Attention-Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder that first appears in infancy. Worldwide, 7.2% of children have received an ADHD diagnosis[4]. It frequently persists into

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maturity and is typically first diagnosed in childhood[5]. ADHD is a developmental disorder involving the persistent display of age-inappropriate symptoms of inattention, hyperactivity and impulsivity[15].

Submissions from the preceding background reveal why ADHD is considered a controversial condition for several reasons. For instance, its high prevalence rate of 14–30% in children and 7.2% globally raises concerns about overdiagnosis and whether behaviours that could be part of normal child development are being misclassified as symptoms of the disorder. The subjectivity in diagnosing ADHD, as symptoms like inattention, hyperactivity and impulsivity can overlap with typical childhood behaviour, leads to debates about whether the condition is being applied too broadly. Furthermore, the persistence of ADHD symptoms into adulthood complicates diagnosis and treatment, particularly as some adults may never have been diagnosed. Treatment, especially with medication, adds another layer of controversy due to concerns about over-reliance, side effects and ethical considerations. Additionally, the lack of consensus on the causes of ADHD whether genetic or environmental adds to the uncertainty and ongoing debate surrounding the disorder.

For a child to meet the diagnostic criteria, the disorder must be diagnosed for at least 6 months of persistent exhibition of symptoms. Children with ADHD often struggle academically and may have difficulty establishing peer relationships[11]. Researchers are examining the cause(s) of and risk factors for ADHD in an attempt to improve management and lower the likelihood that someone will develop it. Although the actual cause ADHD is yet to be authenticated, it is assumed that genetics play a significant part in it. Recent research relates genetic variables to ADHD[10]. It is an ongoing pattern of inattention and/or hyperactivity-impulsivity known as Attention-Deficit Hyperactivity Disorder (ADHD) which affects a person's ability to function or

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develop maximally to full potentials if left unmanaged in children[16].

It is a common neuropsychiatric disorder that impairs social, academic and occupational functioning in children, adolescents and adults. In patients with ADHD, neurobiologic study has shown a lack of connectivity in key brain regions, inhibitory control deficits, delayed brain maturation and noradrenergic and dopaminergic dysfunction in numerous brain regions. In the United States, this disorder affects 6-9% of children and adolescents as well as 3-5% of adults[16].

Attention-Deficit Hyperactivity Disorder (ADHD) is one of the most common mental disorders that affects approximately 5%-8% of children across the globe. Attention-Deficit Hyperactivity Disorder is characterised by inattention, hyperactivity and impulsivity[5]. Inattention means that the individual wanders off task, cannot carry out a task consistently, has difficulty sustaining attention and is disorganized because he lacks comprehension. Hyperactivity is when the person seems like they constantly need to move; that is, to fidget, tap or walk. The individual seems to be very restless. Impulsivity is indicated by individuals making hasty actions on the spur of the moment without consideration for the outcome[16]. Since the disorder mostly affects school-age children, it is then estimated that in every mainstream classroom, there is at least one child with some form of ADHD[16].

Children with ADHD have challenges with learning and are often disruptive in the classroom. Most children with ADHD lag behind their peers academically and require the extra time and attention of their teachers. Therefore, it is critical that teachers have knowledge about ADHD so that they can be able to manage and teach this category of children. Diagnosis of ADHD usually involves a variety of tests and interview with parents, teachers and others who can describe aspects of the child‘s behaviour that may indicate ADHD. The need for understanding, supporting, adult‘s acceptance and positive self-esteem is essential for ADHD student and

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teachers being prominent figures in the student life may be the only avenue that can provide this much support in the school setting[16]. Teachers play a critical role in the identification and management of students with ADHD. So, in order for the teachers to be able to effectively help the students with this condition, it is important that they have knowledge about this disorder[16].

Attention-Deficit/Hyperactivity Disorder (ADHD) is one of the most commonly diagnosed psychiatric disorders of childhood. Teachers can play a key role in identifying and supporting students with ADHD. To fulfil this important role, teachers must have explicit knowledge of ADHD. Next to the parents, teachers are seen as one of the most valuable sources of information concerning the referral and diagnosis of ADHD in children. They therefore have the responsibility of creating an environment conducive to academic, social and emotional success for children with ADHD[16].

Some of the symptoms associated with ADHD include inattention and hyperactive-impulsive behaviour usually noticeable before age 12, and in some children, they are noticeable as early as 3 years of age. The symptoms can be mild, moderate or severe, and may continue into adulthood. Behaviours can be different in boys and girls as it occurs more often in males than in females. For example, boys may be more hyperactive and girls may tend to be quietly inattentive. The symptoms continue, and can cause difficulty at school, at home, or with friends[12]. A child with ADHD might: daydream a lot, forget or lose things a lot, squirm or fidget, talk too much, make careless mistakes or take unnecessary risks, have a hard time resisting temptation, have trouble taking turns, or have difficulty getting along with others. ADHD doesn't cause other psychological or developmental problems. However, children with ADHD are more likely to also have conditions such as: Oppositional defiant disorder (ODD), Conduct disorder, Disruptive mood dysregulation disorder, Learning disabilities, Substance use disorders, Anxiety disorders,

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Mood disorders, Autism spectrum disorder and Tic disorder or Tourette syndrome[17].

ADHD is manifested by deficit attention span, hyperactivity and impulsivity. These symptoms also manifest in the school setting where children are required to behave in socially proper ways, participating in academic activities and not interrupting the learning development or activities of others. Children with ADHD are known to experience persistent behavioural and social problems as well as significant academic difficulties that adversely affect their school performance[17].

The management of attention-deficit/hyperactivity disorder (ADHD) in school requires that teachers have a thorough understanding of the indications, symptoms, behavioural issues and treatments. Educators must be adequately prepared to teach children and meet the educational needs of all learners. The work of the teacher becomes more demanding when some learners have Attention-Deficit Hyperactivity Disorder (ADHD), as their troubles with attention span, managing their impulses, and activity level often obstruct classroom activities. To help establish an optimal learning environment and support for pupils with ADHD and their families, school teachers need to have an awareness of the existence of ADHD, an up-to date knowledge, in-depth advice and practical interventions that can be implemented. The teacher is most often the first person to make a referral for assessment for ADHD because in the structured school environment, children with problems of inattention, hyperactivity and impulsivity exhibit behaviours with which the other children and their teachers cannot cope. Teachers also play an important role in the assessment process, providing information on academic history and performance, social relations, and general daily functioning, thus playing a very important part in the screening for ADHD[17].

Research suggests that the good knowledge of teachers about ADHD has a significant role in understanding and identifying a pupil who needs assistance. Higher knowledge is correlated with

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a higher identification rate, more helpful behaviour for children with ADHD and a favourable attitude about interventions[8]. Thus, primary school teachers‘ awareness helps early diagnosis and effective school management of children with Attention-Deficit Hyperactivity Disorder (ADHD). School teachers need to be aware of the significant problems that are associated with ADHD in the school setting to help all children succeed[18].

Schools play a crucial role in ensuring the successful adjustment of in-school adolescents with ADHD, particularly in inclusive education settings. Given the significant influence of conduct disorder and oppositional defiant disorder associated with ADHD on social adjustment, schools must implement proactive measures to support these students. Early identification through anecdotal records can help track behavioral patterns so that students could be referred to school counselors for timely intervention. Additionally, structured support systems, including behavioral management strategies, individualised learning plans and teacher training on ADHD-inclusive teaching methods, can enhance their school experience. Schools should also foster a supportive social environment by promoting peer mentorship programmes and encouraging positive teacher-student relationships. By implementing these strategies, schools can help ADHD students navigate academic and social challenges thereby improving their overall adjustment and well-being[19].

School involvement refers to the active participation and engagement of schools in addressing the needs of pupils including those with ADHD[18]. It includes various strategies and practices employed by schools to support pupils with ADHD, such as (a) individualized education plans for ADHD pupils, (b) acceptance, (c) collaborative efforts with parents and professionals and (d) creating inclusive learning environments for ADHD pupils. A recent study on knowledge and awareness among dental students on Attention-Deficit Hyperactivity Disorder showed that about

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30.48% of the respondents know the symptoms of an adult with ADHD and about 29.52% of the respondents were aware of the causes of ADHD and concluded that there should be a spreading of knowledge on the subject[20].

School involvement is crucial for children with ADHD, as it directly impacts their academic achievement, social integration and future career opportunities. However, research consistently shows that students with ADHD face significant challenges in school participation, including lower engagement in classroom activities, difficulties in social interactions and struggles with executive functioning. They are often subjected to negative feedback from teachers and peers, which can further hinder their motivation and involvement. Environmental factors such as noise levels, classroom crowding, and cognitive demands also create barriers to their participation. While some studies suggest that children with ADHD attend school activities at similar rates to their peers, they tend to be less involved due to social and cognitive challenges. Addressing these difficulties requires targeted interventions, including modifications in classroom settings, structured behavioural support and rehabilitation programmes that enhance social participation. By understanding and addressing these challenges, educators and policymakers can create inclusive learning environments that foster greater engagement and success for students with ADHD[21].

Furthermore, supportive factors such as a parenting style that respects their special needs, strong peer friendships and warm, understanding teachers, play a crucial role in fostering school involvement. However, ADHD students often face barriers related to attention regulation, impulsivity and difficulties in social interactions, making their inclusion complex. Practical interventions tailored to their strengths—implemented by both parents and teachers—can enhance their engagement, but these require consistent effort and awareness. Moreover, ADHD

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students‘ own motivation to manage their symptoms is essential, yet this self-regulation can be particularly demanding for them. Addressing these challenges requires a collaborative approach, emphasising individualised support strategies that promote their strengths while mitigating difficulties, ultimately ensuring a more inclusive and effective learning environment[22].

A psychologist or a doctor will typically diagnose ADHD after consulting with parents and educators. Because the regulated school environment makes it challenging for both instructors and other students to deal with children who struggle with impulsivity, hyperactivity and inattention, teachers are frequently the first to send students for an ADHD exam. This is due to the fact that they spend most of the day (at least eight hours) with their students and are familiar with how students typically behave in a classroom. So, teachers are typically the first to detect attention-deficit hyperactivity disorder (ADHD) in their students[23].

The impact of the disorder is manifested in all aspects of the child. Some of the problems that are faced by primary school children are under achievement in academics, difficulty in getting along with their peers (Deficit Social Skills) and reduced self-confidence. Furthermore, parents face problems at home or when they go out like for shopping and visiting other family members because of the behavioural tendencies of their children. Additionally, when some of these children continue to have ADHD symptoms through their adolescence and adulthood, they will be exposed to various health problems physically and mentally, and also, they will face difficulties financially and, on their work performance[24].

Teachers have a responsibility to include all learners with diverse needs, such as those who have ADHD in their classrooms. Thus, to effectively operate, teachers need to be fully informed about the diversity of students in their classrooms including children with ADHD. Teachers need a broad knowledge of ADHD in order to be able to understand the needs of the pupils and where

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the difficult behaviour comes from so as to plan effective behaviour modification strategies. Understanding ADHD will also enable the teachers to change their classroom management, adapt the curriculum to have realistic expectations and to use a variety of teaching strategies in order to create a positive learning environment[24].

Teachers' knowledge and awareness about the signs and symptoms, behavioural problems, and treatment are imperative handling children with attention-deficit/hyperactivity disorder (ADHD) in the school. Observed lack of knowledge, awareness and minimal school involvement in the handling of ADHD provides the rationale for this study. This study is particularly important in this environment owing to the fact that several studies have been done at the global level, however, in Nigeria, very few studies have been done. In addition, this study will further contribute to the body of knowledge in this field. It will also help in highlighting areas in which, Policy makers in Education sector could look into and bring together lessons learned as well as help inform decisions on ADHD[25].

Various studies have been conducted on the level of knowledge and awareness of teachers which showed that the level of knowledge is low. A study on knowledge regarding ADHD among elementary school teachers in Madina reported that knowledge is suboptimal, particularly regarding treatment[14]. Knowledge is the fact or condition of knowing something with familiarity gained through experience or association, while awareness is the quality or state of being aware, that is, the knowledge and understanding that something is happening or exists. Generally, knowledge is known to impact behaviour and can lead to positive change, people are likely to act and change on what they know[15].

However, studies show that the level of Teacher‘s knowledge about ADHD is generally low. Logically, knowledgeable school teachers could play an essential role in the early detection and

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proper treatment of children with attention-deficit/hyperactivity disorder (ADHD) at school. A study among 100 primary school teachers in Abha City, Saudi Arabia reported that majority of male primary school teachers in Abha City, Saudi Arabia, have inadequate knowledge about ADHD[16]. In Nigeria, studies carried out reported that training programmes significantly improved the knowledge and attitudes of the teachers in the intervention group towards ADHD and recommended incorporating ADHD training programmes into teacher-training curricula in Nigeria, with regular reinforcement through in-service training[26,27,28]. Most primary school teachers do not attribute expressed symptoms to ADHD. This may be due to a lack of awareness or understanding of ADHD. While it is expected that children, particularly in their pre-teen years, will be highly active, energetic and playful, stakeholders often have high academic, behavioural and social expectations for primary school students, especially those in Basic 4, Basic 5, or Primary 4, 5, and 6. When children at these developmental stages fail to meet expected academic, behavioural, or social milestones, they may exhibit symptoms associated with ADHD, such as difficulties with focus, impulse control or social interactions. In such cases, teachers should carefully observe these students for potential signs of ADHD to ensure early identification and appropriate intervention for behavioural modification.

Consequently, there is a pressing need to investigate and understand the current state of school involvement, teachers' knowledge and awareness of ADHD in preteens within elementary schools. By addressing this problem, we can identify the gaps and challenges that exist in supporting preteens with ADHD, leading to the development of evidence-based interventions, improved teacher training programmes, and enhanced school practices that foster a supportive and inclusive learning environment for these students. This study aims to investigate the level of school involvement, teacher‘s knowledge and awareness about ADHD in Preteens in Elementary

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schools in Ibadan, Oyo State Nigeria.

1.2 Statement of the Problem

Attention-Deficit Hyperactivity Disorder (ADHD) is one of the most common neurodevelopmental disorders affecting school-age children, often characterised by inattention, impulsivity and hyperactivity. These behavioural challenges significantly interfere with learning, peer relationships and overall classroom functioning[10,15]. In Nigerian public primary schools, particularly in Oyo State, many pupils with ADHD and related behavioural dysfunctions remain unrecognised or mismanaged[29], largely due to limited awareness, inadequate teachers, training and low parental or school involvement[12]. As a result, the affected pupils are frequently labelled as stubborn, lazy or disruptive rather than being properly identified and supported.

Despite growing evidence that early recognition and school involvement can reduce the negative academic and social impacts of ADHD, many teachers in public schools lack the necessary knowledge to identify symptoms or provide appropriate classroom interventions. Also, schools often have limited structures for collaboration between teachers, parents and health professionals, which hinders timely referrals and behavioural management. This situation contributes to poor academic performance, increased school dropout rates and emotional difficulties among affected pupils. Therefore, there is a pressing need to examine how school involvement and teachers‘ recognition of ADHD influence behavioural dysfunction among primary school pupils in Oyo State. Understanding these relationships will provide insight into the current gaps in teacher awareness, school support systems and behavioural management strategies.

1.3 Aim and Objectives of the Study

The aim of the study is to examine the level of school involvement and teachers‘ recognition (knowledge and awareness) of Attention-Deficit Hyperactivity Disorder and the behavioural

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dysfunction among primary pupils in public schools in Oyo State, Nigeria.

The objectives are to:

i. examine the perceived level of behavioural dysfunction among primary pupils in public schools in Oyo State, Nigeria;

ii. identify the level of school involvement in public primary schools in Oyo State, Nigeria;

iii. ascertain the level of teachers‘ knowledge of Attention-Deficit Hyperactivity Disorder among primary pupils in public schools in Oyo State, Nigeria;

iv. establish the level of teachers‘ awareness of Attention-Deficit Hyperactivity Disorder among primary pupils in public schools in Oyo State, Nigeria;

v. determine the joint influence of school involvement and teachers‘ knowledge and awareness of Attention-Deficit Hyperactivity Disorder on behavioural dysfunction among primary pupils in public schools in Oyo State, Nigeria;

vi. examine the relative influence of school involvement and teachers‘ knowledge and awareness of Attention-Deficit Hyperactivity Disorder on behavioural dysfunction among primary pupils in public schools in Oyo State, Nigeria; and

1.4 Research Questions

The following research questions were formulated to guide this study.

1. What is the perceived level of behavioural dysfunction among primary pupils in Oyo State, Nigeria?
2. What is the level of school involvement with pupils with ADHD in public primary schools in Oyo State, Nigeria?
3. What is the level of teachers‘ knowledge of Attention-Deficit Hyperactivity Disorder among primary school pupils in Oyo State, Nigeria?

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4. What is the level of teachers‘ awareness of Attention-Deficit Hyperactivity Disorder among primary school pupils in Oyo State, Nigeria?

1.5 Hypotheses

The following null hypotheses were raised to guide this study which were tested at 0.05 level of significance:

$H_0$1: There will be no significant joint influence of school involvement and teachers‘ knowledge and awareness of Attention-Deficit Hyperactivity Disorder on behavioural dysfunction among primary pupils schools in Oyo State, Nigeria.

$H_0$2: There will be no significant relative influence of school involvement and teachers‘ knowledge and awareness of Attention-Deficit Hyperactivity Disorder on behavioural dysfunction among primary pupils in public schools in Oyo State, Nigeria.

1.6 Significance of the Study

This study is significantly beneficial to many stakeholders after the completion and publication because it identifies the gaps and challenges that exist in supporting preteens with ADHD, leading to the development of evidence-based interventions, improved teacher training programmes and enhanced school practices. In addition, the findings of this study would have a significant academic influence, as the level of school involvement and teachers‘ recognition determines, to a large extent, the success of preteens with ADHD. By improving these areas, educational outcomes can be enhanced, academic disparities reduced and inclusive learning environments fostered. Furthermore, the study can contribute to the social and emotional well-being of preteens with ADHD, addressing challenges they face in social interactions, self-esteem, and emotional regulation. School involvement and teachers‘ recognition can create

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supportive and understanding environments that promote positive social relationships and emotional development. Moreover, this study aligns with the goals of equity and inclusion in education by addressing gaps in school involvement and teachers‘ recognition. Students with ADHD deserve equal opportunities to succeed academically and socially, and by identifying as well as addressing these gaps, we can work towards reducing educational disparities and ensuring a level playing field for all students. Understanding their knowledge gaps and challenges in supporting students with Attention-Deficit Hyperactivity Disorder (ADHD) can lead to the design of training programmes that equip teachers with the necessary skills, strategies and resources to effectively address the needs of preteens with ADHD. Similarly, the findings of the study can help policy and practice implications, in forming the development of guidelines, resources and support systems that enhance school involvement, promote teachers‘ recognition and establish inclusive policies for students with ADHD. By improving practices and outcomes for preteens with ADHD at a systemic level, this study contributes to the existing body of knowledge on ADHD in educational settings, promotes evidence-based practices and advocates for the development of inclusive educational environments that support the academic, social and emotional wellbeing of preteens with ADHD. Finally, the study may generate additional research questions and serve as a foundation for future studies, driving further exploration into specific aspects of school involvement and teachers‘ practices related to ADHD on one hand, while on the other hand promoting strategies to efficiently manage the behavioural issues among children with ADHD so as to enjoy a happy and successful life.

1.7 Scope of the Study

The scope of the study covers the influence of School involvement and Teachers recognition of Attention-Deficit Hyperactivity Disorder on Behavioural Dysfunction among primary school

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pupils in the three senatorial districts in Oyo state. There are 33 Local Governments in Oyo State with 13 in Oyo Central, 11 in Oyo North and 9 in Oyo South senatorial districts in Oyo State. Male and female respondents from primary schools for this study included: head teachers, assistant head teachers and three most senior teachers who had taught pupils across almost all levels in primary schools.

1.8 Limitation of the Study

The limitation of this study included reliance on the likely introduction of bias because the study relied on self-reported data from teachers, which could be a source of inaccuracies in assessing their knowledge and awareness of ADHD.

1.9 Operational Definition of the Terms

Attention-Deficit Hyperactivity Disorder (ADHD): Attention-Deficit Hyperactivity Disorder (ADHD) is defined as a persistent pattern of inattention and/or hyperactivity-impulsivity for at least 6 months. ADHD is a neurodevelopmental disorder characterised by persistent patterns of inattention, hyperactivity and impulsivity that significantly impact an individual's functioning and development. It commonly begins in childhood and can continue into adolescence and adulthood. Individuals with ADHD may struggle with (a) Deficit Attention Span (maintaining focus following instructions), (b) Hyperactivity (organizing tasks) and (c) Impulsivity (controlling impulsive behaviour).

Behavioural Dysfunction: Behavioural dysfunction refers to patterns of behaviour that are significantly disruptive, inappropriate, or maladaptive relative to the development of a child with ADHD such as inattentiveness, hyperactivity, impulsivity and conduct disorder.

Hyperactivity: Being unable to sit still, constantly fidgeting and excessive movement.

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Impulsivity: Acting before thinking, interrupting conversations and with little or no sense of danger

Attention: Attention is one of the cognitive expressions, which had been related to a wide range of typical populaces. It refers to several aspects of functioning leading to a coordinated brain activity. Attention is sometimes delineated as the ability to select, focus on the selected element, and forget about the rest. Attention is the first step to learning.

Inattention: Having a short attention span, being easily distracted, unable to concentrate on tasks or finish it, constantly changing activity or task, appearing as unable to follow instructions, and forgetfulness.

Distractibility: This is an obstacle to attention. It is an act of drawing someone's attention away from something. It is the quality or state of being easily distracted. Heightened distractibility has often been associated with ADHD which is an ongoing pattern of inattention and/or hyperactivity, hyper-impulsivity that interferes with functioning or development.

Behavioural Dysfunction: refers to any impairment or deficiency in an individual‘s behaviour involving a pattern of disruptive behaviours that cause problems in school, at home and in social situations.

School Involvement: School involvement refers to the active participation and engagement of schools in addressing the needs of students, including those with ADHD. It includes various strategies and practices employed by schools to support pupils with ADHD, such as (a) individualized education plans for ADHD pupils, (b) acceptance, (c) collaborative efforts with parents and professionals, and (d) creating inclusive learning environments for ADHD pupils.

Teacher: A teacher is also called a tutor or formally an educator. These are male and female

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primary school educators in Oyo State.

Teachers' Recognition: (Knowledge and Awareness of ADHD:) Teachers' recognition is the ability of teachers to understand ADHD clearly and distinctly. It is a sudden realization of the problem and the ability to identify the symptoms of ADHD. Teacher's knowledge of ADHD refers to their understanding and comprehension of the characteristics, symptoms, challenges and effective strategies for addressing the educational needs of students with ADHD. It encompasses familiarity with the diagnostic criteria of ADHD, knowledge of evidence-based interventions, and an understanding of how ADHD may impact a student's academic performance and behaviour. Teacher's awareness of ADHD refers to their recognition, perception and active attention that teacher gives to the presence presenting symptoms and impact of ADHD in pupils. It involves the ability to identify ADHD-related difficulties, differentiate them from other challenges and understand how ADHD may influence a pupil's learning, behaviour and social interactions. Awareness includes recognising the need for appropriate support, acceptances, and interventions for pupils with ADHD.

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Endnotes

[1] D. Kim, D. Yadav & M. Song, *An Updated Review on Animal Models to Study Attention-Deficit Hyperactivity Disorder,* **Translational Psychiatry,** *14*(187), 2024. https://doi.org/10.1038/s41398-024-02893-0

[2] A. H. Claussen, J. R. Holbrook, H. J. Hutchins, L. R. Robinson, J., Bloomfield, L. Meng, R. H. Bitsko, B. O'Masta, A. Cerles, B. Maher, M. Rush & J. W. Kaminski, All in the Family? *A Systematic Review and Meta-analysis of Parenting and Family Environment as Risk Factors for Attention-Deficit/Hyperactivity Disorder (ADHD) in Children*, **Prevention Science,** *25(*Suppl 2*),* 2024, S249–S271. https://doi.org/10.1007/s11121-022-01358-4

[3] L. Zhang, L., Li, P. Andell, M. Garcia-Argibay, P. D Quinn, B. M. D'Onofrio, I. Brikell, R. Kuja-Halkola, P. Lichtenstein, K. Johnell, H. Larsson & Z. Chang, *Attention-deficit/hyperactivity Disorder Medications And Long-Term Risk Of Cardiovascular Diseases*, **JAMA Psychiatry,** *81*(2), 2024, 178–187. https://doi.org/10.1001/jamapsychiatry.2023.4294

[4] Reuben, C. & Elgaddal, N. (2024). *Attention-deficit/hyperactivity disorder in children ages 5–17 years: United States, 2020–2022* (NCHS Data Brief No. 499). National Center for Health Statistics, Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/products/index.html

[5] S. Koirala, G. Grimsrud, M. A. Mooney, B. Larsen, E. Feczko, J. T. Elison, S. M. Nelson, J. T. Nigg, B. Tervo-Clemmens, & D. A. Fair, *Neurobiology of Attention-Deficit Hyperactivity Disorder: Historical Challenges And Emerging Frontiers,* **Nature Reviews Neuroscience,** *25*, 2024, 759–775. https://doi.org/10.1038/s41583-024-00869-z

[6] S. Cortese, S. Fusetto, G. Veronesi, A. Gabellone, A. Margari, L. Marzull, E. Matera. & L. Margari, *The Management of Sleep Disturbances In Children With Attention-Deficit/Hyperactivity Disorder (ADHD): An Update of the Literature,* **Expert Review of Neurotherapeutics,** 24(6), 2024, 585–596. https://doi.org/10.1080/14737175.2024.2353692

[7] V. Parlatini, A. Bellato, A. Gabellone, L. Margari, L., Marzulli, E.Matera & S. Cortese, *A State-of-the-Art Overview of Candidate Diagnostic Biomarkers For Attention-Deficit/Hyperactivity Disorder (ADHD),* **Expert Review of Molecular Diagnostics**, *24*(4), 2024, 259–271. https://doi.org/10.1080/14737159.2024.2333277

[8] B. E. Yerys, S.Tao, L. Shea, & G. L. Wallace, *Attention-Deficit/Hyperactivity Disorder in Medicaid-Enrolled Autistic Adults,* **JAMA Netw Open**, 2025,8(2):e2453402. doi:10.1001/jamanetworkopen.2024.53402

[9] E. A. Ambuabunos, E. G. Ofovwe, E. G. & M. O. Ibadin, M. O. *Community survey of attention-deficit/hyperactivity disorder among primary school pupils in Benin City, Nigeria,* **Annals of African Medicine**, 10(2), 2011, 91–96. DOI:10.4103/1596-3519.82065

[10] C. N. Nwoga & D. K. Mafai, *Prevalence of Attention Deficit Hyperactivity Disorder*

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among Public Primary School Pupils in Jos North, Plateau State, Nigeria. **Open Journal of Clinical & Medical Case Reports,** 9, Article 1996. Jclinmedcasereports.com+1

[11] P. O. Okunola, I. O. Aina & Y. T. Israel-Aina, *Attention Deficit Hyperactivity Disorder among Children with Sickle Cell Anaemia seen at the University of Benin Teaching Hospital, Benin City, Nigeria.* **Nigerian Journal of Paediatrics,** 49(2), 2024, 97-101.

[12] M. O. Bakare, *Attention Deficit Hyperactivity Disorder: A Neglected Issue in the Developing World*. **African Journal of Psychiatry,** 15, 358-361.

[13] A. S. Okhakhume & A. A. Olufemi, *Self-Reported Symptoms of Adult ADHD among the General Population in Nigeria*. **HERPNET**, 2014.

[14] G. Perrotta, Psicologia generale, Luxco Ed, 1st ed, 2019.

[15] K. A. Kavale, S. R. Forness & M. P. Mostert, *Defining Emotional or Behavioral Disorders: The Quest for Affirmation*. In P. Clough, P. Garner, J. T. Pardeck, & F. Yuen (Eds.), **Handbook of Emotional and Behavioural Difficulties,** *2004,* 46–58, SAGE Publications.

[16] A. F. Pagán, Y. P. Huizar, T. R. Short, Z. Gotcher & A. T. Schmidt, *Adult Attention-Deficit/Hyperactivity Disorder: A Narrative Review of Biological Mechanisms, Treatments, and Outcomes,* **Current Neurology and Neuroscience Reports**, 23, 2023, 451–460. https://doi.org/10.1007/s11910-023-01312-9

[17] A. Doulou & A. Drigas, *Behavioral Problems in Schools: A Theoretical Overview and the Role of ICTs*, *Technium* **Social Sciences Journal***, 29*(1), 2022, 30–44. https://doi.org/10.47577/tssj.v29i1.6130

[18] J. S. Morales, E. Alberquilla del Río, P. L. Valenzuela & Ó. Martínez-de-Quel, *Physical Activity and Cognitive Performance in Early Childhood: A Systematic Review and Meta-Analysis of Randomized Controlled Trials*, **Sports Medicine***,* 54, 2024, 1835–1850. https://doi.org/10.1007/s40279-024-01859-0

[19] B. S. Peterson, J. Trampush, M. Maglione, M. Bolshakova, M. Rozelle, J. Miles, S. Pakdaman, M. Brown, S. Yagyu, A. Motala & S. Hempel, *Treatments for ADHD in Children and Adolescents: A Systematic Review*, **Pediatrics,** 153, 2024, e2024065787. https://doi.org/10.1542/peds.2024-065787

[20] J. M. Yip, N. M. Jodoin & T. C. Handy, *Dimensions of Inattention: Cognitive, Behavioral, and Affective Consequences*, **Frontiers in Psychology,** *14,* 2023, 1075953. https://doi.org/10.3389/fpsyg.2023.1075953

[21] R. J. L. Anney, J. Lasky-Su, C. O'Dushlaine, E. Kenny, B. M. Neale, A. Mulligan, B. Franke, K. Zhou, W. Chen, H. Christiansen, A. Arias-Vásquez, T. Banaschewski, J. Buitelaar, R.

Lead City University DO NOT COPY

Ebstein, A. Miranda, F. Mulas, R. D Oades, H. Roeyers, A. Rothenberger, A. & M.Gill, *Conduct Disorder and ADHD: Evaluation of Conduct Problems as a Categorical and Quantitative Trait in the International Multicentre ADHD Genetics Study*. **American Journal of Medical Genetics Part B: Neuropsychiatric Genetics**, *147B*(8), 2008, 1369–1378. https://doi.org/10.1002/ajmg.b.30769

[22] F. W. Paulus, S. Ohmann, E. Möhler, P. Plener & C. Popow, *Emotional Dysregulation in Children and Adolescents With Psychiatric Disorders: A Narrative Review*, **Frontiers in Psychiatry**, 12, 2021, 628252. https://doi.org/10.3389/fpsyt.2021.628252

[23] D. Martella, N. Aldunate, L. J. Fuentes & N. Sanchez-Perez, *Arousal and Executive Alterations in Attention-Deficit Hyperactivity Disorder (ADHD),* **Frontiers in Psychology***,* 11, 2020, 1991. https://doi.org/10.3389/fpsyg.2020.01991

[24] Centers for Disease Control and Prevention, Content source: National Center on Birth Defects and Developmental Disabilities, 2022. Retrieved from https://www.cdc.gov

[25] A. Koutsoklenis & J. Honkasilta, *ADHD in the DSM-5-TR: What has Changed and What has Not*, **Frontiers in Psychiatry,** *13, 2022,* 1064141. https://doi.org/10.3389/fpsyt.2022.1064141

[26] R. J. Ward, S. J. Bristow, H. Kovshoff, S. Cortese, & J. Kreppner, *The Effects of ADHD Teacher Training Programmes on Teachers and Pupils: A Systematic Review and Meta-Analysis,* **Journal of Attention Disorders***,* 26(2), 2022, 225–244. https://doi.org/10.1177/1087054720972801

[27] M. Mohammed, T. Bella-Awusah, B. Adedokun, I. Lagunju & C. Ani, *Effectiveness of a Training Programmeme on The Knowledge and Perception of Attention-Deficit Hyperactivity Disorder among Primary School Teachers in Kano, Nigeria,* **International Journal of Mental Health**, 1, 2023, 1–15. https://doi.org/10.1080/00207411.2023.2253397

[28] M. O. Ataben, M. O. Sunday & R. U. Adie, *Attention-Deficit Hyperactivity Disorder (ADHD) and Adjustment of In-School Adolescents in an Inclusive Education Setting in Cross River State, Nigeria*, **The Researcher's Journal: A Journal of Contemporary Educational Research**, *2021, 15*-28.

[29] A. S. Okhakume & A. A. Oluwafemi, Self-reported Symptoms of Adult ADHD among General Population in Nigeria, **Journal of Sociology and Education in Africa**, 12(1), 2014.

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Chapter Two

Literature Review

In this chapter, concepts, theories as well as literature relevant to this study were reviewed. The concepts relate to Attention-Deficit Hyperactivity Disorder (ADHD) Behavioural dysfunction, school involvement and teacher recognition. Theories explaining these variables were also reviewed. Also, an empirical review of empirical studies is done in this chapter, with the conceptual model displayed and a summary of the literature review. The review is presented under the following sub-headings:

2.1 Conceptual Review

2.1.1 Understanding Attention-Deficit Hyperactivity Disorder

2.1.2 Impacts of Attention-Deficit Hyperactivity Disorder

2.1.3 Types of ADHD and their Behavioural Manifestations

2.1.4 Effects of ADHD

2.1.5 Behavioural Dysfunctions

2.1.6 Effects of Attention-Deficit Hyperactivity Disorder on Behaviour

2.1.7 Emotional Social Dysfunction in Pupils with ADHD

2.1.8 Academic Impact of Behavioural Dysfunction in ADHD

2.1.9 School Involvement

2.1.10 Overview of Teacher‘s Recognition of Attention-Deficit Hyperactivity Disorder

2.2 Theoretical Framework

2.2.1 Theory of Reasoned Action (TRA)

2.2.2 Cultural Relativism Theory

2.2.3 Ecological Systems Theory of Bronfenbrenner

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2.2.4 Social Cognitive Theory (SCT)
2.3 Review of Empirical Studies
2.3.1 School Involvement and Behavioural Dysfunction in ADHD
2.3.2 Teacher‘s Recognition of Behavioural Dysfunction Asssociated with ADHD
2.4 Conceptual Model
2.4.1 Explanation of the Conceptual Model
2.5 Summary of Gaps in Literature Reviewed
Endnotes

2.1 Conceptual Review

2.1.1 Understanding Attention-Deficit Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder (ADHD) is among the most prevalent psychiatric and neurodevelopmental disorders affecting children globally. Characterised primarily by persistent patterns of inattention, hyperactivity and impulsivity, ADHD significantly disrupts a child‘s ability to function effectively in daily activities. If left untreated, these behavioural patterns can persist into adolescence and even adulthood, leading to a range of psychological, social and academic challenges. Furthermore, the sociocultural environment in which a child is raised can either mitigate or exacerbate the difficulties associated with ADHD. Cultural beliefs, norms and expectations often influence how symptoms are perceived, understood and addressed and this can have serious implications for a child‘s social inclusion and overall development[1].

In many developing nations, including Nigeria, there is a limited but growing body of research focused on the prevalence and impact of ADHD. Available data suggest that the disorder is not uncommon, with prevalence rates in Africa estimated between 5.4% and 8.7%. Specifically, Nigeria has reported rates as high as 7.6%, reflecting a significant public health concern.

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Additionally, studies indicate a rising trend in the manifestation of ADHD symptoms, with about 12.4% of children reportedly exhibiting these behaviours. Among these, the predominantly inattentive subtype appears to be the most frequently diagnosed, accounting for approximately 14.6% of cases[2]. What is particularly of utmost concern is that nearly 60% of children diagnosed with ADHD continue to exhibit symptoms into adulthood, especially when the condition is inadequately managed during childhood. This continuity poses substantial risks not only to the individuals affected but also to their families, potentially leading to adverse health, educational, and economic outcomes. It highlights the urgent need for early and culturally sensitive intervention strategies[3].

The sociocultural context plays a pivotal role in shaping public attitudes, parental responses and institutional approaches toward ADHD. Cultural norms determine what behaviours are deemed acceptable or problematic, and these interpretations significantly influence whether a child is diagnosed or not and how they are treated. For instance, behaviours considered disruptive in one culture may be tolerated or even encouraged in another. Therefore, effective assessment and intervention must take into account the child‘s cultural background, family beliefs and societal expectations to ensure accurate diagnosis and appropriate treatment[4]. While the expression of ADHD symptoms may be universal, the recognition, interpretation and management of these behaviours often vary widely across different cultures. As such, a culturally informed approach that involves parents, educators and healthcare providers is essential to improve outcomes for children with ADHD. By integrating cultural understanding into diagnostic and therapeutic processes, professionals can enhance the quality of care and support provided to affected individuals and their families[5].

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Attention-Deficit/Hyperactivity Disorder (ADHD) is a chronic neurodevelopmental condition characterised by patterns of impulsivity, inattention, and hyperactivity, which significantly impair functioning in multiple settings most notably at home and in school environments[6]. It is recognized as one of the most commonly diagnosed mental health conditions among children and adolescents. The disorder is classified into three primary subtypes: the combined type, the inattentive type and the hyperactive-impulsive type. Among these, the combined type is the most frequently diagnosed, presenting with symptoms of both inattention and hyperactivity/impulsivity. Conversely, however, the hyperactive-impulsive type which is less commonly observed is more prevalent among preschool-aged children who tend to display overt hyperactivity without marked inattention[7]. Meanwhile, children diagnosed with the inattentive subtype often struggle with sustained focus and concentration, yet exhibit minimal hyperactive behaviour.

Children and adolescents with ADHD frequently face numerous difficulties across their home, academic and social environments. These challenges may coexist with other mental or developmental conditions, complicating diagnosis and management. Globally, it is estimated that approximately 6.8% of children and adolescents are affected by ADHD. Additionally, the disorder is believed to impact about 5% of children and adolescents, making it the most prevalent neurodevelopmental disorder among the pediatric population. If left untreated, ADHD can lead to considerable morbidity, academic underperformance and long-term functional impairments that often extend into adulthood[8]. It may also result in occupational difficulties and impose a significant socio-economic burden on families and society at large.

In educational settings, ADHD often manifests through difficulties in concentration, disruptive behaviour and poor academic performance. These factors contribute to a heightened risk of

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school failure, peer rejection and emotional distress. Given the broad spectrum of symptoms and the complexity of its outcomes, parental awareness and understanding of ADHD are essential for effective management[9]. A well-informed and supportive family environment can facilitate timely diagnosis, adherence to treatment and better coping mechanisms for the affected child. Indeed, research has shown that positive parental attitudes and adequate knowledge about ADHD significantly influence the success of therapeutic interventions[10].

Genetic factors play a substantial role in the etiology of ADHD. Studies suggest that boys are more likely to be diagnosed with the disorder than girls and there is a notable familial pattern. For instance, parents of children diagnosed with ADHD have a 25% likelihood of having the disorder themselves, and studies involving monozygotic twins show concordance rates ranging from 55% to 90%, highlighting the strong heritable component[11]. However, environmental influences also contribute meaningfully. Children from low-income households, those in foster care, or children exposed to prenatal risks such as premature birth, low birth weight or traumatic brain injury are more vulnerable to developing ADHD. Additionally, impairments in motivational regulation have been linked to inattentive symptoms such as distractibility, frequent day dreaming and difficulty maintaining attention on tasks for extended periods[12].

Without appropriate identification and intervention, children with ADHD are at heightened risk of experiencing learning disabilities, low self-esteem, strained family and peer relationships, as well as long-term psychosocial consequences. In severe cases, affected students may drop out of school prematurely or face difficulty integrating into the workforce as adults[13]. Therefore, understanding the nature of ADHD and enhancing parental, educational, and community support are vital to improving outcomes. Despite the significant burden posed by the disorder, much of the existing literature and empirical data come from high-income countries, leaving a

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considerable research gap in developing regions, especially regarding parental perceptions, knowledge and attitudes toward ADHD. This highlights the need for localized studies that take into account sociocultural influences on diagnosis, management and public understanding of the condition[14].

Globally, ADHD is widely acknowledged as a developmental disorder that is typically present in childhood. Its symptoms are usually evident before the age of seven and persist across various domains of a child‘s life, impairing their ability to function socially, academically, and later, occupationally. The three primary diagnostic subtypes inattentive, hyperactive-impulsive, and combined are uniformly recognized across major diagnostic frameworks, including the DSM (Diagnostic and Statistical Manual of Mental Disorders) and the ICD (International Classification of Diseases)[14].

In terms of prevalence, a systematic review and meta-analysis of 175 studies involving children under 18 years reported a pooled global prevalence of 7.2%. Another synthesis of 86 studies estimated prevalence rates of 5.9% to 7.1% among children and about 5% among adults[26]. Data from the Centers for Disease Control and Prevention (CDC) in the United States indicated a 6.8% prevalence among children aged 3–17 years, with a 21.8% increase between 2003 and 2007[15]. A national survey further reported an 11% prevalence rate among children aged 4 to 17 years, reflecting a 42% increase between 2003 and 2011. Other national studies found prevalence rates of 8.2% in the U.S., 6.8% in Spain, 5.8% in Brazil (DSM-IV criteria), and 1.5% using ICD-10 standards)[25]. In Venezuela, the rate was notably high at 10.03% among children aged 4 to 12 years[16].

In the Middle East, recent studies in Saudi Arabia found ADHD prevalence rates of 16.4% for

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the combined type, 16.3% for the inattentive subtype and 12.4% for the hyperactive/impulsive subtype among children aged 6 to 13 years[24]. Other research within the region among children aged 6 to 12 years reported an overall ADHD prevalence of 11.6%, with the inattentive type accounting for 6.3%, the hyperactive/impulsive type for 2.2% and the combined type for 3.1%. In Iran, ADHD was found in 25.8% of children aged 3 to 6 years based on parental reports and 17% based on teacher evaluations[17].

While literature on ADHD is growing globally, African-based studies remain limited, though available data suggest comparable prevalence rates. Across various African countries, ADHD prevalence ranges from 5.4% to 8.7% among school-aged children and about 1.5% in the general population[18]. In specific high-risk populations, such as children with suspected organic brain damage, prevalence rates can be extremely high between 45.5% and 100%[19]. Country-specific findings report rates of 6.9% in Egypt, 3.2% to 23.15% in Nigeria, 6.3% in Kenya, 6% in Congo, 19.7% in Egypt, and 1.5% in Ethiopia among children aged 5 to 14 years[20]. These findings underscore the widespread nature of ADHD and the need for increased research, especially within low- and middle-income countries[21]. Moreover, culturally sensitive strategies and evidence-based interventions are essential to enhance early detection, parental education, and support systems that address the unique needs of affected children across diverse sociocultural environments[28].

Attention-Deficit Hyperactivity Disorder (ADHD) is believed to result from a complex interplay of genetic, environmental and developmental influences[29]. Research indicates that genetic predisposition plays a dominant role, accounting for approximately 80% of ADHD cases. Variations in reported prevalence and associated risk factors often stem from differences in diagnostic criteria, data sources and geographical contexts across studies. Socio-demographic

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factors such as low parental education levels, maternal employment status and low socioeconomic standing have been consistently linked to increased risk of ADHD[30]. Additionally, specific child-related factors including male gender, birth order, and being raised in a single-parent household have emerged as notable contributors[31].

Beyond demographics, various familial and perinatal factors further increase the likelihood of ADHD[32]. These include maternal behaviors such as smoking and alcohol consumption during pregnancy, non-vaginal delivery methods, delayed school enrollment, and limited parental supervision regarding media exposure (e.g., prolonged screen time or lack of sports engagement). Other risks include family psychiatric history, unintended pregnancies, history of miscarriage or abortion, trauma exposure, cesarean section deliveries, substance use during gestation and neurological events such as head injuries or epilepsy[33].

Children affected by ADHD face a heightened risk of adverse life outcomes if left undiagnosed or untreated. These may include school dropout, early and unintended pregnancies during adolescence, and increased involvement in delinquent or criminal activities. ADHD often emerges in early childhood, with formal diagnoses typically occurring once the child enters school. However, for many individuals, the disorder does not end in childhood. Studies suggest that 60–85% of children with ADHD continue to experience symptoms into adolescence, while approximately 40% persist into adulthood[34].

The disorder is also associated with numerous comorbid psychiatric conditions, further complicating the clinical picture. Consequently, treatment must be tailored to the patient's age and developmental stage[35]. The most comprehensive treatment guidelines currently available advocate for age-specific approaches in the selection and administration of pharmacological

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interventions for ADHD. This underscores the importance of understanding the magnitude and dynamics of ADHD across different age groups, particularly in low-income countries where evidence is limited and treatment guidelines are often underdeveloped or not contextually appropriate[36]. Although extensive research has been conducted in developed countries, particularly on the prevalence, risk factors and management strategies for childhood ADHD, there remains a substantial gap in empirical data from low- and middle-income nations[37]. This underscores the need for more context-specific research to inform public health policies and clinical practices in resource-constrained settings[38].

Hyperactivity refers to excessive levels of physical movement and restlessness that go beyond what is considered developmentally appropriate[39]. Behaviours typically associated with hyperactivity include difficulty remaining seated, constant fidgeting and an inability to stay still, often described as being "always on the go." Although hyperactivity is not a required symptom for the diagnosis of Attention-Deficit Hyperactivity Disorder (ADHD), it is frequently observed in many children diagnosed with the condition. Impulsivity, a related symptom, is also a key component of ADHD. While hyperactivity and impulsivity are conceptually distinct, clinical diagnosis currently groups them together, meaning that a child cannot be diagnosed with hyperactivity alone without also exhibiting impulsive behaviours[39].

Impulsivity in children may manifest through a range of behaviours such as difficulty waiting for their turn, frequent interruptions during conversations, speaking out of turn in classrooms, and responding to questions before they are fully asked[40]. These behaviours reflect a lack of self-regulation and foresight, which are core features of ADHD. Importantly, a diagnosis of ADHD does not require the presence of all three hallmark symptoms: inattention, hyperactivity, and impulsivity. For example, a child may be diagnosed with ADHD which is predominantly

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inattentive type if they exhibit significant difficulty with concentration and focus, but not necessarily with hyperactivity or impulsivity. Likewise, children showing hyperactive and impulsive traits without marked inattention may be diagnosed with the hyperactive/impulsive presentation of ADHD[41].

Conceptually, ADHD is sometimes viewed as a tautological diagnosis: here, children are said to have ADHD because they exhibit certain behaviours, and they are believed to exhibit those behaviours because they have ADHD. This circularity in definition raises concerns, particularly given the subjective nature of clinical assessment. Since diagnoses are often based on a clinician‘s observations and reports from teachers or parents, and not on objective biological markers, differentiating ADHD from other behaviourally similar conditions such as anxiety, learning disorders or trauma-related behaviours can be challenging[42].

Children diagnosed with ADHD frequently struggle with various school-related challenges stemming from their core symptoms. Inattention may hinder their ability to follow instructions, complete assignments and sustain concentration during lessons. Impulsivity can lead to disruptive behaviours, such as shouting out answers or engaging peers inappropriately, while hyperactivity may cause difficulties in remaining seated or handling classroom tasks appropriately[43]. These challenges often lead to academic under achievement, grade repetition, school suspensions or even expulsion. For instance, a child with inattentive traits may miss key instructions or be unable to organize their work, while a hyperactive child may fidget, play with unrelated objects or be physically disruptive thereby affecting both their learning and that of peers[44]. Due to these behavioural patterns, children with ADHD often experience social isolation, peer rejection and strained relationships with teachers. Many educational psychologists have noted a link between ADHD and specific learning difficulties, including dyslexia.

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Overlapping behaviours such as difficulty in sustaining attention, organizational challenges, and careless mistakes can complicate diagnoses and lead to misclassification. It is, therefore, not surprising that children with ADHD often encounter academic struggles and diminished school performance[45].

Additionally, many children with ADHD have trouble concentrating long enough to complete assigned tasks and are prone to losing essential school supplies, such as books or stationery, due to disorganization. Their impulsivity may result in misunderstanding classroom expectations, which further impairs their ability to meet academic standards. Classroom disruptions caused by ADHD behaviours affect not only the child in question but also peers and educators, thereby contributing to a less effective learning environment. Moreover, these behavioural issues often hinder the formation and maintenance of peer relationships, compounding the child's social and emotional difficulties[46].

Interestingly, research indicates that behavioural difficulties among children with ADHD may be reduced when tasks are novel, engaging, repetitive, or presented at an appropriate difficulty level. These findings suggest that task design and classroom structure can significantly influence behaviour and learning outcomes in children with ADHD[46]. Cross-cultural studies have highlighted the importance of contextual factors, such as parenting styles and family dynamics, in both the development and management of ADHD. Variations in national prevalence rates may, in part, be attributed to cultural differences in parenting, family structure and child-rearing practices. Research has shown that poor family functioning is often linked to more severe ADHD symptoms. Conversely, well-defined family roles, behavioural control, and supportive caregiving practices are associated with improved management of ADHD symptoms. In diverse cultural settings, these aspects of family functioning must be considered when developing intervention

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strategies.Despite growing awareness, children and adults with ADHD often face emotional, social and economic challenges that can hinder their ability to reach their full potential. Inadequate support and untreated symptoms can result in diminished quality of life, difficulties in academic and employment settings, strained personal relationships and broader psychosocial issues. Cultural perceptions also influence ADHD diagnosis and management. In some societies, there are misconceptions and stigmatization surrounding ADHD and other neuro developmental disorders. These attitudes can lead to the exclusion of affected individuals from educational opportunities and social participation[46].

In Nigeria, research has recognized ADHD as one of the most prevalent and widely studied neurodevelopmental disorders in children. Several studies have explored its incidence among primary school pupils aged 6 to 12 years in regions such as Ikot-Ekpene in the rainforest zone. Findings reveal that behavioural issues associated with ADHD, including restlessness, inattentiveness, and impulsivity, often disrupt learning environments and contribute to broader behavioural problems among school children[47]. These behaviours are sometimes misinterpreted as delinquency or deviance, with adolescents engaging in acts like truancy, examination malpractice, bullying and other socially disruptive behaviours as they struggle to adapt to societal expectations[48].

Parenting stress is another significant issue, affecting not only the immediate family but also educators, school counsellors and the wider society[49]. Caregivers often lack adequate knowledge about ADHD and cultural misconceptions about the disorder further exacerbate the challenges. In many communities, children with ADHD or special needs may be marginalized, stigmatized, or treated as societal outcasts. This exclusion leads to educational disadvantage and social isolation, perpetuating cycles of trauma and limiting long-term outcomes[50]. The implications of

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childhood behavioural disorders extend far beyond the classroom. They can influence educational attainment, future employment opportunities, interpersonal relationships and even mental health across generations. Without appropriate interventions, children with ADHD risk carrying unresolved emotional and cognitive burdens into adulthood, thereby contributing to intergenerational trauma and sustained inequalities in quality of life[51].

A child‘s immediate and extended environment including the family, home, peer group, school setting, educators, school staff, the educational system and broader societal influences play a critical role in the manifestation and management of Attention-Deficit Hyperactivity Disorder (ADHD)[45]. Increasing scholarly interest has focused on the role of the family environment, particularly the attachment relationships between children and their caregivers. Some researchers have investigated the link between insecure attachment styles and the development or exacerbation of ADHD symptoms[52]. Their findings indicate that children with ADHD are more likely to develop insecure attachment patterns, particularly when their primary caregivers—often mothers—exhibit insecure or inconsistent attachment behaviors themselves. The study highlighted that children with disordered attachment frequently exhibit attention-related difficulties and externalizing behaviors such as aggression, defiance, and impulsivity. Based on these observations, the authors advocate for incorporating attachment-based strategies and interventions into therapeutic plans for managing ADHD [52].

Hyperactivity is most prominently observed during the preschool years, a developmental period marked by significant behavioral and cognitive milestones. During this stage, children with ADHD often display pronounced impulsivity and struggle to adapt to changes in their environment. This environmental inflexibility can result in social friction, including hostile behaviors towards peers. As children enter primary school, their symptoms may evolve to

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include marked inattentiveness, organizational difficulties and challenges in establishing and maintaining social relationships. These difficulties can make independent learning tasks particularly overwhelming [53]. By the time these children reach secondary school, the academic environment becomes increasingly demanding. At this stage, issues with sustained attention, learning new concepts, time management and executive functioning such as planning, prioritizing, and self-regulation become more pronounced. Despite these challenges, academic outcomes can improve significantly when there is a collaborative effort between parents, educators, and healthcare professionals. Teachers, due to their close and prolonged interactions with students, are often in a unique position to observe early signs of ADHD and are frequently the first to initiate referrals for diagnostic assessment [54].

Diagnosing ADHD is inherently complex. There is no single diagnostic test such as a blood test, imaging scan, or biomarker that can conclusively confirm the presence of the disorder. Even qualified healthcare practitioners can encounter difficulties when assessing ADHD, due to the heterogeneous nature of its symptoms, which may vary according to the individual's age, gender, socio-cultural background and the specific contexts in which symptoms occur[55]. A comprehensive diagnosis requires careful evaluation to determine whether the individual meets established diagnostic criteria, whether symptoms are present across multiple settings (e.g., home, school, or community) and whether these symptoms result in significant functional impairments. Furthermore, clinicians must differentiate ADHD from other medical or psychological conditions that may be present with overlapping symptoms[56]. When left unmanaged, ADHD symptoms can have a profound effect on a child‘s everyday functioning, potentially leading to school refusal, social withdrawal, or involvement in antisocial behaviors.

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Children diagnosed with ADHD often experience a range of comorbid psychiatric and behavioral conditions, such as compulsive behavior, mood instability, anxiety, depression, and oppositional defiant disorder [56]. Poor sleep hygiene is another common concern, as insufficient or irregular sleep can aggravate behavioral symptoms, resulting in heightened emotional dysregulation and attentional impairments during the day. While ADHD is a chronic condition without a definitive cure, a variety of evidence-based interventions are available that can effectively manage symptoms and lead to improvements in academic performance, interpersonal relationships and self-esteem. Parents and educators are central to the successful implementation of such interventions[56].

Two primary modalities of ADHD treatment exist: pharmacological and psychosocial. Pharmacological interventions typically involve the use of stimulant medications (e.g., methylphenidate and amphetamines) or non-stimulant medications (e.g., certain antidepressants and alpha-2 adrenergic agonists)[57]. These medications help regulate neurotransmitter activity in the brain, particularly dopamine and norepinephrine, which are implicated in attention and impulse control. Psychosocial interventions, on the other hand, include behavioral therapy, parent training programs, cognitive-behavioral therapy and psychoeducational support for both the child and their family. These programs help children develop coping strategies and social skills, while also guiding parents on effective ways to manage behavioral issues at home. Parent training models, such as the Antecedent-Behavior-Consequence (ABC) framework, are particularly effective in teaching parents how to reinforce desired behaviors and discourage problematic ones[56].

Awareness and understanding of ADHD have increased globally in recent years, and the disorder

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is now widely recognized as a major contributor to academic underperformance and social difficulties among children and adolescents[58]. Nonetheless, misperceptions and societal stigma remain widespread. Many parents, especially those unfamiliar with neurodevelopmental disorders, often misinterpret ADHD symptoms as deliberate defiance, laziness or a lack of discipline. This misunderstanding can lead to delayed diagnoses and inappropriate management strategies. The age of onset plays a critical role in determining the severity of impairments associated with ADHD. Early-onset ADHD is often linked to greater deficits in academic functioning, social integration, and emotional regulation [58].

Attention-Deficit Hyperactivity Disorder (ADHD) can have far-reaching consequences that extend into adolescence and adulthood. Studies suggest that approximately 20% of children and adolescents globally and at least 10% of the general population, are affected by the disorder at some point in their lives[59]. In Nigeria, despite growing advocacy efforts and the activities of non-governmental organizations, awareness among parents and guardians remains alarmingly low. This knowledge gap can hinder early detection and reduce the effectiveness of intervention strategies [60]. Many students with ADHD struggle to meet the demands of mainstream educational curricula, particularly when their symptoms are exacerbated by negative perceptions from teachers and peers. These challenges underscore the importance of inclusive education practices and the need for widespread public education on the realities of ADHD [60].

Attention-Deficit Hyperactivity Disorder (ADHD) is defined as a chronic neurodevelopmental disorder that primarily affects attention regulation, activity levels, impulse control and executive functioning abilities such as working memory, task initiation, and goal-directed persistence[61]. Children diagnosed with ADHD frequently face academic challenges, often performing below their potential due to difficulties in focusing, completing assignments and following classroom

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instructions[62]. Although much is known about the academic struggles faced by children with ADHD, there remains a lack of practical, accessible information on classroom strategies and intervention techniques that could help these students succeed[63]. Nevertheless, some studies suggest that a positive, supportive relationship with classroom teachers can significantly enhance a child‘s learning experience and behavioral adjustment. Teachers who are trained to recognize ADHD symptoms and who apply evidence-based instructional strategies such as clear routines, positive reinforcement, and structured learning environments can positively influence student outcomes [64].

Furthermore, Attention-Deficit Hyperactivity Disorder (ADHD) is one of the most prevalent neurodevelopmental and behavioural disorders affecting children and adolescents globally. In the United States alone, estimates suggest that between 9.4% and 11% of children aged 2 to 17 have been diagnosed with ADHD. This high prevalence makes it almost certain that every primary and secondary school teacher will encounter at least one student with the disorder in their classroom at any given time[65]. Consequently, it becomes crucial for educators not only to be able to identify the behavioural manifestations of ADHD but also to adopt effective teaching strategies and supportive classroom practices that can accommodate and empower students with this condition.

Attention-Deficit Hyperactivity Disorder (ADHD) is primarily characterised by symptoms of inattention, hyperactivity and impulsivity. These symptoms often interfere with a child's ability to function effectively in school, at home, and in social environments. In addition to these core traits, individuals with ADHD also experience difficulties with executive functioning, which includes skills such as planning, organising, time management, and emotional self-regulation. Clinically, ADHD is classified into three main subtypes: Predominantly Inattentive Presentation

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– marked by a consistent lack of focus, forgetfulness, disorganisation, losing necessary items, frequent daydreaming, and challenges with memory. Predominantly Hyperactive-Impulsive Presentation – characterised by excessive movement, fidgeting, impulsivity, difficulty sitting still, excessive talking, taking unnecessary risks, poor impulse control and difficulty waiting one's turn. Combined Presentation – includes a mixture of both inattentive and hyperactive-impulsive symptoms[65].

Each subtype of ADHD can present unique challenges in the classroom. For instance, students with inattentive-type ADHD may not exhibit overt behavioural issues, which can result in their struggles being overlooked by teachers. These students may appear quiet or withdrawn but are internally grappling with concentration and task completion difficulties. On the other hand, those with hyperactive-impulsive symptoms tend to display more visible disruptions, such as constant movement, blurting out answers, and difficulty waiting in line, which can lead to classroom management concerns[60]. Students with ADHD often face a myriad of academic difficulties. These can include an inability to stay focused on tasks, follow classroom instructions, complete assignments and manage time effectively. They may also struggle with retaining information, organising their work, and transitioning between activities. Socially, they may find it challenging to form and maintain peer relationships due to impulsive or inappropriate behaviour. Defiance, aggression and social awkwardness are not uncommon, especially when these students feel misunderstood or unsupported[65].

Research has shown that tasks perceived as mundane, repetitive, or unengaging tend to exacerbate symptoms of inattention and restlessness in students with ADHD. Consequently, these students may experience chronic academic underperformance, including poor grades, repeated classes, or even dropping out of school. One literature review emphasized that the

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structure and behavioural expectations of the school environment often amplify the challenges faced by students with ADHD. Students have described their classroom experience using words such as ―frustrating,‖ ―overwhelming,‖ and ―restrictive.‖ They also reported feeling unfairly judged or misunderstood by their teachers, leading to a sense of alienation and diminished self-worth[66].

Recognising ADHD in a student can be challenging for teachers due to the wide variability in symptom presentation. ADHD is considered to exist on a continuum, meaning it manifests differently across individuals. Additionally, the presence of comorbid conditions such as learning disabilities, language disorders, anxiety, or oppositional defiant disorder can further complicate the diagnostic picture. Many children with ADHD also meet the criteria for one or more additional mental health disorders, making it even more difficult to isolate and address ADHD-specific behaviours. Moreover, even children who are not formally diagnosed with ADHD may occasionally exhibit similar symptoms, such as restlessness or distractibility, especially under stress or fatigue. These complexities underscore the importance of teacher training in recognising and responding appropriately to ADHD[67].

Emotion regulation is another significant area of impairment for children with ADHD. Many struggle to control their emotional responses, leading to frequent mood swings, frustration, or outbursts in the classroom. Teachers who are not adequately prepared or supported may become easily frustrated, potentially escalating conflicts or inadvertently reinforcing negative behaviours[68]. Attention-Deficit Hyperactivity Disorder (ADHD) symptoms typically manifest before the age of 12 and must persist for at least six months in multiple settings—such as home, school and social environments to warrant a clinical diagnosis. The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), outlines the three previously mentioned

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subtypes of ADHD. Based on DSM-IV criteria, the global prevalence of ADHD among individuals under the age of 18 is estimated to be between 6% and 7%. However, this figure contrasts significantly with prevalence estimates based on the International Classification of Diseases, 10th Edition (ICD-10), which uses stricter diagnostic criteria for what it terms hyperkinetic disorder (a close analogue to ADHD), estimating a prevalence of only 1% to 2% for those under 18 years of age[69].

In sum, ADHD is a chronic, lifelong condition that poses considerable challenges to children's academic achievement, behavioural development and social functioning. While there is currently no cure for ADHD, early identification, a supportive school environment, collaboration with parents and the use of evidence-based interventions can significantly improve outcomes for affected students. For this to happen, it is essential that all stakeholders, such as educators, parents, healthcare professionals and policy-makers work together to build awareness, reduce stigma, and implement effective strategies for support[70].

Variations in the reported prevalence of Attention-Deficit Hyperactivity Disorder (ADHD) across different regions of the world can largely be attributed to methodological inconsistencies. These include differences in assessment criteria, the sources of information used, and the extent to which impairments are factored into the operational definitions of ADHD[71]. These methodological disparities are often cited as the reason why children in the United States appear to have a higher prevalence of ADHD when compared to their peers in African and Middle Eastern countries. It is generally hypothesized that if a standardized methodology were adopted globally applying uniform diagnostic tools, definitions and reporting frameworks the prevalence rates might align more closely across different populations[61].

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In Africa, for instance, the estimated prevalence of ADHD ranges from 5.4% to 8.7%, according to available studies. Comparatively, global prevalence rates demonstrate significant variation: Saudi Arabia reports a range of 2% to 7%, South America exhibits a higher prevalence at approximately 16%, Germany stands at 4.8%, and Ukraine has reported rates as high as 19%. Within Nigeria specifically, limited studies have been conducted, but the prevalence is currently estimated at around 8.7%. These statistics emphasize the global inconsistency in ADHD prevalence, which is often more reflective of diagnostic practices than actual differences in incidence[5].

The underlying causes of ADHD remain not fully understood. However, researchers have identified several potential etiological factors. These include hereditary influences suggesting a genetic predisposition as well as complications during pregnancy, such as maternal stress, exposure to alcohol and tobacco, premature birth and low birth weight. Environmental exposures, like elevated lead levels in the body, and postnatal injuries, particularly those affecting the frontal lobe of the brain, have also been implicated. While there is no definitive cure for ADHD at present, a combination of treatment options has proven effective in managing the disorder. Pharmacological interventions, including stimulant medications and tricyclic antidepressants, have shown considerable success[60]. Additionally, non-pharmacological strategies such as psycho-education, behavioural interventions within classroom settings, and parent training programs in behavioural management play a crucial role in supporting affected children. The hallmark symptoms of ADHD include impulsivity, hyperactivity and inattention. Impulsivity may manifest as difficulty delaying gratification, poor working memory, underdeveloped internal speech, emotional dysregulation, reduced problem-solving flexibility,

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and inconsistent task performance. Typically, the signs of ADHD become apparent between the ages of three and six, with the majority of diagnoses occurring before the age of thirteen. ADHD is a chronic condition, with between 50% and 80% of diagnosed children continuing to experience symptoms into adolescence, and an estimated 10% to 65% persisting into adulthood.

Attention-Deficit Hyperactivity Disorder (ADHD) is recognized as one of the most common neurodevelopmental disorders in children and adolescents. The condition is frequently first identified in childhood and, in many cases, continues to affect individuals into their adult years. It is one of the primary reasons for referrals to psychological and psychiatric services for children. Children with ADHD often find it difficult to maintain focus, regulate their behavior and control impulsive actions. These difficulties can result in excessive physical activity and restlessness, contributing to significant challenges in their psychological and social functioning across home, school and community environments. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), the core features of ADHD are behaviors that disrupt social functioning. These include increased motor activity in inappropriate settings, constant fidgeting or restlessness, excessive talking and other socially intrusive behaviors. Such symptoms can interfere significantly with a child's personal development and academic success[2].

Attention-Deficit Hyperactivity Disorder (ADHD) does not affect all children in the same way. Age and gender play a role in how symptoms present. Boys are more frequently diagnosed with the disorder than girls[3]. Early signs of hyperactivity may not be easily detected until around age four, with symptoms becoming more evident during the primary school years[4]. During early adolescence, the trajectory of ADHD tends to follow a somewhat predictable course. However, research indicates that the nature and prominence of ADHD symptoms evolve with age.

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Hyperactivity, for example, tends to diminish in visibility, even though it may persist in a less obvious form. This underscores the importance of taking a detailed developmental history when diagnosing ADHD, as doing so facilitates a more accurate identification of symptoms and ensures that interventions are appropriately tailored to the individual‘s developmental stage and specific needs[5].

Symptoms of Attention-Deficit Hyperactivity Disorder (ADHD) are commonly observed in school-aged children and, in many cases, continue into adolescence and adulthood[26]. ADHD is primarily defined by a persistent pattern of inattention, hyperactivity, and impulsivity, which interferes with functioning or development. Individuals with inattention often struggle to stay focused, follow through on tasks and maintain organized routines. These individuals may become easily distracted, forgetful and careless in their schoolwork, occupational duties, or other responsibilities that require sustained attention[6]. On the other hand, hyperactivity manifests as excessive physical movement, fidgeting, or restlessness, especially in situations where calm behavior is expected. Impulsivity may appear as hasty actions without forethought, difficulty waiting for turns, or frequent interruptions during conversations or activities, indicating a lack of self-regulation.

Research shows that ADHD is more frequently diagnosed in boys than girls, with boys being approximately three times more likely to receive a diagnosis. According to Rucklidge's findings, the expression of ADHD varies by gender. Boys typically exhibit more externalizing symptoms, such as disruptive behaviors, physical aggression, hyperactivity, and impulsive outbursts. In contrast, girls are more likely to display internalizing symptoms, such as inattentiveness, low self-esteem, and withdrawal. Rather than acting out, girls may internalize their frustrations and emotional struggles, putting them at greater risk of experiencing co-occurring mental health

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conditions like depression, anxiety and eating disorders. Girls‘ symptoms are often less visible, which can contribute to underdiagnosis or misdiagnosis[9].

The causes of ADHD are multifaceted, involving both genetic and environmental factors. Genetic predisposition plays a critical role, with evidence showing that ADHD often runs in families. Environmental risk factors during pregnancy such as maternal smoking, exposure to alcohol or drugs, high blood pressure (including preeclampsia), obesity, and premature delivery have also been associated with increased ADHD risk. Furthermore, substance abuse within the family has been linked to the development of ADHD in children, underlining the complex interplay between heredity and environment[9].

Diagnosing ADHD is not straightforward and cannot be done through a single test. Instead, it involves a comprehensive, multi-step process that includes collecting a detailed behavioral history from multiple sources, such as parents, teachers, and sometimes the child. Diagnostic tools typically include behavior rating scales and structured interviews aligned with standard diagnostic criteria, such as those outlined in the DSM (Diagnostic and Statistical Manual of Mental Disorders). This holistic approach ensures that diagnoses are made based on consistent patterns of behavior observed across various settings over time[71].

Numerous studies have aimed at determining the prevalence of ADHD using different diagnostic standards. For instance, one study involving 484 pupils utilized both the DSM-IV criteria and neuropsychological assessments to evaluate ADHD prevalence. It revealed a notable discrepancy in results: 18% met the DSM-IV criteria, while only 3.5% qualified under neuropsychological standards. Another study by Shabani and colleagues examined 428 elementary school pupils and found a prevalence rate of 4.9%. In Nigeria, a national survey focusing on children aged 7 to 12

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years reported that 8.7% had ADHD, with the inattentive subtype being the most common at 4.9%, followed by the combined subtype at 2.6% and the hyperactive/impulsive subtype at 1.2%. Similarly, research in Tunisia indicated that 18.1% of children were affected by ADHD, highlighting significant variations in prevalence across different countries[61].

Attention-Deficit Hyperactivity Disorder (ADHD) is also prevalent among adolescents. In a study exploring the prevalence of chronic conditions in individuals aged 12 to 18 with mental disabilities, ADHD emerged as the most frequently diagnosed disorder. Another study conducted by Maulov et al. assessed 210 Lebanese adolescents aged 11 to 17 and reported a prevalence rate of 10.2%. These variations in ADHD prevalence are often due to inconsistencies in the diagnostic methods used, cultural perceptions of behavioral norms, and sample characteristics. To this effect, many researchers emphasize the importance of employing uniform diagnostic frameworks when estimating ADHD prevalence across diverse populations[70].

Attention-Deficit Hyperactivity Disorder (ADHD) is classified as a neurobiological and developmental disorder specifically, a neurodevelopmental condition characterized by inappropriate levels of inattention, impulsivity, and hyperactivity for a child's developmental stage. Globally, prevalence estimates among children range between 3% and 7%, though figures can vary based on diagnostic criteria and sample demographics. Children diagnosed with ADHD often face a range of challenges that affect their academic, social and emotional development. These include learning difficulties, negative self-perception, frequent frustration, and an increased risk of emotional disorders such as depression[72].

Attention-Deficit Hyperactivity Disorder (ADHD) not only affects the individual child but also imposes considerable stress on families, educators and the broader social environment. The core

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symptoms disrupt children's ability to form stable relationships, regulate emotions and function effectively in structured settings like schools. As a result, ADHD can hinder the development of essential social, emotional and cognitive skills, ultimately impairing a child‘s academic and social success. Furthermore, the disorder contributes to significant financial burdens on healthcare and educational systems due to the need for ongoing interventions, support services, and specialized educational plans[73].

In educational settings, teachers often play a pivotal role in the early identification of ADHD symptoms. Since they interact with children in structured environments where attentiveness, behavioral control and task completion are expected, teachers are usually among the first to recognize patterns of inattention, hyperactivity, or impulsivity. So, they are instrumental in initiating referrals to health professionals for formal evaluation and diagnosis. Their role in early detection, ongoing support, and collaboration with families and clinicians is critical in ensuring that affected students receive timely and effective interventions[74].

2.1.2 Impacts of Attention-Deficit Hyperactivity Disorder

In addition to the behavioral challenges commonly associated with Attention-Deficit Hyperactivity Disorder (ADHD), children with attention difficulties particularly those in elementary school often face significant academic disadvantages[75]. These academic struggles are not limited to early schooling but frequently persist into adolescence and high school. Research indicates that attention-related problems can profoundly disrupt educational attainment. Children with ADHD are more likely to experience setbacks such as having to repeat a grade, scoring lower on standardized assessments in core subjects like Reading and Mathematics, and demonstrating reduced engagement and participation in classroom activities. These negative academic outcomes may be partially attributed to the expectations teachers hold for these

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students. When educators perceive students with ADHD as less capable or more disruptive, it may inadvertently influence the level of academic support and encouragement provided, thereby reinforcing a cycle of low achievement[75].

Further compounding these challenges is a study that has shown that core ADHD symptoms especially impulsivity and inattention are associated with increased conflict between students and teachers. These strained relationships, in turn, tend to diminish students‘ emotional and cognitive engagement with school. When students feel misunderstood or alienated, their motivation and academic self-concept can suffer, leading to decreased academic performance and reduced classroom competence. Thus, the emotional climate within the classroom and the nature of student-teacher interactions play critical roles in shaping the academic outcomes of students with ADHD[76].

However, not all findings paint a bleak picture. Emerging research suggests that children with ADHD can thrive academically and socially when equipped with appropriate coping strategies and interpersonal skills. In one notable study, students with ADHD who possessed strong social skills reported higher levels of resilience and resourcefulness. These students were better able to build positive peer relationships, seek help when needed, and navigate social situations effectively. Moreover, they perceived themselves as more behaviorally competent in the classroom than their peers with ADHD who lacked such skills. These findings underscore the importance of social competence as a protective factor in the academic and emotional development of children with ADHD. Teaching social-emotional skills, such as empathy, self-awareness, conflict resolution and help-seeking behavior, may therefore serve as an effective intervention to improve classroom adjustment and academic success among these students[77].

Despite this potential, many children with ADHD continue to fall behind academically. Although

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the academic difficulties of students with ADHD are well-documented, there remains a significant gap in understanding how best to prevent these outcomes and support these learners effectively. One promising strategy involves fostering a positive and supportive relationship between teachers and students with ADHD. When teachers demonstrate empathy, patience, and understanding particularly by recognizing and appropriately responding to ADHD-related behaviors students are more likely to feel supported and perform better academically. This highlights the critical role that teachers play in influencing the educational trajectory of children with ADHD[77].

Unfortunately, global research consistently reveals that many teachers lack adequate knowledge and training about ADHD. This gap in understanding not only impairs teachers‘ ability to manage ADHD-related behaviors but also hinders their capacity to create inclusive, supportive classroom environments. For example, a study conducted in the United Kingdom found that teachers expressed a strong desire for more comprehensive training on ADHD. They believed that enhanced knowledge would enable them to better understand the underlying causes of students' behaviors, identify specific behavioral triggers, and tailor classroom strategies to meet individual needs. Increased understanding could also foster greater empathy toward students with ADHD, leading to improved teacher attitudes and interactions[78].

Interestingly, the United Kingdom study revealed that many teachers held ambivalent attitudes toward students with ADHD. They were aware of their mixed feelings, often torn between frustration and compassion, which may not always align with their professional intentions. This awareness, however, can be viewed as an opportunity for growth. Recognizing these conflicting attitudes could serve as a first step toward encouraging teachers to pursue further professional

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development, including specialized training in ADHD management. Addressing this ambivalence directly, through reflective practices and evidence-based training, could help educators transform their attitudes and approaches, ultimately benefiting students with ADHD both academically and emotionally[79].

Since the early 20th century, educational theorists, pedagogues, reformers and practitioners across the globe have consistently advocated for education systems that are inclusive, equitable, and reflective of the diverse values, cultures, and ideologies within society. This advocacy laid the foundation for various educational models and theoretical approaches aimed at fostering broader access to learning opportunities for students with special needs. One of the key goals has been to enable these learners to be educated alongside their peers within mainstream classrooms, irrespective of the challenges they face. The inclusive education movement thus promotes the idea that all children, regardless of their physical, cognitive, or behavioral differences, deserve the chance to learn, grow, and interact within the same educational environment as their age-mates[80].

While inclusion has been conceptualized from various academic and ideological perspectives, a shared principle underlies all interpretations: meaningful inclusion can only flourish in educational settings that are open and accepting of diverse learners. Schools must be environments that accommodate and embrace variability among students, rather than treat it as an exception. In addition, it is widely recognized, particularly in policy frameworks in many countries, that the involvement of parents and guardians is vital to the success of inclusive education. Their participation not only helps tailor educational strategies to individual needs but also supports the larger goal of societal change by fostering empathy, awareness and community

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engagement around inclusion[82]. Beyond the social justice rationale, some researchers take a more critical stance against segregating students with special educational needs. They argue that placing these students in separate educational tracks is not only ineffective but can also be psychologically and socially damaging. Such segregation can contribute to stigmatization, limit students‘ access to enriching peer interactions, and reinforce exclusionary societal norms. Consequently, inclusion policies have led to a marked rise in the enrollment of students with diverse learning needs—especially those diagnosed with Attention-Deficit Hyperactivity Disorder (ADHD) within general education classrooms[81]. This shift in educational practice places new demands on classroom teachers, who are now expected to design and implement differentiated instructional strategies that cater to a wide range of learning profiles. Differentiated instruction involves modifying teaching methods, assignments, assessments and classroom environments to ensure that all students, including those with ADHD, are engaged meaningfully in learning. By employing flexible teaching practices and creating varied learning experiences, teachers strive not only to meet academic goals but also to fulfill the core objectives of inclusive education[82].

However, this transition has not been without its shortcomings. Like many educational reforms introduced from the top-down, the push for inclusion was implemented with limited practical support for the educators who were expected to carry it out. In many instances, governments and educational authorities mandated new policies without providing sufficient training, professional development, or emotional support for in-service teachers. The lack of structured implementation plans or long-term strategies has left many educators unprepared and, at times, resistant to change. Research suggests that successful inclusion is closely linked to teachers‘ attitudes and beliefs particularly their confidence in the ability of students with special needs to learn and

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succeed. Yet, without opportunities to deepen their understanding and reshape their attitudes, many teachers struggle to adopt inclusive practices effectively[82].

Attention-Deficit Hyperactivity Disorder (ADHD) is among the most frequently diagnosed and persistent neurodevelopmental disorders, typically manifesting in early childhood and often continuing into adolescence and adulthood. The disorder can significantly impair a person's functioning across all domains of life including academic performance, peer relationships, and family dynamics and can also have a ripple effect on those around them, such as parents, siblings and teachers. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), ADHD is marked by enduring patterns of inattention, hyperactivity, and impulsivity. The severity of the disorder may range from mild to moderate or severe, depending on the extent to which symptoms interfere with everyday functioning[83].

Within general education classrooms where students with varying cognitive abilities, talents, and needs are taught together, learners with ADHD pose unique instructional and behavioral challenges. ADHD is not just a behavioral disorder but also a condition that affects learning and classroom engagement. Students with ADHD often struggle with core areas such as regulating attention and controlling impulses. Those with attention regulation difficulties may appear easily distracted, talk excessively, or frequently interrupt conversations without recognizing the social implications of their actions. Those with poor impulse control may fidget constantly, find it hard to remain seated, and have difficulty waiting their turn or managing frustration[83].

In addition to these overt behaviors, students with ADHD often face internal challenges that are less visible but equally disruptive to learning. They may find it hard to filter out background noise or irrelevant stimuli, making it difficult to focus on the task at hand. These students

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frequently struggle to sustain attention for extended periods, manage their time effectively, or maintain the stamina required for long academic tasks. Multitasking becomes a significant hurdle and even simple routines can feel overwhelming. Moreover, their difficulties with social interactions such as reading social cues, managing emotions, or responding appropriately to peers can hinder relationship-building and contribute to feelings of isolation or frustration[84].

Given these complexities, it is crucial that educators not only recognize the manifestations of ADHD but also develop classroom strategies that foster success for these learners. This might include providing structured routines, using visual aids and hands-on activities, offering frequent breaks, simplifying instructions, or creating opportunities for positive peer interactions. When combined with greater awareness, empathy and professional support, these interventions can transform inclusive classrooms into supportive environments where students with ADHD are empowered to learn, thrive and reach their full potential[84].

A significant number of students today are diagnosed with Attention-Deficit Hyperactivity Disorder (ADHD), making it one of the most common neurodevelopmental disorders affecting children globally. Research has indicated that ADHD impacts approximately 3% to 5% of children worldwide. This prevalence means that in a typical classroom of 20 to 30 students, at least one child is likely to have ADHD. Consequently, it becomes imperative for educators to recognize their vital role in supporting these students. Teachers must adapt their instructional strategies, classroom management techniques, and learning environments to accommodate the unique needs of learners with ADHD[85].

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This necessity presents an ongoing challenge in elementary education, where students with ADHD often face continuous academic struggles throughout their educational journey. These struggles may manifest in various forms, such as difficulties with maintaining attention during lessons, completing assignments, following multi-step instructions, or organizing their schoolwork effectively. Despite these challenges, it is important to clarify a common misconception—ADHD does not equate to a lack of intelligence. In fact, many students diagnosed with ADHD possess above-average intelligence or IQ levels. Their learning difficulties are more closely related to impairments in executive functioning and self-regulation rather than cognitive ability[85].

Children with ADHD often exhibit difficulties in fundamental cognitive processes such as attention control, impulse regulation and working memory. These challenges extend beyond the classroom and are evident in social interactions, daily routines and family environments. Typical symptoms include inattention, forgetfulness, difficulty completing tasks and non-compliance with instructions. In the school setting, these students may frequently fail to turn in assignments, lose materials necessary for tasks, or appear disinterested in classroom activities. Their behavior can also be disruptive manifesting in an inability to stay seated during lessons, constantly shifting from one task to another, speaking out of turn, or talking excessively[84]. These behaviors are not deliberate acts of defiance but rather symptoms stemming from the neurodevelopmental nature of ADHD.

Another observable symptom in students with ADHD is their tendency to impulsively blurt out answers or speak without being prompted, which can interfere with class discussions and peer collaboration. These impulsive behaviors often reflect a lack of inhibition and difficulty with

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self-monitoring, which are hallmark features of the disorder. It‘s also important to understand that these behaviors can vary widely across settings. For instance, a child might struggle with attention in a structured classroom environment but display greater focus during physical activities or unstructured play. According to the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), for a diagnosis of ADHD to be made, symptoms must appear before the age of 12 and must be present in more than one setting such as at home, school or in social situations[85].

Attention-Deficit Hyperactivity Disorder (ADHD) is commonly identified in early childhood, its symptoms often persist into adolescence and adulthood. Adolescents with ADHD may face increased academic pressures, social demands and emotional challenges, which can exacerbate the impact of the disorder. For this reason, early diagnosis and intervention are crucial in helping these students develop effective coping mechanisms, organizational skills and adaptive strategies[85].

Epidemiological studies have revealed a significant rise in the diagnosis of ADHD over the past two decades. This increase may be attributed to heightened awareness, improved diagnostic practices and broader diagnostic criteria, but it also underscores the growing need for schools to implement inclusive practices and evidence-based interventions. Teachers, administrators and policymakers must work collaboratively to ensure that educational systems are equipped to support the diverse learning needs of all students including those with ADHD through adequate teacher training, classroom accommodations and ongoing support services. In summary, ADHD remains a prevalent and impactful condition in the educational landscape. While students with ADHD face distinct learning and behavioral challenges, they also possess the potential to

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succeed academically when provided with the right supports. It is essential that schools prioritize early identification, foster teacher preparedness, and cultivate learning environments that are responsive, inclusive and attuned to the needs of neurodiverse learners[86].

2.1.3 Types of ADHD and Their Behavioural Manifestations

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), identifies three subtypes of ADHD based on the predominant symptoms: Predominantly Inattentive Presentation (formerly known as ADD), Predominantly Hyperactive-Impulsive Presentation, and Combined Presentation. Each subtype presents distinct behavioural patterns[11].

Predominantly Inattentive Presentation (ADHD-I): This type of ADHD is marked by symptoms of inattention without the hyperactivity and impulsivity often associated with ADHD. Individuals with ADHD-I may seem day dreamy, sluggish, or "in their own world." They may have trouble keeping track of belongings, lose focus during conversations or tasks, and forget instructions. The behavioural dysfunctions in this subtype often lead to academic underachievement and difficulties in managing daily responsibilities, such as completing homework, household chores, or job tasks. Because these individuals do not exhibit overt hyperactive or impulsive behaviours, they may be overlooked or misdiagnosed[14].

Predominantly Hyperactive-Impulsive Presentation (ADHD-HI): ADHD-HI is characterised by symptoms of hyperactivity and impulsivity without significant inattention. These individuals may struggle to sit still, talk excessively and interrupt others. In younger children, behaviours such as running around in inappropriate settings or being unable to play quietly are common. Adults with ADHD-HI may experience a sense of restlessness or engage in impulsive behaviours such as reckless driving, frequent job changes or substance use. Behavioural dysfunctions in this

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subtype can result in social difficulties, as impulsive actions and hyperactive behaviour often alienate peers, friends, or colleagues and they might find it difficult to hold marital relationship together[23].

Combined Presentation (ADHD-C): ADHD-C involves a combination of symptoms from both the inattentive and hyperactive-impulsive types. Individuals with ADHD-C often struggle with inattention, hyperactivity and impulsivity, leading to significant dysfunction across multiple domains. Behavioural dysfunctions in ADHD-C include academic under achievement, social rejection and difficulties in maintaining employment. The combination of these symptoms can lead to more severe behavioural problems, including oppositional defiant behaviours, aggression, and comorbid mental health disorders[35].

In childhood, ADHD is often marked by overt hyperactivity, impulsivity and inattentiveness. Children may have difficulty following classroom rules, completing assignments or maintaining positive peer relationships. They may be described as disruptive, inattentive, or "always on the go." Behavioural dysfunctions during this stage can lead to academic difficulties, as children with ADHD often perform below their intellectual potential due to difficulty in focusing, completing tasks, or following instructions. Social dysfunctions are also common, as impulsive and hyperactive behaviours can make it challenging for these children to form and maintain friendships. Behavioural problems, such as temper outbursts, defiance and aggression, may also be observed, especially in boys[48]. During adolescence, symptoms of hyperactivity may decrease, but inattention and impulsivity often persist. Adolescents with ADHD may struggle with academic responsibilities, such as keeping up with schoolwork or preparing for exams. Behavioural dysfunctions during this period often include procrastination, poor time

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management and difficulty setting priorities. Socially, adolescents with ADHD may experience difficulties in forming and maintaining relationships due to impulsive behaviours or a tendency to be distracted during conversations. Impulsivity may lead to risky behaviours, including substance use, reckless driving and engagement in dangerous activities. Emotional dysregulation, including mood swings and frustration, is also common, which then contributes to social isolation or conflicts with family members, teachers or peers[34].

In adulthood, the hyperactive symptoms of ADHD often become less noticeable, whereas inattention, impulsivity and executive dysfunction continue to cause difficulties. Behavioural dysfunctions in adults with ADHD include problems with organisation, time management, decision-making, and maintaining employment. Adults may struggle to manage complex tasks or follow through on long-term goals, leading to chronic underachievement or job instability. Impulsivity may lead to financial problems, as individuals with ADHD may make rash decisions, such as impulsive purchases or investments. Social and emotional difficulties, including strained relationships and emotional outbursts, often persist into adulthood. Adults with ADHD are also at an increased risk for developing comorbid psychiatric conditions, including depression, anxiety and substance use disorders[26].

The behavioural dysfunctions seen in ADHD have a strong neurobiological basis. ADHD has been associated with abnormalities in several brain regions, including the prefrontal cortex, basal ganglia and cerebellum, which are critical for executive functioning, impulse control, and attention regulation. Neuroimaging studies have revealed that individuals with ADHD often exhibit reduced activity in these areas, leading to deficits in working memory, cognitive flexibility, and inhibitory control key functions that contribute to the behavioural dysfunctions

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observed in the disorder[22]. The prefrontal cortex plays a critical role in executive functions, such as planning, decision- making, and impulse control. Individuals with ADHD often exhibit deficits in these areas, leading to difficulties in organizing tasks, making thoughtful decisions and inhibiting impulsive behaviours. Neuroimaging studies have shown reduced activation and connectivity in the prefrontal cortex of individuals with ADHD, which may explain the behavioural dysfunctions related to executive functioning and self-regulation[12].

The basal ganglia are involved in motor control, behaviour regulation, and reward processing. Dysfunction in this area has been linked to the hyperactive and impulsive behaviours seen in ADHD. Reduced activity in the basal ganglia may contribute to the inability to modulate motor activity, leading to fidgeting, restlessness and an "on-the-go" feeling. Additionally, the basal ganglia are involved in the brain's reward system and dysfunction in this area may explain why individuals with ADHD often seek immediate gratification and engage in impulsive or risk-taking behaviours[18].

The cerebellum, traditionally associated with motor coordination, has also been implicated in the regulation of attention and executive functioning. Dysfunction in the cerebellum may contribute to the poor coordination of cognitive and behavioural responses, leading to difficulties in sustaining attention, planning, and executing tasks. Reduced volume and activity in the cerebellum have been observed in individuals with ADHD, thus, further supporting the neurobiological underpinnings of behavioural dysfunction in the disorder[22].

2.1.4 Effects of Attention-Deficit Hyperactivity Disorder (ADHD)

Executive Function Deficits: ADHD is frequently associated with deficits in executive functioning, which refers to higher-order cognitive processes such as planning, organizing,

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problem-solving and decision-making. Executive dysfunction in individuals with ADHD often manifests as difficulties in initiating and completing tasks, managing time and shifting between tasks or cognitive sets. An author emphasised that deficits in executive function are foundational to the challenges individuals with ADHD face[80], as these deficits directly impair their ability to regulate behaviour and emotions and to organize thoughts and actions in a goal-directed manner. Executive dysfunction leads to difficulties with multitasking, goal-setting and self-regulation, all of which are critical for academic and occupational success[16].

Working Memory Impairments: Working memory refers to the ability to hold and manipulate information over short periods. Individuals with ADHD often exhibit impairments in working memory, which are closely related to the inattention and disorganisation that characterise the disorder. Research found that children and adults with ADHD showed significant deficits in both verbal and visual-spatial working memory tasks. These deficits in working memory can make it difficult for individuals to follow multi-step instructions, retain information during problem-solving tasks, or complete academic assignments[87].

Attention Deficits: Attention regulation is a core deficit in ADHD. Individuals with ADHD typically struggle with sustaining attention, particularly on tasks that require prolonged mental effort or are perceived as uninteresting. This is often referred to as a "deficit in sustained attention" or "vigilance"[88]. Individuals may appear easily distracted, fail to complete tasks, or frequently shift focus from one activity to another. Selective attention, or the ability to focus on relevant stimuli while ignoring distractions, is also impaired in ADHD. This attentional dysregulation can profoundly affect academic performance, as individuals may struggle to concentrate during class, retain information from lectures, or focus on reading or writing

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assignments[87].

Processing Speed: Individuals with ADHD may also exhibit slower processing speeds compared to neurotypical peers. Processing speed refers to the ability to quickly and efficiently perform cognitive tasks. Studies have consistently shown that individuals with ADHD, particularly those with the inattentive subtype, tend to perform more slowly on timed tasks, including those that require reading, mathematical problem-solving, or memory retrieval[20]. This slower cognitive tempo can contribute to academic underachievement, as individuals with ADHD may take longer to complete homework or exams[22].

Response Inhibition: Impairments in response inhibition is the ability to suppress inappropriate or non-relevant responses are central to the hyperactive-impulsive symptoms of ADHD. Response inhibition is crucial for self-control and the ability to delay gratification. Studies have demonstrated that individuals with ADHD perform poorly on tasks requiring inhibitory control, such as the Stop-Signal Task, compared to control groups[27]. These deficits can lead to impulsive behaviours, such as interrupting conversations or making hasty decisions, which in turn affect social interactions and academic or occupational performance.

2.1.5 Behavioural Dysfunction

The term behavioural dysfunction refers to persistent patterns of maladaptive behaviour that deviate from expected norms (social, cognitive, or emotional norms) and impair an individual‘s adaptive functioning (American Psychiatric Association [APA], 2022). Such dysfunctions may manifest as disinhibited compulsive, aggressive or withdrawn behaviours. They are central features of a range of psychiatric and neurological conditions, including attention-deficit hyperactivity disorder (ADHD), obsessive-compulsive disorder (OCD), mood disorders and

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personality disorder (King & Sloan, 2019).

Behavioural dysfunction represents a core feature of various psychological and neurodevelopmental disorders. It encompasses maladaptive or abnormal behavioural patterns that interfere with social, occupational and emotional functioning. Evidence from neuroscience and psychology suggests that behavioural dysfunction arises from an interaction between biological vulnerabilities and environmental stressors, mediated by deficits in executive functioning and emotion regulation. Understanding behavioural dysfunction is crucial for the early identification, prevention and treatment of psychopathology. Advances in neuroscience, cognitive psychology and behavioural science have revealed that these dysfunctions result from complex interactions between genetic, neurobiology and environmental factors.

Among the various forms of behavioural dysfunction, as aforementioned, Attention-Deficit Hyperactivity Disorder (ADHD) stands out as one of the most prevalent and well-researched neurodevelopmental disorders that directly manifests through behavioural irregularities such as inattention, hyperactivity and impulsivity. ADHD provides a concrete framework for understanding how brain-based dysfunctions translate into maladaptive behaviour patterns.

Also, social dysfunction is a significant consequence of ADHD-related behavioural problems. Children with ADHD often exhibit disruptive behaviours in the classroom, such as talking out of turn, failing to follow instructions and engaging in physical restlessness, which can lead to negative feedback from teachers and peers[97]. Over time, these behaviours contribute to difficulties in forming and maintaining friendships. Research shows that children with ADHD are more likely to be rejected by their peers and less likely to have close friends compared to their neurotypical counterparts[97]. Emotional dysregulation, another common aspect of ADHD,

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contributes to aggressive behaviours, which further strain social relationships. The inability to modulate emotions leads to frequent outbursts of anger or frustration, especially in situations where the individual is expected to wait or comply with rules (Martel, 2009). This emotional volatility not only affects peer relationships but also family dynamics, often leading to conflicts with parents and siblings[97]. The behavioural dysfunction associated with ADHD is multifaceted, affecting individuals across multiple domains of functioning, including social relationships, academic performance, and occupational success. These dysfunctions are rooted in the underlying neurobiological and psychological deficits characteristic of the disorder, including executive function impairments, delay aversion and emotional dysregulation. ADHD is a chronic condition that can lead to long- term negative outcomes, particularly when left untreated or when comorbid conditions are present[95].

Early intervention and a multimodal treatment approach, combining medication, behavioural therapy, and social skills training, are essential for mitigating the impact of behavioural dysfunction in individuals with ADHD. Moreover, ongoing research into the neurobiological mechanisms of ADHD and the development of novel therapeutic approaches holds promise for improving outcomes and enhancing the quality of life for those affected by this disorder. Children diagnosed with ADHD demonstrate a wide range of dysfunctional behaviours that vary in severity and form. Understanding these behaviours is crucial for educators, parents, and clinicians aiming to provide effective support and intervention.

Inattention is one of the hallmark symptoms of ADHD. Pupils with ADHD struggle to maintain focus on tasks that require sustained mental effort, particularly in academic settings. This characteristic is typically manifested in various ways, including:

Distractibility: These pupils are easily distracted by external stimuli, such as noise, movement,

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or activities in the classroom. Their attention is often drawn to irrelevant stimuli rather than concentrating on the task at hand[98].

Difficulty sustaining attention: ADHD students may begin a task with interest but are unable to maintain focus long enough to complete it. This difficulty is particularly evident in tasks which they perceive as being boring or repetitive, such as classwork or homework[93].

Careless mistakes: Because of their inability to focus on details, pupils with ADHD often make careless mistakes in their schoolwork, which impacts their academic performance[95].

Forgetfulness: These pupils frequently forget to complete assignments, bring necessary materials to class, or recall instructions given by teachers. This forgetfulness can cause frustration among teachers and peers alike[99].

Hyperactivity is another core symptom, often observable in younger children with ADHD. This characteristic is typically exhibited as:

Excessive movement: Pupils with ADHD may be unable to remain seated for extended periods and often fidget, squirm, or leave their seats at inappropriate times. They may be observed running or climbing in situations where it is inappropriate[16].

Talkativeness: These pupils may talk excessively and interrupt conversations. In a classroom setting, this can disrupt not only their learning but also that of others.

Restlessness: Even when physically constrained (e.g., during seated activities), students with ADHD exhibit signs of internal restlessness, which makes it difficult for them to remain still and focused[15]. Hyperactivity often diminishes as children grow older, but the internal sensation of restlessness can persist into adolescence and adulthood, leading to difficulties in task persistence. Impulsivity, the tendency to act without considering the consequences, is a key component of ADHD and is linked to both behavioural and emotional regulation difficulties[18].

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Impatience: Pupils with ADHD tend to have difficulty waiting for their turn in group activities or class discussions, which can frustrate both teachers and peers. They may blurt out answers or interrupt others frequently.

Risk-taking behaviour: In more severe cases, impulsive behaviours extend to risk-taking, where the child engages in dangerous or inappropriate activities without considering the potential harm or negative outcomes[19].

Difficulty following rules: Because of impulsivity, pupils with ADHD may struggle to adhere to classroom rules, such as raising their hand to speak or following structured routines. This often leads to disciplinary actions, further alienating them from their peers and teachers.

Children with ADHD often exhibit deficits in executive functioning, which is the set of cognitive processes that regulate behaviour, emotions and thinking. These deficits can be linked directly to the observed behavioural dysfunctions:

Working memory impairments: Pupils with ADHD struggle with holding and processing information in their mind over short periods. This contributes to their forgetfulness and difficulty following multi-step instructions[100].

Poor organisational skills: These pupils often have trouble organizing their materials, workspaces, or time. As a result, they frequently lose things necessary for tasks and have difficulty keeping track of their homework or upcoming deadlines.

Deficient planning skills: The inability to plan and prioritize tasks is another common issue. Pupils with ADHD may procrastinate or fail to break larger tasks into manageable steps, leading to incomplete work or last-minute rushing[101].

2.1.6 Effects of Attention-Deficit Hyperactivity Disorder on Behaviour

Behavioural dysfunction in ADHD is characterised by impulsivity, hyperactivity and difficulty

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with self-regulation. These behavioural patterns often interfere with an individual's ability to function effectively in academic, occupational, and social settings.

Impulsivity and Risk-Taking Behaviour: Impulsivity is a core feature of ADHD and manifests in behaviours that are poorly thought-out or risky. Individuals with ADHD may engage in activities without considering the consequences, such as interrupting others, making hasty decisions, or engaging in reckless driving or substance use. Impulsivity can lead to difficulties in academic and occupational settings, where careful planning and attention to detail are required. It can also contribute to interpersonal conflicts, as individuals may struggle to wait their turn in conversations or activities[12].

Hyperactivity and Restlessness: Hyperactive behaviour, such as excessive talking, fidgeting, or an inability to sit still, is particularly evident in children with ADHD but may persist into adulthood in the form of restlessness or a constant need for activity. Hyperactivity can be disruptive in classroom or work environments, where individuals may have difficulty sitting through meetings, lectures, or focused work sessions. While hyperactivity tends to diminish with age, adults with ADHD often report feeling internally restless, which can lead to difficulties in relaxing or enjoying downtime[15].

Disruptive Behaviour and Oppositionality: Children with ADHD, particularly those with the combined presentation, may exhibit disruptive or oppositional behaviour. This includes difficulty following rules, defying authority figures, or acting out.

2.1.7 Emotional and Social Dysfunction in Pupils with ADHD

Emotional dysregulation is a common issue for children with ADHD, often manifesting as an inability to control emotional responses appropriately. These pupils may experience intense frustration, anger, or emotional outbursts when faced with challenging[102]. Pupils with ADHD

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may have difficulty managing their emotions, leading to overreaction to minor provocations or stressors. The inability to tolerate frustration often results in frequent tantrums, crying, or anger in response to seemingly trivial problems, particularly when tasks become challenging. Rapid mood changes are common, where the pupil might shift from happiness to sadness or irritability quickly and unpredictably[103].

Pupils with ADHD tend to struggle with social relationships due to their impulsive behaviours, emotional volatility, and lack of awareness of social norms. Due to impulsive behaviours (e.g., interrupting or being physically intrusive), these children often experience rejection from their peers. They may come across as "annoying" or "overbearing," leading to isolation or bullying. Many pupils with ADHD have difficulty recognizing and responding appropriately to social cues, such as body language or tone of voice, which hinders their ability to form meaningful friendships (Hoza, 2007). In some cases, the frustration and impulsivity experienced by ADHD pupils may manifest in aggressive or oppositional behaviours, further straining peer relationships.

2.1.8 Academic Impact of Behavioural Dysfunction in ADHD

The behavioural dysfunctions associated with ADHD significantly affect a pupil's academic performance. Studies have shown that pupils with ADHD tend to have lower academic performance compared to their peers. This is due to their inability to focus, their forgetfulness, and their tendency to make careless mistakes[104]. There is a strong correlation between ADHD and specific learning disabilities, such as difficulties with reading or Maths. These academic challenges are often exacerbated by the executive functioning deficits that pupils with ADHD experience[24]. Pupils with ADHD are more likely to miss school due to disciplinary actions, social difficulties, or mental health challenges. Over time, this can lead to disengagement from

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school and higher dropout rates[102]. Pupils with ADHD exhibit a wide range of behavioural dysfunctions, including inattention, hyperactivity, impulsivity, executive functioning deficits, emotional dysregulation and social difficulties. These characteristics significantly impact their academic performance and social interactions, often leading to negative outcomes if not properly managed. Early identification and intervention, including behavioural therapy, medication and classroom accommodations, are essential to mitigate these effects and help pupils with ADHD succeed in both academic and social environments[12].

2.1.9 School Involvement

School involvement has typically been described as a multidimensional construct, often comprising an affective, cognitive, and behavioural component[105]. However, grounding on work-related engagement[22], school involvement has recently also been described as a more focused construct, emphasizing the affective component of school involvement by describing the students‘ psychological engagement in greater detail. In this framework, school involvement is defined as a cognitive-affective state defined as a positive, fulfilling, study-related state of mind comprising three components: energy, dedication, and absorption[1]. Energy is characterised by high levels of vigour while studying, interest and willingness to invest in schoolwork, as well as having effective strategies for coping with difficulties.

Dedication is described as having positive cognitive attitudes towards school and being dedicated to learning processes and outcomes, while absorption implies feelings of competence and being fully concentrated and involved in one‘s studies. These dimensions are separate constructs, but highly correlated with each other[3]. It has been suggested that among younger students, the sub-dimensions of school involvement are better described as an overall involvement construct, whereas later, for example, among university students, they seem to become more separated[33].

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Also, school involvement refers to feelings of closeness to people at school, fostering happiness, and belonging at school and is a promotive factor for several positive outcomes in youth from higher educational motivation to better school attendance[11].

Youth who are higher in school involvement exhibit better academic outcomes and less delinquent peer relationships[4]. Moreover, youth who are higher in school connectedness also exhibit better emotional and behavioural health, indicated by lower rates of delinquency, increased academic motivation, and less emotional distress[4]. There is promising evidence that school involvement may also have important implications for self-regulation skill uptake in school settings. For example, school involvement is associated with higher rates of classroom participation, suggesting that school involvement may promote student engagement and motivation to learn. If students are already bought into the school community and academics, they may more likely engage in skill uptake. Especially given that the same instructors and counsellors who already administer academic content are the ones teaching and encouraging self-regulation skills[12]. Schools play a pivotal role in shaping the mental health and overall well-being of young people. As most adolescents are enrolled in educational institutions spending increasing amounts of time particularly during secondary and higher education years, schools become not only centers of learning but also crucial platforms for mental, emotional, and social development. This trend of prolonged educational participation is not limited to high-income countries; even in low- and middle-income countries (LMICs), adolescents are spending more years in secondary education due to improved access and educational policies aimed at reducing dropout rates.

Beyond academic instruction, schools serve as key social environments where students form some of their most important relationships outside the family. Positive school experiences are associated with a wide range of beneficial life outcomes, including better employment

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opportunities, healthier lifestyles, and stronger social integration later in life. This impact extends to mental health, as schools contribute significantly through various channels[106]. These include promoting mental health awareness and literacy, offering structured mental health services and counseling, fostering the development of socio-emotional competencies, creating inclusive and safe learning spaces, and nurturing a sense of belonging and community among students, families and staff. However, the school environment can also present challenges that adversely affect students' mental health. Negative experiences such as bullying, feeling alienated or disengaged from learning, difficulties during school transitions (e.g., moving from primary to secondary education) and dropping out of school have all been linked to poor mental health outcomes. These experiences can lead to social withdrawal, emotional distress and long-term issues such as depression and anxiety, especially among vulnerable student populations[107].

The concept of school involvement as a multifaceted construct captures how students connect with their educational environments. It includes cognitive aspects such as students‘ perceptions of their relationships with peers and teachers, their sense of belonging, enjoyment of learning, and perceived support. It also involves behavioral elements like participation in class, engagement with school activities and commitment to academic tasks. Additionally, it considers the broader school environment, including teaching quality, safety, inclusivity, and the emotional climate of the school[108].

For students with Attention-Deficit Hyperactivity Disorder (ADHD), school involvement is particularly crucial. Research shows that students with ADHD who are more engaged and feel connected to their school communities tend to perform better academically, and exhibit greater psychological resilience. They are also more likely to benefit from the structured routines and

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positive reinforcement offered in well-functioning school environments[109]. Emerging evidence suggests that school-wide interventions aimed at improving the social-emotional climate can have far-reaching benefits. These interventions might include programs that teach emotional regulation, conflict resolution, empathy and peer support, all of which have been linked to improved student behavior, reduced disciplinary issues, and better mental health outcomes[110]. Despite these promising findings, previous systematic reviews examining related constructs such as school belonging and school climate have often relied heavily on cross-sectional studies, which limit the ability to draw conclusions about cause and effect. Furthermore, these studies have rarely explored the specific impact of school involvement on mental health conditions like depression and anxiety over time.

Consequently, there is still a lack of clarity about whether strong school involvement actively prevents the development of mental health disorders or supports recovery from them. There are several possible explanations for how school involvement may influence mental health. For instance, schools may provide emotional and social support that is essential for students, particularly those who feel connected to their school communities. Such connections can encourage the development of cognitive, social and emotional skills that serve as protective factors for mental health[111].

Alternatively, school involvement could help students avoid mental health risks associated with educational disengagement or dropping out factors often linked to poorer emotional outcomes and reduced life opportunities. This would suggest a protective relationship between school involvement and mental health. On the other hand, it is also possible that students who are highly connected to school may feel increased pressure to meet academic expectations, which could

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contribute to stress, anxiety, or other emotional challenges. This would suggest a risk relationship, where school involvement could inadvertently lead to mental health difficulties if not balanced with adequate emotional support[112]. While schools are uniquely positioned to support adolescent‘s mental health through both direct services and broader environmental strategies, further longitudinal research is needed to understand the complex interplay between school involvement and mental health outcomes especially regarding conditions such as anxiety and depression[113, 114]. A nuanced understanding of these dynamics will enable educators, mental health professionals, and policymakers to design more effective interventions that nurture not only academic success but also the emotional well- being of all students[115].

School involvement plays a significant role in the education and development of students, and this involvement becomes particularly crucial when addressing the needs of pupils with ADHD (Attention-Deficit Hyperactivity Disorder). ADHD is a neurodevelopmental disorder characterised by difficulties with attention, hyperactivity, and impulsiveness, which can significantly have impact on a child‘s academic performance and social interactions in a school setting. To maximize the potential of students with ADHD, it is essential for schools to actively engage in practices that foster their inclusion, support their learning and promote positive behavioural outcomes[114]. ADHD affects approximately 5-7% of school-age children globally[45]. The core symptoms of ADHD – inattention, hyperactivity, and impulsivity – manifest in various ways within the classroom environment. Pupils with ADHD may find it difficult to remain seated during lessons, focus on tasks, complete assignments, or follow classroom rules. This often leads to academic underachievement, disciplinary issues and social isolation.

Schools play a central role in addressing these challenges by implementing strategies that accommodate the unique learning needs of ADHD students. However, research indicates that

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many schools lack the necessary knowledge, resources, and trained staff to fully support these children, sp, this often leads to frustration for both the student and the educators involved[116]. One of the key elements of school involvement with ADHD pupils is early identification and intervention. The sooner a child with ADHD is identified, the sooner appropriate interventions can be implemented. School psychologists, teachers and parents must collaborate to recognise the signs of ADHD, such as inattention, difficulty in following instructions, forgetfulness in daily activities, and a tendency to be easily distracted[117].

Once identified, school-based interventions can be tailored to meet the needs of the child. Research suggests that early interventions significantly improve the academic and social outcomes of children with ADHD[118]. Schools may implement Individualized Education Programmes (IEPs) or 504 Plans, which provide accommodations such as extended time on tests, modified seating arrangements, or behavioural support strategies. Teachers are on the front lines when it comes to supporting pupils with ADHD. Their understanding of the disorder and their ability to implement effective classroom strategies are critical to the success of these students. Unfortunately, many teachers report feeling underprepared to manage the behaviours associated with ADHD, and this can negatively affect the learning environment[11].

Professional development programmes aimed at increasing teachers' awareness of ADHD and equipping them with evidence-based strategies have been shown to improve outcomes. These programmes often focus on classroom management techniques, such as setting clear expectations, using positive reinforcement, breaking tasks into smaller steps, and providing frequent feedback[3]. Additionally, training on how to create an inclusive classroom atmosphere where ADHD students feel supported rather than stigmatised is essential. Effective classroom interventions are pivotal in supporting pupils with ADHD. These interventions can be

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categorized into academic accommodations, behavioural interventions, and environmental modifications. Students with ADHD often struggle with organisation, time management and task completion. Schools can provide accommodations that cater for these needs. For example, teachers may offer graphic organizers to help with planning, break assignments into smaller, more manageable parts, or provide extra time for tests and assignments. Additionally, seating arrangements can be modified to reduce distractions, and the use of technology, such as audio books or apps that support focus, can be encouraged[11].

Behavioural interventions aim to reduce disruptive behaviours that are common in students with ADHD, such as calling out in class or getting out of their seats frequently. Positive reinforcement is a widely supported strategy, where students are rewarded for displaying appropriate behaviours. Token economies, where students earn points or tokens for positive behaviour that can later be exchanged for rewards, have also proven effective in modifying behaviours. Another widely used approach is the use of self-regulation strategies, where students are taught to monitor and manage their own behaviour. This might involve the use of visual schedules or timers to help the student remain on task or taking short breaks to release excess energy. Modifying the physical classroom environment can also benefit students with ADHD. Reducing clutter, providing sensory tools like stress balls and creating designated quiet areas for focused work are all strategies that can help manage inattention and hyperactivity. Flexible seating arrangements and allowing movement breaks can help address the physical restlessness that many ADHD students experience.

Effective school involvement also hinges on the collaboration between schools and families. Parents play a crucial role in the educational experience of their children, and for pupils with ADHD, their involvement is even more important. Regular communication between teachers and

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parents can help ensure consistency between home and school environments, leading to better management of behaviours and academic expectations[7]. Schools can offer parent education programmes that provide strategies for managing ADHD behaviours at home. These programmes not only offer parents support but also create a consistent approach between the school and home environment. Moreover, involving parents in decision-making processes regarding their child‘s educational plan fosters a collaborative relationship that is essential for the child's success.

Pupils with ADHD are at a higher risk for experiencing social difficulties and low self-esteem due to their challenges with impulse control and attention. School involvement in fostering social skills development and emotional support is critical. Programmes that teach social skills, such as how to initiate conversations, interpret social cues and manage conflict, are beneficial for these students[11]. Additionally, providing access to counselling services or peer mentoring programmes within the school can help students with ADHD develop coping strategies and feel more connected to the school community. Promoting an inclusive school culture where differences are accepted and valued also helps in reducing the stigma often associated with ADHD[13].

School psychologists and special education staff are key resources for supporting pupils with ADHD. These professionals are trained to conduct assessments, develop behaviour plans, and provide counselling services. Their involvement is critical in creating a supportive learning environment and ensuring that the student‘s educational and emotional needs are met. Special education services, such as the implementation of an IEP or 504 Plan, are designed to ensure that students with ADHD receive the accommodations and modifications necessary to succeed in the general education setting. These services provide a structured approach to addressing both

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academic and behavioural challenges, and their success often depends on the close collaboration between general education teachers, special education staff, and families.

Despite the importance of school involvement, there are significant challenges and barriers to fully supporting pupils with ADHD. A lack of resources, large class sizes and limited access to training for educators can impede the effectiveness of interventions. Moreover, societal stigma surrounding ADHD can result in students being labelled as ―troublemakers‖ or ―lazy,‖ which can affect their self-esteem and engagement in school. In addition, the variability in how ADHD manifests means that ―one-size-fits-all‖ approaches are often ineffective. Schools need to adopt flexible, individualized strategies that are responsive to the specific needs of each child. This requires ongoing assessment, adaptation, and collaboration among school staff, parents and the students themselves[12]. School involvement is integral to the success of pupils with ADHD, providing the necessary support structures to help these students thrive academically, socially, and emotionally. Through early identification, targeted interventions, teacher training and collaboration with families, schools can create an environment where ADHD students are not only included but are also given the tools to succeed. Challenges remain, but with continued focus on best practices and inclusive education, schools can significantly improve the outcomes for pupils with ADHD.

2.1.10 Overview of Teachers' Recognition of Attention-Deficit Hyperactivity Disorder

Teachers hold a crucial position in the early identification, support, and classroom management of students with Attention-Deficit Hyperactivity Disorder (ADHD). Their capacity to perform these responsibilities effectively, however, is often shaped by various factors, among which is the teacher‘s level of knowledge, awareness and attitudes toward the condition. When educators possess limited understanding or subscribe to common misconceptions about ADHD, they may

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inadvertently overlook important symptoms, misattribute behaviors to intentional misconduct, or fail to implement the necessary interventions that are proven to support students with ADHD. Such oversights can hinder the academic progress and emotional well-being of these students, while also contributing to increased classroom challenges[12].

On the other hand, when teachers have a more thorough and evidence-based understanding of ADHD including its neurological basis, behavioral manifestations, and the range of strategies available for managing it, they are better positioned to create supportive and inclusive learning environments. These educators are more likely to recognize early warning signs, seek professional assessments, and adopt classroom interventions tailored to the unique needs of students with ADHD. These strategies may include differentiated instruction, the use of visual aids and structured routines, providing regular breaks, and implementing positive reinforcement systems. Collectively, such approaches not only improve the academic engagement and performance of students with ADHD but also help reduce core symptoms like inattention, impulsivity and hyperactivity[12].

Research consistently highlights a strong link between teachers‘ ability to accurately recognize ADHD and their confidence in teaching students who have the condition. Teachers who are better informed tend to feel more equipped and less overwhelmed when managing students with behavioral challenges. This increased confidence can lead to more consistent and empathetic classroom management practices, ultimately fostering a more inclusive and positive learning environment for all students. Moreover, well-informed teachers are often more effective in reducing classroom disruptions, which benefits both students with ADHD and their peers. Furthermore, teacher recognition of ADHD also plays a significant role in shaping school-wide

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attitudes and policies. Educators who understand ADHD can act as advocates for inclusive practices, influencing their colleagues and contributing to a school culture that embraces neurodiversity. They may also engage more constructively with parents and mental health professionals, ensuring a coordinated approach to supporting the child both at school and at home[12].

Despite the importance of teacher knowledge, it is obvious that many educators feel underprepared to handle ADHD in the classroom. Studies indicate that teacher training programs often provide limited information about ADHD, leaving educators to rely on personal experience or outdated beliefs. To address this gap, ongoing professional development focused on ADHD awareness, classroom strategies, and inclusive education practices is essential. Such training not only improves teacher competence but also leads to better outcomes for students with ADHD, who are more likely to thrive in an environment where their needs are understood and supported[12].

The persistently low levels of awareness and accurate recognition of Attention-Deficit Hyperactivity Disorder (ADHD) among teachers in Nigeria and across other parts of Africa underscore a critical and ongoing need for targeted psychoeducational interventions within the region. Without appropriate training and sensitization, many children living with ADHD are likely to remain unidentified and unsupported within educational settings. This oversight can have serious consequences for their academic development and overall well-being[119].

In several African contexts, including Nigeria, the consequences of this lack of awareness can be severe. For instance, due to a poor understanding of ADHD, some children exhibiting symptoms such as restlessness, impulsivity, or difficulty concentrating may be misinterpreted as being

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deliberately disobedient or disruptive. In such cases, these students are often subjected to harsh disciplinary actions, including corporal punishment a practice that, unfortunately, remains prevalent in many Nigerian schools and other low- and middle-income countries (LMICs). Rather than addressing the root cause of these behaviors, such punitive measures can further alienate students with ADHD and worsen their educational experiences[120].

Considering that ADHD affects an estimated 5% of school-aged children globally, this translates to millions of students across the African continent who are at significant risk of enduring poor academic experiences due to their teachers' limited understanding and inappropriate responses to their condition. These children are not only deprived of the tailored support they need to thrive but may also suffer long-term psychological and educational consequences if their needs are continually overlooked.

To address this gap effectively, there is a pressing need for Nigerian education stakeholders particularly policymakers and school administrators to prioritize the implementation of structured, evidence-based ADHD teacher training programs. However, for such programs to be adopted at scale and integrated into the educational system as standard practice, there must be clear, replicable evidence demonstrating both their effectiveness and feasibility within the local context. Currently, there is only one documented study of a successful ADHD-focused teacher training intervention conducted in Nigeria. This limited research base presents a barrier to widespread adoption and highlights the urgent need for more empirical investigations into the impact of such programs on teacher knowledge, classroom practices, and student outcomes[82].

Teachers play a fundamental role not only in the academic development of students with ADHD but also in the broader process of diagnosis and support. As frontline observers of children's

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daily behaviors, teachers are often among the first professionals to notice the signs of inattention, hyperactivity, or impulsivity in students. Their observations and documentation provide essential input for clinicians conducting diagnostic assessments, particularly because the presence of functional impairments in educational settings is a key criterion in the diagnosis of ADHD as outlined by the American Psychiatric Association‘s Diagnostic and Statistical Manual of Mental Disorders (DSM-5)[14].

Moreover, the effectiveness of classroom management for children with ADHD is closely tied to a teacher‘s level of knowledge about the condition. Studies have consistently shown that teachers who understand the nature of ADHD and are familiar with evidence-based management strategies are more likely to implement supportive interventions, leading to improved behavioral and academic outcomes for their students. Such interventions may include structuring lessons to minimize distractions, using clear and consistent instructions, providing regular feedback, and offering flexible seating arrangements. Furthermore, educators with a sound understanding of ADHD are more likely to exhibit empathy and adopt a more positive attitude toward students with the condition. This shift in attitude is crucial, as it fosters a classroom climate that is more inclusive, respectful, and supportive; these are qualities that are essential for children with ADHD to reach their full potential[14].

Of utmost importance is also the research that suggests that children with ADHD themselves express a strong desire for their teachers to understand their unique learning challenges and behavioral patterns. When teachers make an effort to understand these needs and tailor their teaching methods accordingly, students with ADHD are more likely to feel valued, respected and motivated to succeed. This sense of being understood and supported can significantly enhance their positive educational outcomes and personal development. Enhancing teacher

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recognition and understanding of ADHD in Nigeria and other African countries is not just beneficial it is essential. It requires a systemic approach that includes professional development programs, curriculum integration, policy reform, and sustained research. Through such efforts, educators can be empowered to create inclusive learning environments where children with ADHD are given the opportunity to thrive both academically and socially[16].

Teachers frequently express a strong interest in learning more about Attention-Deficit Hyperactivity Disorder (ADHD), particularly in gaining practical, classroom-based strategies that can help them manage ADHD-related behaviors effectively[23]. Although there are numerous empirically supported interventions designed to assist students with ADHD, these strategies are not always widely or consistently implemented in school settings. One of the key reasons for this implementation gap is the limited communication and knowledge exchange between academic researchers and practicing educators[21]. As a result, many teachers remain unaware of evidence-based practices or are uncertain about how to apply them effectively in real-life classroom scenarios[122].

Another significant barrier to effective intervention lies in teachers‘ varying levels of awareness and their attitudes toward students with ADHD. When teachers lack adequate recognition of the condition or hold negative beliefs about children with ADHD, they are less likely to implement classroom interventions correctly or consistently. For instance, one study revealed that although some teachers employed positive reinforcement techniques an effective strategy for managing ADHD—they only applied these methods once or twice daily. Unfortunately, this limited frequency is insufficient for children with ADHD, who often require much more frequent and immediate reinforcement to respond positively to behavioral interventions[121].

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A concerning finding from research is that professional training on ADHD, when not properly structured, can unintentionally contribute to negative emotional responses among teachers. Programs that overemphasize the challenges and difficulties associated with ADHD without balancing these discussions with solutions or success stories may inadvertently cause teachers to feel overwhelmed, frustrated, or even resentful toward students with ADHD. Therefore, it is critical that any professional development or workshop on ADHD includes opportunities to evaluate and address teachers‘ emotional reactions both before and after the training. Such an approach allows educators to process their feelings in a constructive way and may ultimately improve their attitudes and teaching practices[11].

Moreover, teachers‘ stress levels and confidence in managing ADHD-related behaviors must also be taken into account. These factors significantly influence how successfully teachers can support children with ADHD. Evidence suggests that one of the most powerful protective factors against the long-term negative outcomes associated with ADHD is the presence of a teacher who is not only knowledgeable about the condition but also supportive and empathetic toward the student. However, studies show that many teachers possess only a moderate level of understanding of ADHD and may hold ambivalent attitudes toward affected students (e.g., Anderson et al., 2017). This ambivalence can translate into inconsistency in classroom responses and potentially hinder students‘ success[18].

To address these issues, researchers and education professionals recommend helping teachers process sometimes conflicting information they hold about ADHD. Encouraging educators to confront their internal contradictions such as the gap between what they believe and how they act can lead to greater self-awareness and openness to change. Providing in-service professional development programs in a safe, supportive environment can be instrumental in this process.

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Such workshops should not only focus on evidence-based classroom strategies but also incorporate techniques for emotional self-regulation, peer support, and reflection, all of which can enhance teachers' preparedness to work with children with ADHD[12].

Given the significant amount of time children spend in school, the teachers‘ role in their academic and social development is undeniably crucial. When a child is diagnosed with ADHD and a treatment plan is developed, it is often the classroom teacher who must implement behavior management and academic interventions on a daily basis. Thus, when teachers are well-informed about the specific needs of these students, they are better positioned to design and apply tailored instructional and behavioral strategies that facilitate both learning and engagement[11].

Although students with ADHD often face academic and behavioral challenges, these difficulties are not insurmountable especially when educators are proactive, empathetic, and equipped with the right tools. Teachers who understand the condition and are committed to meeting the diverse needs of their students can develop individualized learning programs that optimize the strengths and address the limitations of students with ADHD. Furthermore, students with ADHD, particularly those who struggle with verbal and nonverbal communication, can benefit greatly from interventions that include the use of clear and purposeful gestures. Nonverbal cues such as hand signals, visual prompts, or body language can aid comprehension and focus for students who have trouble processing verbal instructions alone. However, the extent to which teachers adopt such nonverbal strategies is often influenced by their personal traits, including patience, empathy, tolerance, and a genuine willingness to understand and support students with ADHD[2].

Teachers‘ verbal communication plays a critical role in shaping a positive and inclusive

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classroom environment, particularly for students with Attention-Deficit Hyperactivity Disorder (ADHD). The way teachers speak to and interact with students can significantly influence learning experiences, classroom dynamics, and student outcomes. Words carry weight, and their impact can be either constructive or detrimental especially for children with neurodevelopmental disorders like ADHD, who may already struggle with self-regulation, attention and self-esteem. Therefore, it is essential that teachers are equipped with the skills to use affirming, respectful, and supportive language when interacting with students who exhibit ADHD-related behaviors[21].

When teachers are trained to communicate effectively with students who have ADHD, they are better positioned to create a classroom climate that promotes engagement, reduces disruptive behaviors, and fosters emotional security. For instance, using clear, concise instructions; providing positive reinforcement; and avoiding negative or punitive language can help students with ADHD feel understood, motivated, and included. Beyond classroom effectiveness, enhancing teachers‘ verbal communication skills contributes to their own professional confidence and psychological well-being. As teachers become more adept in managing ADHD-related challenges through communication and behavior strategies, their sense of teaching efficacy improves, which can lead to reduced stress and burnout[22].

Additionally, increasing teachers' knowledge and understanding of ADHD not only improves their confidence but also enhances their motivation to apply effective teaching and behavioral interventions. This knowledge translates into changes in classroom management approaches, enabling teachers to develop more personalized, inclusive, and structured learning experiences. Research consistently highlights that teacher-related factors such as attitudes, training, and recognition of ADHD have a profound impact on both the academic success and behavioral development of children with ADHD. A crucial element among these is the teacher‘s ability to

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recognize ADHD symptoms accurately and understand their implications[16].

Teacher recognition is foundational to early identification, intervention, and support. When educators can identify ADHD-related challenges and differentiate them from other behavioral issues, they are more likely to implement evidence-based strategies tailored to students‘ needs. However, many teachers still lack the training and skills necessary to recognize the symptoms of ADHD and translate that knowledge into effective classroom practices. This gap in recognition can hinder early intervention efforts, leading to missed opportunities for support and potentially worsening academic and social outcomes for affected students[24].

Compounding this issue is the limited research focusing on how teachers‘ characteristics such as understanding of ADHD, intervention philosophy, teaching experience, and tolerance levels affect classroom management and student support. These variables can deeply influence how a teacher interprets ADHD behaviors and the strategies they choose to employ. Teachers' individual beliefs, experiences and emotional dispositions are often reflected in their responses to disruptive behaviors, with some demonstrating empathy and adaptability while others respond with frustration or punitive measures[90].

Social stigma surrounding ADHD further complicates the situation. In many societies, including those in low- and middle-income countries, negative stereotypes and misconceptions about ADHD persist. This stigma is not limited to teachers, it permeates school cultures, peer attitudes, and even parental perceptions. When teachers themselves internalize these stigmas, even unintentionally, it can lead to biased expectations, exclusionary practices, and a lack of support for students with ADHD. Such an environment can severely impact students‘ self-esteem, academic engagement, and motivation to remain in school[16].

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Furthermore, teachers‘ recognition and attitudes toward ADHD are not uniform. They can range from highly supportive to dismissive or even punitive, depending on the teacher‘s perceived self-efficacy, prior exposure to students with ADHD, and their expectations of student behavior. Interestingly, some studies suggest that exposure to students with ADHD may increase teacher awareness and understanding of the disorder. However, this is not always the case. Other studies found no significant correlation between direct exposure and increased knowledge, suggesting that exposure alone is insufficient without structured learning or reflection[28].

Recognition of ADHD is not only a matter of identifying symptoms it also involves the teacher‘s ability to interpret those behaviors in context. For example, ADHD symptoms such as impulsivity, hyperactivity, and inattention tend to be more conspicuous in structured, rule-based environments like classrooms, where children are expected to follow routines, sit still, and focus for extended periods. As a result, teachers often become the first to suspect ADHD and are frequently the initial source of referral for formal assessment. Their observations about a child‘s academic performance, classroom behavior, and peer interactions are invaluable during diagnostic evaluations and treatment planning[36]. Moreover, teachers often serve as central agents in the management of ADHD once a diagnosis is confirmed. They are responsible not only for implementing behavior management plans and academic accommodations but also for monitoring the effectiveness of these interventions and adjusting them as needed. In this role, teachers act as both frontline observers and active participants in a child‘s developmental and academic journey[28].

It is noteworthy that a research suggests that a teacher‘s recognition of ADHD in one student may influence how that child is perceived by classmates. Children are observant and often adopt the implicit or explicit attitudes modeled by their teachers. Thus, if a teacher demonstrates

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empathy, patience and fairness in their interactions with a student who has ADHD, the peers are more likely to treat that student with acceptance and understanding. Conversely, if the teacher responds with frustration or exclusion, it can reinforce negative peer attitudes, leading to bullying, social isolation, or further behavioral issues[24].

Teacher recognition and understanding of ADHD are critical to creating supportive, inclusive, and effective classroom environments for children with ADHD[14]. Teachers must be provided with robust training that not only enhances their technical knowledge of the disorder but also equips them with communication skills, emotional regulation strategies, and reflective practices. By doing so, teachers will be better prepared to meet the diverse needs of their students, foster positive relationships, and reduce the academic and emotional burden that ADHD can impose on children in school settings. Empowering educators in this way ultimately leads to better educational outcomes for all students and contributes to a more compassionate and equitable educational system.

It has been noted that Attention-Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental condition that typically emerges in early childhood, often becoming noticeable during the first few years of formal education[78]. Given the structured nature of classroom environments where children are expected to remain seated, follow instructions, concentrate for extended periods, and complete assigned tasks symptoms of ADHD such as impulsivity, hyperactivity, and inattention can become particularly conspicuous[7]. Research indicates that, on average, at least one child in every classroom may be affected by ADHD, underscoring its widespread prevalence within the educational system[8].

Due to the early onset of the disorder and its manifestations within school settings, primary

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school teachers are often among the first adults, aside from parents, to observe behavior indicative of ADHD. Teachers' unique position as daily observers of children's behavior in learning and social environments places them at the forefront of identifying early warning signs. This early recognition is critical, as it can shape the trajectory of a child's diagnosis, access to treatment, and eventual academic and social outcomes[5]. Teachers‘ knowledge, awareness, and attitudes toward ADHD significantly influence their ability to recognize the disorder and take appropriate steps to support affected children. Scholars have pointed out that when teachers are well-informed about ADHD—including its symptoms, causes, and treatment options—they are more likely to recognize children who may be struggling and guide them toward timely support and intervention.

In contrast, a lack of understanding or the presence of misconceptions about ADHD can result in misinterpretation or minimization of the child‘s symptoms. In such cases, teachers might either fail to seek help for the student or provide inaccurate information to health professionals, thereby impeding effective diagnosis and treatment[2]. Moreover, teachers‘ perceptions and beliefs about ADHD do not only influence their recognition of the disorder but also play a critical role in shaping how they interact with students and manage the classroom. Attitudes toward ADHD can impact decisions around teaching methods, classroom accommodations and the use of behavioral interventions. Teachers who hold negative or stigmatizing beliefs about the disorder may be less inclined to implement necessary support strategies, while those with positive and informed attitudes are more likely to adapt their teaching approaches and demonstrate empathy and patience[12].

The concept of recognition in this context refers to an individual‘s level of awareness, understanding, and recall regarding a specific topic in this case, ADHD. Teacher recognition of

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ADHD encompasses their knowledge about the condition‘s symptoms, potential causes, treatment options, and its broader impact on a child‘s life. It includes how teachers interpret behaviors linked to ADHD and how they respond to those behaviors within the classroom setting. Greater recognition empowers teachers to identify children who may need help, seek appropriate medical or psychological referrals, and contribute meaningfully to the management and monitoring of treatment plans[111].

Recognition is not merely about cognitive awareness; it is also tied to emotional and behavioral responses. A teacher‘s recognition of ADHD involves their beliefs about what causes the disorder (e.g., genetics, environment), their openness to medical treatments such as stimulant medications, and their willingness to engage in support systems, including behavioral therapy and school-based accommodations. These factors influence whether and how teachers advocate for students with ADHD and whether they actively participate in interventions[129]. ADHD, characterized primarily by persistent patterns of hyperactivity, impulsivity, and inattention, can severely affect children‘s ability to function socially, emotionally and academically. Although it is most commonly diagnosed in childhood, research shows that the disorder often continues into adolescence and adulthood, with up to 60% of affected individuals still experiencing symptoms later in life. This chronicity highlights the importance of early and sustained intervention[129].

While the exact etiology of ADHD remains unknown, researchers have identified a combination of genetic, environmental, and neurodevelopmental factors that may contribute to its development. Risk factors include family history of ADHD, prenatal exposure to harmful substances, complications during pregnancy or birth, and early exposure to environmental toxins. Diagnostic procedures typically involve a comprehensive evaluation of the child's behavioral history, symptom presentation, and functional impairments across multiple settings, including

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home and school[129]. Effective management of ADHD usually requires a multi-modal treatment approach. This includes behavioral interventions, educational accommodations, parent training, and, in many cases, pharmacological treatment. Psychostimulant medications such as methylphenidate and amphetamines are commonly prescribed and have been shown to improve attention, concentration, and impulse control in many children with ADHD. These medications are often used alongside behavioral therapies, which aim at teaching children coping strategies, improve organizational skills, and reinforce positive behavior patterns[129].

Educational support is also a critical component of treatment. Teachers, as daily facilitators of children‘s learning and behavior, play an essential role in implementing strategies that can make classroom environments more conducive to the needs of students with ADHD. This might include breaking tasks into manageable steps, offering frequent breaks, using visual aids, and reinforcing desirable behaviors through praise or reward systems[129].

The early identification and effective management of ADHD are deeply intertwined with teacher recognition and response. Given the disorder's prevalence in educational settings and its long-term implications, there is a pressing need for increased training and awareness among teachers. Educators must be equipped not only with factual knowledge about ADHD but also with the skills and emotional readiness to support students‘ compassionately and effectively. Enhancing teacher recognition and reducing stigma around ADHD can lead to better educational, social and emotional outcomes for affected children and contribute to more inclusive and supportive school environments[34].

Teachers in contemporary classrooms are frequently confronted with a wide range of behavioral challenges, many of which stem from underlying neurodevelopmental disorders such as

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Attention-Deficit Hyperactivity Disorder (ADHD)[23]. The symptoms associated with ADHD such as hyperactivity, impulsivity, excessive fidgeting, frequent talking, careless mistakes, daydreaming and misplacing items often manifest as disruptive or difficult behaviors in educational settings. Academically, students with ADHD may face challenges initiating tasks, sustaining focus, retaining information, completing assignments and managing time efficiently. These academic and behavioral difficulties can strain the classroom environment and pose significant challenges to teachers trying to maintain a balanced and effective learning atmosphere[33].

Statistical data indicates that ADHD affects approximately 9.4% of children between the ages of 2 and 17, making it likely that every classroom will include at least one student exhibiting ADHD symptoms or related behaviors. Despite the high prevalence, many teacher education programs do not adequately prepare future educators to address ADHD-specific challenges[12]. Consequently, many teachers report acquiring knowledge about ADHD informally, primarily through direct interactions with affected students rather than through formal training. This lack of structured information on ADHD leaves teachers feeling unprepared and often overwhelmed, leading to frustration, uncertainty about how to respond to ADHD-related behaviors, and in some cases, the development of negative attitudes toward students who display such behaviors[17].

Teachers‘ responses to students with ADHD are shaped not only by their professional training but also by their personal attitudes and life experiences. Attitudes formed over time and influenced by cultural, social, and experiential factors play a critical role in how teachers perceive and manage students‘ behavior, particularly in inclusive classrooms where students with special needs learn alongside their peers. Educators with positive attitudes toward inclusion are more likely to adopt inclusive practices that benefit all learners. These teachers model

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acceptance, patience and flexibility, which contributes to building a cohesive and supportive learning community. Positive teacher attitudes foster stronger teacher-student relationships, which in turn enhance motivation, cooperation and academic success, especially among students with special educational needs like ADHD[34].

However, studies reveal that while many pre-service teachers initially support inclusive education during their training, their enthusiasm often wanes after their first year of full-time teaching. This shift may result from the practical challenges they face in managing diverse classrooms without adequate support or training. Teachers‘ personal or professional experiences with individuals who have ADHD whether as family members, friends, or former students also play a crucial role in shaping their attitudes toward inclusion[22]. These firsthand interactions can either enhance empathy and understanding or, conversely, reinforce negative stereotypes, depending on the nature of the experiences[24].

Interestingly, ADHD does not affect only students; these are some adults with ADHD who themselves pursue careers in education. These individuals bring a unique perspective to the profession, shaped by their own experiences as learners with attentional and behavioral difficulties. Becoming a teacher with ADHD requires not only a commitment to academic instruction but also a heightened sense of self-awareness. These educators must consistently monitor their behavior, energy levels, and organizational strategies to remain effective in meeting their students‘ learning needs. While school administrators sometimes express concerns about whether teachers with ADHD can effectively plan and manage instruction, many acknowledge that these educators offer valuable insights and practical strategies that go beyond textbook theory[30].

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The lived experience of ADHD equips these teachers with a deep understanding of learning difficulties, often enabling them to recognize early signs of academic struggle in their students sometimes even before those students begin to fall behind. According to research conducted by Flavian, employing teachers with ADHD or other learning disabilities offers several key benefits. First, these educators tend to be more attuned to subtle learning challenges and are proactive in offering support. Second, because they understand the need for diverse instructional methods, they frequently employ a wide range of teaching strategies that address multiple learning styles and needs, making their classrooms more inclusive and effective for all students[12]. Third, the presence of teachers with ADHD provides students with positive role models who exemplify resilience, adaptability, and the value of diversity. By openly sharing their personal struggles and triumphs, these teachers can form deep interpersonal connections with their students, offering both academic guidance and emotional encouragement[13].

Moreover, the inclusion of teachers with ADHD enriches the educational environment by promoting empathy, tolerance and a broader understanding of human diversity. Students who see their teachers succeed despite challenges learn that disabilities do not define a person's potential. In this way, these educators not only enhance the quality of instruction but also contribute to shaping more inclusive and compassionate school cultures. Their presence in schools serves as a testament to the idea that with the right support, individuals with ADHD can thrive and inspire others—both students and colleagues alike.

Managing ADHD in the classroom involves a complex interplay of teacher knowledge, attitudes, training, and personal experience[15]. While the disorder presents considerable challenges, especially in behavior and academic performance, it also presents opportunities particularly when educators with lived experiences of ADHD become part of the teaching workforce. These

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individuals can bring empathy, innovation, and authenticity into the classroom, serving as powerful advocates for inclusive education and demonstrating that with understanding and support, all learners and educators can succeed.

2.2 Theoretical Framework

2.2.1 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action proposed by Fishbein and Ajzen in (1975) asserts that the performance of a behaviour is determined by three major constructs;

Intention, attitude and subjective norm[125]. Intention is an indicator of how hard a person is willing to try and how much of an effort they are willing to exert to perform a particular behaviour[126]. An individual's intention to perform a given behaviour is seen as the immediate determinant of the individual performing that behaviour[127], and a person will usually act by their intentions[128]. The attitude factor refers to an individual's positive or negative evaluation of performing the behaviour[129], it does not assess attitude toward the object *per se*, but rather, attitude toward the performance of a particular behaviour[125].

The subjective norm factor refers to an individual's perception of the social pressures put on them to perform or not perform a particular behaviour[122]. That is, do others think I should or should not perform that behaviour? Overall, according to the TRA, individuals will intend to perform, and subsequently perform, a given behaviour when they evaluate it positively (i.e, have a positive attitude toward it) and when they believe that people that are important to them think they should perform it[123].

The Theory of Planned Behaviour (TPB) was developed to extend the TRA to include an assessment of perceived control[124]. Perceived behavioural control refers to a subjective

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assessment regarding the degree of ease or difficulty of performing the behaviour in question. This predictor does not measure the *actual* control an individual has over performing a given behaviour but rather measures one's subjective belief regarding their control over performing that behaviour[125]. Perceived behavioural control may be linked to both intention and behaviour. The theory assumes that perceived behavioural control is directly linked to intention, over and above the influence of attitude and subjective norm. Conceptually, if an individual believes they have little control over the performance of a particular behaviour, yet have a favourable attitude and subjective norm toward performing that behaviour, they are unlikely to form a strong intention to perform the behaviour[126].

From the foregoing, it is clear that TRA serves as a foundational framework for understanding the influence of school involvement and teachers' knowledge and awareness of Attention-Deficit/Hyperactivity Disorder (ADHD) on behavioural dysfunction among elementary pupils in Oyo State. According to the TRA, behaviour is primarily determined by intention, attitude, and subjective norm. In the context of this study, teachers' intention to support students with ADHD is influenced by their knowledge and awareness of the condition. A teacher will be willing to implement strategies to manage ADHD-related behavioural dysfunction depending on their level of understanding and perception of ADHD. Moreover, teachers' attitudes toward ADHD students whether positive or negative play a significant role in shaping their classroom interactions and interventions. A positive attitude toward inclusive education and behavioural management strategies can lead to more effective engagement with pupils experiencing ADHD- related dysfunction.

Additionally, the subjective norm component of the TRA highlights the role of social influences in shaping behaviour. In a school setting for instance, teachers may feel compelled to act in a

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certain way based on the expectations of school administrators, colleagues and parents regarding the management of ADHD-related behaviours. If a school culture imbibes proactive strategies for ADHD management, teachers will be more likely to align their behaviour accordingly. On the other hand, if there is limited institutional support, teachers may struggle to implement effective interventions, potentially exacerbating behavioural dysfunction among pupils.

Furthermore, an extension of the TRA, refines this understanding by incorporating perceived behavioural control, which refers to an individual‘s belief in their ability to perform a behaviour successfully. In the context of this study, perceived behavioural control pertains to how confident teachers feel in managing ADHD-related challenges in the classroom. Teachers with higher levels of ADHD knowledge and awareness may perceive themselves as more capable of handling disruptive behaviours, leading to greater efforts to support affected pupils. Conversely, teachers who feel ill-equipped may experience lower perceived behavioural control, resulting in limited intervention efforts and increased behavioural dysfunction in students.

By integrating the TRA into this study, it becomes evident that teachers‘ knowledge and awareness of ADHD, their attitudes toward behavioural management, and the social pressures they experience within the school environment, collectively influence their ability to address behavioural dysfunction among elementary pupils. Furthermore, the extent of school involvement, such as the presence of support programmes, training workshops and institutional policies on ADHD, significantly impacts teachers‘ behavioural responses. This framework underscores the need for targeted interventions, professional development programmes, and institutional support to enhance teachers‘ capacity to manage ADHD-related behavioural dysfunction effectively in Oyo State elementary schools.

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2.2.2 Cultural Relativism Theory

The theoretical framework for this study is based on the Cultural Relativism Theory and Ecological Model. The assumptions of cultural relativism theory are based on culture-bound perceptions relating to culturally held ideologies, beliefs, values and norms. Cultural relativism theory portends that these assumptions configure the cultural behaviours, attitudes, views, way of life, and existential experiences of the native citizens of the culture[74]. According to an author[23], cultural relativism theory suggests that each culture or ethnic group has its values, shared ideals, and beliefs through which the group organizes its collective life, goal, attitude, and worldview, and therefore, each culture or group needs to be evaluated or understood on its culture-specific terms. It is also suggested that within a culture, a person‘s or group‘s attitude or perception may change because of certain factors[87].

In Nigeria, there are inherent beliefs that shape people‘s attitudes and perceptions of varying disabilities as well as what behaviours are typical for children. However, misconceptions exist across different ethnic groups where for instance, certain behaviours are seen as influenced by malevolent spirits or the child being possessed by demonic spirits. Additionally, the Nigerian cultural perspective about cultural relativism offers the best delineation of the caregivers‘ demographic characteristics. Human beings develop within their social context and over time their understanding is based on the social interactions between them and the environment[79]. The premise here is that behaviour is influenced as a result of interaction between a child and the environment in the course of development. Relate to their knowledge about ADHD. The ecological perspective highlights that a child is influenced by the home, school or neighbourhood contexts and even beyond the child.

Considering the foregoing, Cultural Relativism Theory remains relevant for this study. It

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provides a comprehensive framework for understanding the influence of school involvement and teachers‘ knowledge and awareness of Attention-Deficit/Hyperactivity Disorder (ADHD) on behavioural dysfunction among elementary pupils in Oyo State. Cultural Relativism Theory posits that cultural ideologies, beliefs, values, and norms shape individuals‘ perceptions and behaviours. Each culture or ethnic group develops its values and shared ideals that influence its collective life, goals, attitudes, and worldview. Within the Nigerian context, cultural beliefs significantly impact how ADHD and other neurodevelopmental conditions are perceived. In many communities, misconceptions persist, with some attributing ADHD symptoms such as hyperactivity, impulsivity, and inattentiveness—to supernatural forces, malevolent spirits, or divine punishment. These culturally held beliefs influence how teachers and caregivers interpret and respond to children exhibiting behavioural dysfunction. Teachers‘ awareness and knowledge of ADHD are therefore shaped by these cultural narratives, affecting their willingness to seek interventions, implement support strategies, or even acknowledge ADHD as a legitimate condition requiring professional attention. The degree of school involvement in ADHD awareness and management is also influenced by cultural norms, as schools operate within the larger societal framework that dictates what is considered acceptable or problematic behaviour.

Relatedly, the Ecological Model, on the other hand, emphasises that a child‘s development and behaviour are influenced by multiple interconnected environmental factors, including the home, school, and community. In the context of this study, the ecological perspective suggests that the behavioural dysfunction observed among elementary pupils with ADHD is not solely a result of intrinsic deficits but rather a product of interactions between the child and their environment. Teachers, as key figures in the school setting, play a crucial role in shaping children‘s behavioral outcomes. Their level of knowledge and awareness of ADHD, combined with the degree of

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school involvement in providing support, directly impacts how students with ADHD are managed within the classroom.

A school environment that fosters inclusivity provides professional development for teachers, and implements structured behavioral interventions can significantly reduce ADHD-related dysfunction and improve students‘ academic and social outcomes. By integrating these two theoretical perspectives, this study emphasises the dynamic interplay between cultural beliefs, environmental influences, and institutional support systems in shaping teachers‘ knowledge, attitudes, and responses to ADHD-related behavioural dysfunction. Understanding these interactions is crucial for developing culturally relevant interventions that enhance teachers‘ capacity to manage ADHD effectively while fostering an inclusive school environment in Oyo State.

2.2.3 Ecological Systems Theory of Bronfenbrenner

Contemporary behavioural disorders, such as Compulsive Shopping Disorder (CSD), can be meaningfully analysed through Bronfenbrenner‘s Ecological Systems Theory, which highlights how individual behaviour emerges from dynamic interactions across nested environmental systems. CSD, increasingly recognised as a behavioural addiction, often co-occurs with conditions like anxiety and depression and is characterised by impulsive purchasing behaviours that provide short-term emotional relief but lead to long-term distress. Those most affected are typically under 60 and financially active, and they may experience serious consequences, including debt accumulation, interpersonal conflict and occupational or legal problems. Unlike substance use disorders, CSD is rooted not in chemical dependence but in psychological and environmental factors that reinforce compulsive spending patterns[88].

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From an ecological standpoint, each system level contributes to the development and maintenance of CSD. The microsystem encompasses personal stressors and close relationships that may support or trigger compulsive behaviors. At the mesosystem level, interactions between environments, such as work-life stress spilling into family dynamics, can amplify vulnerability. The exosystem includes indirect influences like media-driven consumerism or a partner‘s financial instability. The macrosystem is dominant, embedding individuals within a culture that equates material acquisition with success and self-worth. Lastly, the chronosystem provides historical context, as trends like increased online shopping, rising disposable income and evolving societal attitudes toward debt reshape how and why individuals develop CSD over time[88].

Bronfenbrenner‘s Ecological Systems Theory is instrumental in understanding the multi-layered influences on behavioural dysfunction, offering a framework that extends beyond individual pathology to include social, institutional and cultural contexts[89]. Just as Compulsive Shopping Disorder (CSD) emerges from the interaction of personal vulnerabilities and environmental reinforcements from immediate family stressors to broader cultural norms, so can behavioural dysfunctions associated with ADHD in elementary pupils be better understood when analysed within their ecological settings[89]. The theory stresses that a child‘s behaviour is not solely a product of internal deficits but also of how different environmental systems interact and either buffer or exacerbate challenges.

In the context of the present study, the microsystem involves daily interactions between pupils, parents and teachers, where teacher awareness and responses to ADHD symptoms play a critical role. The mesosystem captures how school and home environments interrelate, emphasising that

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poor communication or misalignment between the two can heighten dysfunction. The exosystem includes school policies or administrative decisions that may indirectly impact the pupil, such as a lack of ADHD-specific resources or training programmes for teachers. At the macrosystem level, cultural perceptions of ADHD, stigma and educational values shape both institutional responses and familial understanding of the disorder. Finally, the chronosystem allows for a temporal perspective, recognising how awareness and approaches to ADHD evolve due to policy shifts, teacher education reforms, or broader social acceptance. In this way, the theory validates the study‘s focus on school involvement and teacher knowledge as key levers in mitigating behavioural dysfunction among children with ADHD[88].

2.2.4 Social Cognitive Theory (SCT)

Social Cognitive Theory (SCT), developed by Albert Bandura in the 1960s, is a theoretical framework used to understand parents‘ knowledge, perception and attitudes towards children with ADHD. This theory contends that psychological, behavioural and environmental elements impact human behaviour. These elements influence behaviour and determine how much people can learn from their surroundings. Social Cognitive Theory suggests that, in the context of parents‘ knowledge, perceptions, and attitudes toward children with ADHD, their behaviour is influenced by behavioural and personal factors, such as their experiences with their child and interactions with healthcare professionals. Personal factors include knowledge, beliefs, and attitudes regarding the disorder[127].

Environmental elements such as social support, resource accessibility, and cultural views could also be essential. The importance of observational learning often known as modelling, in which people pick up knowledge by witnessing how others behave, has also been emphasised by Social

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Cognitive Theory. The attitudes and actions of other parents, medical professionals, and the larger socioeconomic and cultural milieu in which they live may impact parents‘ attitudes and actions toward their children with ADHD. In conclusion, this theory can be used to comprehend how environmental, behavioural, and personal elements affect parents‘ attitudes toward and understanding of children with ADHD. This paradigm can guide the creation of treatments to raise awareness of ADHD, change attitudes and behaviours regarding the illness, and increase the well-being of both parents and children[127].

Against the background of the foregoing, it evident that the tenets of the Social Cognitive Theory (SCT), are relevant to explore the influence of school involvement and teachers‘ knowledge and awareness of Attention-Deficit/Hyperactivity Disorder (ADHD) on behavioural dysfunction among elementary pupils in Oyo State. SCT posits that psychological, behavioural, and environmental factors interact dynamically to shape human behaviour, influencing how individuals acquire and apply knowledge in different contexts. In the educational setting, these factors play a crucial role in shaping teachers' understanding and responses to ADHD-related behaviours in students. Teachers‘ knowledge, attitudes, and awareness of ADHD are influenced by personal factors, including their prior experiences with students with ADHD, professional training, and their beliefs about the condition. If teachers hold misconceptions about ADHD, such as viewing it as a result of poor discipline rather than a neurodevelopmental disorder, their approach to classroom management and intervention strategies may be ineffective or even counterproductive. Conversely, when teachers are well-informed, they are more likely to adopt supportive strategies that help students with ADHD succeed academically and socially[127].

Beyond individual knowledge, environmental factors such as school policies, training opportunities, and access to resources significantly influence how teachers respond to students

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with ADHD. Schools that provide professional development programmes, structured intervention plans, and adequate support systems equip teachers with the necessary skills to manage ADHD-related behavioural dysfunction effectively. Moreover, the broader cultural and societal context in Oyo State plays a role in shaping perceptions of ADHD. Cultural beliefs and social norms regarding childhood behaviour can affect how teachers interpret and respond to ADHD symptoms, either facilitating or hindering early identification and support.

Additionally, observational learning, a core component of SCT, highlights how teachers' attitudes and practices regarding ADHD can be influenced by their colleagues, school leadership, and interactions with medical and psychological professionals. Teachers who observe positive and effective ADHD management strategies among their peers may be more likely to adopt similar approaches in their classrooms. Similarly, school environments that promote collaboration and mentorship can enhance teachers‘ confidence in addressing ADHD-related challenges[127]. In conclusion, Social Cognitive Theory provides a comprehensive framework for understanding the factors that shape teachers‘ knowledge, awareness, and involvement in managing ADHD- related behavioural dysfunction in elementary school pupils. By addressing both personal and environmental determinants, this study highlights the importance of school-based interventions, teacher training, and cultural awareness programmes to foster inclusive and effective learning environments for students with ADHD in Oyo State.

2.3 Review of Empirical Studies

2.3.1 School Involvement and Behavioural Dysfunction

Attention-Deficit/Hyperactivity Disorder (ADHD) is characterised by persistent patterns of inattention and/or hyperactivity-impulsivity that interfere with functioning or development.

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Understanding how ADHD affects school interest and behavioural dysfunction in students is crucial for educators and mental health professionals. This overview focuses on empirical studies that explore these dimensions, detailing their methodologies and findings. Many studies use standardised questionnaires and scales to assess behavioural issues and levels of interest in school activities. Instruments such as the Conners' Rating Scale, ADHD Rating Scale and the School Interest Inventory are commonly utilised[124]. These tools allow researchers to quantify the severity of ADHD symptoms and measure school interest levels.

Some studies employ interviews and focus groups with teachers, parents, and students to gain deeper insights into how ADHD affects school experience and interest[68]. This qualitative approach helps capture the experiences of those affected by ADHD, providing context to quantitative findings. Combining both quantitative and qualitative approaches allows for a comprehensive understanding of the interplay between ADHD, school interest, and behavioural dysfunction. Such studies often begin with quantitative assessments and follow up with qualitative interviews to elaborate on initial findings. These studies track students with ADHD over time to observe changes in school interest and behaviour. By analysing data at multiple points, researchers can identify trends and causal relationships. Some studies implement interventions (e.g., behavioural therapy, structured classroom environments) and compare outcomes between groups to evaluate effectiveness in reducing behavioural dysfunction and enhancing school interest[101].

Students with ADHD often exhibit lower levels of interest in school activities compared to their peers. Studies, such as that found that ADHD symptoms correlate negatively with school interest. This is attributed to difficulties in focusing on tasks and maintaining attention during lessons[124].

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A research in New York highlights that environmental factors including classroom management styles and teacher engagement, significantly influence school interest among pupils with ADHD[130]. Supportive and structured environments can foster greater interest. Many studies report that students with ADHD exhibit higher levels of disruptive behaviours in the classroom, such as talking out of turn, difficulty staying seated, and defiance. For example, a study by an author found that behavioural issues in students with ADHD lead to significant classroom disruptions, affecting their learning and that of their peers[9].

Behavioural dysfunction often results in negative peer interactions, leading to social isolation or bullying. A study carried out by a group of researchers at Stanford University indicates that students with ADHD frequently struggle to develop and maintain positive relationships, further exacerbating their behavioural issues[131]. A recent study demonstrates that diminished interest and behavioural issues are closely linked to lower academic performance among students with ADHD[56]. This creates a cycle where lack of engagement leads to poor performance, which in turn reduces motivation and interest.

An empirical research conducted by researchers in London indicates that targeted interventions, including behavioural modification strategies and individualised educational plans (IEPs), can significantly improve both school interest and behavioural functioning. A meta-analysis reported that behavioural interventions not only reduce disruptive behaviours but also enhance students' engagement in school activities[132]. A study in Switzerland has begun to explore how cultural contexts and socioeconomic status affect school interest and behavioural dysfunction in ADHD. For instance, the research suggests that children from lower socioeconomic backgrounds may experience more significant barriers to educational engagement, compounding the challenges posed by ADHD[133]. Numerous studies indicate that pupils with ADHD exhibit significantly

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lower levels of school involvement compared to their peers without ADHD. For instance, research has demonstrated that students with ADHD are more likely to experience disruptions in class, leading to reduced participation in group activities and lower overall academic engagement. The difficulties faced by pupils with ADHD in forming and maintaining peer relationships further exacerbate their disengagement.

A study conducted in rural and semi-rural communities in Pennsylvania and Iowa highlight that these students often encounter social rejection and isolation, contributing to negative self-esteem and reduced motivation to participate in school. Behavioural dysfunction is a critical concern among pupils with ADHD, manifesting in various forms, including aggression, defiance, and impulsivity. Empirical evidence suggests that these behaviours not only affect the individual student but also disrupt classroom dynamics and negatively impact the learning environment for their peers[112].

A study conducted by scholars affiliated with institutions in Switzerland and Germany, including the University of Zurich and the University of Heidelberg, indicates that the presence of students with behavioural dysfunction can lead to increased stress among teachers and other students, resulting in a cycle of disengagement and behavioural issues. Teachers‘ report feeling ill-equipped to manage disruptive behaviours which can further alienate students with ADD from the educational process. Interventions aimed at enhancing school involvement among pupils with ADHD have shown promising results.

A study focusing on behaviour modification techniques, social skills training, and individualised education programmes (IEPs) demonstrates that targeted interventions can significantly improve both behavioural outcomes and academic engagement. Implementing PBIS in schools has been

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associated with improved behaviour and increased school involvement among students with ADHD. This multi-tiered approach emphasises proactive strategies to foster positive behaviour, reduce disruptions, and enhance students‘ engagement[98].

The research stresses the importance of teacher support in promoting school involvement among pupils with ADHD. Studies indicate that educators who receive training on ADHD-specific strategies are more effective in managing classroom behaviour and fostering inclusive environments. Collaborative teaching models, where special education and general education teachers work together, have been shown to enhance the educational experience for students with ADHD. Such models allow for more tailored instruction and support, leading to better academic outcomes and behavioural functioning[23]. School involvement also plays a crucial role in the school experiences of pupils with ADHD. Studies reveal that active engagement from schools in their child's education correlates with improved behavioural outcomes and higher levels of school involvement. This includes regular communication with teachers, participation in school events, and reinforcement of academic expectations at home[12].

A longitudinal study in the United States, tracking pupils with ADHD over time, provides valuable insights into the long-term effects of school involvement on behavioural functioning. Findings suggest that early intervention and sustained support can lead to improved outcomes in adolescence and adulthood, highlighting the critical importance of addressing school involvement from a young age (12). A study analysed the impact of structured classroom environments on children with ADHD in Edo State. The study found that classrooms with consistent routines, clear expectations, and immediate feedback on behaviour significantly reduced disruptive behaviours among children with ADHD[134].

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An author in Nigeria investigated the influence of classroom overcrowding on the behaviour of pupils with ADHD[135]. The findings indicate that classrooms with more than 50 students per teacher contribute to increased hyperactivity and inattention, as teachers are unable to provide individualised attention or maintain effective discipline. This situation is exacerbated by poor teacher training on inclusive education strategies.

In a study conducted, researchers explored the link between teacher empathy and students' behaviour in a sample of 200 primary school pupils diagnosed with ADHD in Anambra State. Results revealed that children whose teachers demonstrated empathy and used positive reinforcement experienced less behavioural dysfunction compared with those whose teachers were punitive or indifferent[136].

Empirical studies show that overcrowded classrooms, lack of recreational spaces, and inadequate school facilities can contribute to hyperactivity and inattention in children with ADHD. For example, the author examined the impact of poor school facilities on ADHD behaviour in public schools across Ibadan. The study found that the absence of condusive learning environments, such as spacious classrooms and quiet learning areas, made it difficult for children with ADHD to focus, leading to heightened disruptive behaviours[137].

According to a study, most public schools in Nigeria do not have access to psychologists or special education professionals who can provide targeted interventions for children with ADHD. This gap in services leaves teachers ill-equipped to handle the specific needs of these children, increasing behavioural dysfunction[138]. Research explored the social interactions of children with ADHD in mixed-ability classrooms in Enugu State. The study found that children with ADHD were more likely to experience peer rejection and bullying due to their hyperactive and impulsive

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behaviours. This social exclusion often leads to increased frustration and aggressive behaviours, further reinforcing the cycle of behavioural dysfunction[12].

2.3.2 Teacher's Recognition of Behavioural Dysfunction Associated with ADHD

Teachers have a crucial role in recognising and providing support for children affected by ADHD[139]. For example, teachers recognise the ADHD diagnostic assessment by providing evidence of impairment in educational settings, which is one of the diagnostic criteria[11]. Studies show that teachers' recognition of ADHD therapeutic modalities significantly impacts the use of ADHD classroom management strategies and students' behavioural outcomes[8]. Also, teachers with good recognition of ADHD display a more positive attitude and behaviour toward the condition[18]. Studies of children affected by ADHD show a desire for teachers to better understand their needs and their specific learning challenges to support them in achieving better educational outcomes[124].

A recent systematic review of ADHD-focused psychoeducational interventions for teacher recognition and children and adolescents with ADHD found moderate to large effect sizes on outcomes such as improved knowledge about ADHD[20]. Another systematic review and meta-analysis demonstrated the effectiveness of ADHD teacher training interventions in improving teachers' knowledge and pupils' outcomes[140]. However, despite this evidence, there are still limited studies of ADHD-focused teacher recognition programmes in Africa. For example, of the 29 studies in the meta-analysis by the author, only four studies were from Africa, of which only one was from Nigeria[140].

On the contrary, studies from Nigeria and other African countries continue to show teachers' poor recognition of ADHD and negative attitudes toward affected children and young people[79]. For example, a study of Nigerian primary school teachers' recognition found that only 9% and

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16% of participants endorsed that ADHD could be managed with medications and psychological therapies, respectively[56]. Similarly, a recent study of Ethiopian primary school teachers found widespread misconceptions about ADHD, including 68% who suggested that affected students should be placed into part-time special education[141].

However, a review of the literature found that teachers tend to hold low recognition of the externalizing behaviour of students with ADHD and feel pessimistic about teaching them[6]. Various studies from around the world have found that teachers don‘t have enough recognition of ADHD and want to learn more[34]. This indicates the possibility that teachers‘ negative perceptions may be due to a lack of knowledge about ADHD. It is re-assuring that the author found that greater recognition of ADHD in teachers correlated with positive attitude scores about ADHD. Measuring teacher efficacy about ADHD recognition and attitudes may provide insight into how to improve the classroom for both teachers and students with ADHD[142]. Teachers‘ recognition is the understanding that they can help even the most difficult students. Because students with ADHD contribute to challenging settings for teachers and classrooms, recognition plays a significant part in how a teacher will handle challenging ADHD behaviours. While research on teacher recognition concerning ADHD knowledge and training is limited, studies in the United Kingdom and Hong Kong have found that self-efficacy may improve after teachers receive training[45].

These findings provide a possible implication that if teachers‘ recognition of ADHD is improved, their self-efficacy will also likely improve, leading to better behaviour management in the classroom. Improved knowledge and self-efficacy can lead to fewer negative beliefs and viewpoints about students with ADHD and more of willingness to implement effective classroom interventions. Additionally, as efficacy improves, willingness to try new programmes

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or methods can also improve[77]. Therefore, as improving ADHD recognition and providing ADHD training is a helpful method for improving teachers‘ self-efficacy, higher self-efficacy will likely prompt more the teachers‘ willingness to implement new strategies learned in training.

A review of current research on ADHD regarding the recognition of teachers indicates that there are many misconceptions about the condition. The author examined the general ADHD recognition of a sample of American and Canadian primary school teachers and found that they had a good general ADHD awareness (78% for Canadians; 77% for Americans)[41]. Similarly, the author corroborated these results with an overall knowledge rate of 77% for elementary school teachers in North America[143]; however, the teachers were poorly informed on existing interventions for ADHD among children. A study was conducted with 149 primary school teachers in the state of New York, USA, using the Knowledge of Attention Deficit Disorders Scale (KADDS). The teachers in that study scored a significantly lower rate of 48% of correct answers regarding what they knew about ADHD. The author stated that although teachers were largely knowledgeable about the main characteristics of ADHD, they were much less knowledgeable about the causes, interventions, and prognosis[144].

An author in United States of America found that teachers‘ recognition with previous teaching experience with children with ADHD had, to a great extent, a better understanding of the condition in contrast to teachers with little or no experience[143]. The author used the Teachers Rating Scale developed through semi-structured telephone interviews[23] with 21 primary school teachers across three states in the USA. The teachers responded to questions concerning a child who met the complete diagnostic criteria for the disorder. Results of the study indicated that the teachers had a lack of understanding of recognition of ADHD behavioural profiles and were not

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knowledgeable of the principles of behaviour management which is crucial for the planning and implementation of successful referrals and interventions. The author concluded that given these results, in-service training for teachers about ADHD, should concentrate on behaviour management. Several quantitative and qualitative studies in USA have looked at teachers‘ recognition of ADHD and found a range from a general lack of recognition to adequate knowledge. Indeed, a search of the curriculum of the top 10 General Education teacher training programmes in the United States found no classes on ADHD and only a few classes on disability or special needs. Teachers‘ recognition of ADHD appears to be related to in-service training and the training appears to be more common in teachers who have been teaching for a long period of time. Additionally, one study found that teachers believe ADHD is diagnosed too often, yet also believe that ADHD behaviours are frustrating and disruptive in the classroom. An ―inefficient‖ knowledge or recognition of ADHD, or a belief that the disorder is diagnosed too often, can cause teachers to miss signals and signs that children in their classroom may need help or intervention for.

An author asked teachers in Australia to read statements about ADHD and select whether those statements were true or false. In-service teachers‘ results showed average teacher recognition responses to be 77% correct. However, the Author modified the questionnaire by including three response options—true, false, and don‘t know—to reduce guesses that resulted in ―correct‖ answers from responders. With this test, the Author found responses to be 47.81% correct, a marked difference. Teachers tend to be able to identify the hallmark characteristics of ADHD but still hold misperceptions about the treatment of ADHD, specifically that ADHD can be effectively treated by diet that poor parenting is to blame for children‘s ADHD symptoms and behaviours in the classroom, or that students with ADHD-behaviours need to try harder to focus

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on their schoolwork. These findings indicate that teachers may not understand a child‘s ability to manage their symptoms or how a teacher can help that student in the classroom. Consistent with previous findings, one study using an updated measuring instrument called the ADHD-School Expectation Questionnaire and found that both pre- and in-service teachers tend to have limited knowledge of ADHD[145].

Additionally, one systematic review of the literature in South Africa found that students with ADHD face significant amounts of stigma from adults in schools, yet teachers and administrators do not see the stigma. A review of the literature found that teachers' recognition tend to hold negative perceptions of the externalising behaviour of students with ADHD and feel pessimistic about teaching them. Interestingly, one study found that teachers‘ ambivalence towards students with ADHD increases as their teaching experience increases. Another study found the increased age of teachers to be positively correlated with recognition of ADHD but negatively correlated with attitude. What‘s more, one Australian study of 177 students with ADHD and 208 without ADHD found that children with all three subtypes of ADHD presentation experienced a poorer student–teacher relationship quality than students without ADHD, with student conduct problems in the ADHD group predicting poorer teacher relationship quality[146].

A recent Australian study found a similar correlation with years in service and teachers‘ beliefs about ADHD: The longer a teacher had been in service, the lower their positive beliefs about ADHD tended to be. A later study in the Western Cape that assessed teachers‘ knowledge of ADHD found that while teachers‘ knowledge was adequate, 64% of teachers found ADHD behaviours irritating, 63% experienced stress when interacting with students exhibiting ADHD behaviours, and 80% felt it was challenging to teach students with ADHD behaviours. In this same study, most teachers indicated they would like more training about ADHD-appropriate

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classroom interventions[147]. Another study conducted in Philippines found that teachers find ADHD behaviours irritating in the classroom, with 73% of university student teachers and 86.5% of teachers reporting that feeling. A later study also found that teachers wanted more information about ADHD, as well as how to manage students with the disorder, and specifically identified methods of receiving that knowledge as videos, literature, collegial meetings, or a lecture. When asked, these same teachers said they would be willing to spend an average of 1/2 day to 1 day a year on this training[148].

Another study in USA found that a 2-hour in-service programme about ADHD resulted in both increased knowledge about ADHD and increased teacher-perceived confidence in working with such students. This is significant because it demonstrates that focused training not only improves ADHD knowledge but can also empower teachers to take that knowledge to their interactions with their students. The author found that teachers‘ recognition specifically felt more confident about creating an acceptable classroom environment for students with ADHD and assisting the classmates to be accepting and understanding such students with ADHD. Teachers‘ recognition did not report an improvement in knowing how to manage stress caused by students with ADHD or how to determine if behavioural progress is being made. This suggests that training should go deeper into behaviour management strategies[149].

A recent study conducted in the Republic of Croatia found that teachers felt a lack of confidence in managing the classroom when a child with ADHD behaviours is present. These teachers relied on teaching assistants, who were able to get to know the child better. However, when the teaching assistant was not present, the teachers‘ confidence diminished. While research on self-efficacy with ADHD recognition and training is limited, one study found that when teachers were provided with training through a school year, their self-efficacy surrounding teaching

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students with ADHD significantly improved over that of teachers in a control group who did not receive training. Additionally, the teachers who received training significantly increased their recognition of ADHD while those in the control group did not.

The teachers in the control group even experienced a significant reduction in self-efficacy in teaching students with ADHD. A meta-analysis found that when teachers were provided with ADHD training, their ADHD recognition significantly improved, with a large effect size. Face-to-face ADHD training was shown to be more effective than online training. In some studies examined in this meta-analysis, teachers‘ ADHD recognition decreased over time, suggesting the need for continuous training opportunities. Importantly, however, knowledge levels still stayed above pre-training levels. Additionally, teachers‘ behaviour improved overall, and teachers reported an increase in the use of behaviour intervention strategies in their classrooms[150].

Studies conducted by authors affiliated with institutions such as the University of Zurich and the Central Institute of Mental Health in Mannheim, Germany, show that teachers do not have adequate recognition of ADHD, and teachers have expressed that they would like related training[12]. The author showed a connection between teacher recognition and ADHD training. The author believes that teachers‘ recognition of ADHD and their practical experiences with students with ADHD are related. This study is an initial attempt to investigate the recognition of teachers for ADHD. There is no current research in Saudi Arabia on school-age children with ADHD, especially in terms of school teachers‘ recognition of the condition. Although several studies examine cultural differences concerning ADHD, little is known about how recognition is affected by the way the disorder is conceptualised due to cultural factors. By providing a cultural dimension, the study adds to the broader international research based on the recognition of

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teachers of children with ADHD[12]. Long-term, prospective follow-up studies of children diagnosed with attention- deficit/hyperactivity disorder (ADHD) in China indicate that symptoms tend to decline with age, but impairments in everyday life functioning often persist into adulthood. However, a study conducted in China showed that impairment stabilised after leaving high school for young adults with ADHD histories who attended college. Furthermore, regardless of parents' involvement during adolescence, attending college was linked to a stable post-high school trajectory of impairment, but young adults with histories of active parenting and who attended college were the least impaired overall[13].

Another study in Saudi Arabia concluded that medical students had a good awareness of ADHD but insufficient knowledge on the topic. Further recommending that, knowledge must be improved and achievable through the promotion of continuous education of students and primary health care physicians[14].

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2.4 Conceptual Model

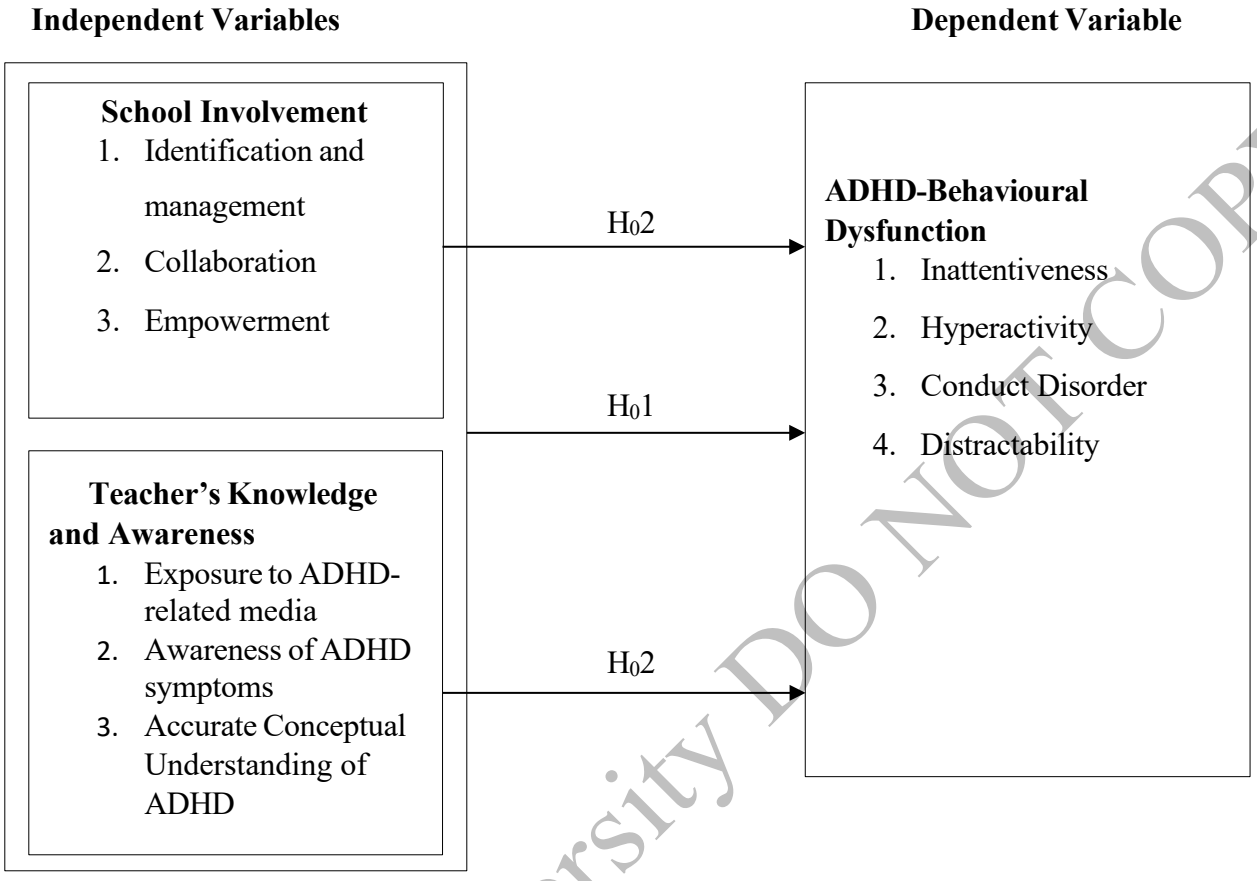


Fig 2.1: Conceptual Model of school involvement, teacher's knowledge and awareness and behavioural dysfunction of Attention-Deficit Hyperactivity Disorder[151].

2.4.1 Explanation of Conceptual Model

The conceptual model for this study illustrates the relationship between school involvement, teachers' knowledge and awareness of ADHD, and behavioural dysfunction among elementary pupils. In this framework, school involvement and teachers' knowledge and awareness of ADHD are identified as the independent variables, while behavioural dysfunction among elementary pupils serves as the dependent variable. School involvement refers to the level of engagement and support provided by schools in addressing ADHD-related challenges, including structured interventions, teacher training, and classroom management strategies. Teachers' knowledge and

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awareness of ADHD encompass their understanding of the disorder, including its symptoms, causes, and effective management techniques that can support affected pupils in a learning environment. The model is structured around two key hypotheses. The first hypothesis (H01) examines the influence of school involvement on behavioural dysfunction among pupils with ADHD. This explores whether a well-structured school environment, with appropriate support systems in place, can reduce ADHD-related behavioural challenges. The second hypothesis (H02) assesses the impact of teachers‘ knowledge and awareness of ADHD on behavioural dysfunction, analyzing whether teachers who are more informed and aware of ADHD symptoms and management strategies can better support pupils and reduce disruptive behaviours.

2.5 Summary of Gaps in Literature Reviewed

Under the review of related literature in this study, many concepts were defined and reviewed; such concepts include school involvement, teacher recognition and ADHD behavioural dysfunction. The meanings of the concepts as they relate to this present study were equally given. Attention-Deficit Hyperactivity Disorder (ADHD) is a condition characterised by impulsivity, inattention, or hyperactivity and distractability that impairs functioning in at least two settings, typically at home and school. It is also one of the most prevalent mental illnesses affecting children and teenagers.

Attention-Deficit Hyperactivity Disorder (ADHD) is divided into three main types: combined, inattentive, and hyperactive-impulsive. The most prevalent type of ADHD is the combined type, characterised by hyperactive or impulsive behaviour along with difficulties in focusing and paying attention. In the hyperactive-impulsive type, which is less common, fewer attentional issues may be common in pre-schoolers, who primarily exhibit a hyperactive component.

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Patients with the attentive type may have trouble focusing, but there are no notable hyperactive or impulsive behaviours. Individuals with ADHD experience numerous challenges in the home, school and social settings. Attention-Deficit Hyperactivity Disorder (ADHD) is the most common neurodevelopmental disorder affecting 5% of children and adolescents. It is associated with significant morbidity and disability, especially when untreated. ADHD is particularly challenging for affected children in educational settings leading to academic underachievement, subsequent occupational dysfunction and long-term socioeconomic burden.

Behavioural dysfunction in ADHD is characterised by impulsivity, hyperactivity and difficulty with self-regulation. These behavioural patterns often interfere with an individual's ability to function effectively in academic, occupational, and social settings. ADHD's primary characteristics are hyperactivity, inattention, and impulsivity which are often manifested through various dysfunctional behaviours. These behaviours influence academic performance, social interactions, and general classroom dynamics. Pupils with ADHD frequently exhibit deficits in executive functioning, emotional regulation, and social skills, leading to noticeable differences in their behaviour compared to their neurotypical peers.

School involvement is defined as a cognitive-affective state defined as a positive, fulfilling, study-related state of mind comprising three components: energy, dedication, and absorption. Energy is characterised by high levels of vigour while studying, interest and willingness to invest in schoolwork, as well as having effective strategies for coping with difficulties. Dedication is described as having positive cognitive attitudes towards school and being dedicated to learning processes and outcomes; while absorption implies feelings of competence and being fully

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concentrated and involved in one‘s studies. These dimensions are separate constructs, but highly correlated with each other. Teachers play a pivotal role in both the identification and management of ADHD. However, their effectiveness in these roles can be significantly influenced by a range of factors, including their understanding of the recognition of ADHD. Teachers who lack accurate recognition or harbour misconceptions about ADHD may fail to recognise or utilise evidence-based interventions and accommodations designed to support students with ADHD in the classroom. In contrast, teachers who possess a more comprehensive understanding and display a positive attitude toward ADHD are generally more inclined to employ effective strategies. These strategies not only aid children with ADHD in their academic achievement but also alleviate their symptoms. Previous studies have underscored a significant correlation between a teacher's recognition of ADHD and their confidence in effectively teaching children with ADHD, fostering an inclusive classroom environment and managing disruptive behaviours.

The literature review on the influence of school involvement and teacher recognition on the behavioural dysfunction of pupils with ADHD reveals a multifaceted relationship shaped by psychological, social, and environmental factors. This review explores these dynamics through the lens of three key theories: Theories of Reasoned Action (TRA), Cultural Relativism Theory, and Social Cognitive Theory. The Theory Reasoned Action states that the performance of a behaviour is determined by three major constructs; intention, attitude, and subjective norm. Intention is an indicator of how hard a person is willing to try and how much of an effort they are willing to exert to perform a particular behaviour. An individual's intention to perform a given behaviour is seen as the immediate determinant of the individual performing that behaviour and a person will usually act per their intentions. The attitude factor refers to an individual's positive

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or negative evaluation of performing the behaviour– it does not assess attitude toward the object *per se*, but rather, attitude toward the performance of a particular behaviour.

The assumptions of cultural relativism theory are based on culture-bound perceptions relating to culturally held ideologies, beliefs, values, and norms. Cultural relativism theory portends that these assumptions configure the cultural behaviours, attitudes, views, way of life, and existential experiences of the native citizens of the culture. Cultural relativism theory suggests that each culture or ethnic group has its values, shared ideals, and beliefs through which the group organizes its collective life, goal, attitude, and worldview, and therefore, each culture or group needs to be evaluated or understood on its culture-specific terms.

Social Cognitive Theory, developed by Bandura, emphasises the role of observational learning, self-efficacy, and reciprocal determinism in shaping behaviour and outcomes. This theory suggests that teachers' recognition of ADHD Behavioural dysfunction is influenced by their social environment, including the availability of teacher recognition and school involvement. Teachers who observe others successfully navigating challenges and receiving teacher recognition are more likely to develop a strong sense of self-efficacy, which can manage the behavioural dysfunction of pupils with ADHD. Conversely, exposure to environments where fatalism is dominant may lead to lower self-efficacy and a reduced sense of control over one‘s life, negatively impacting pupils' behavioural dysfunction.

This study also reviewed the theoretical framework on which the present study was anchored. These theories include cultural relativism theory, Bandura's Socio-cognitive theory and Theories of Reasoned Action. The literature reviewed showed that some researchers used descriptive survey research design in their studies. Some researchers used questionnaires as their instrument

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for data collection. Some used mean, percentage t-test and ANOVA in their data analysis.

In this study, the researcher used a non-experimental design for analysing research and for testing the hypothesis at a 0.05 level of significance. The literature reviewed also described the empirical studies conducted on behavioural dysfunction of pupils with ADHD in Nigeria, America, China, Europe, India, New York and Canada on related studies. Although many studies have been carried out in Nigeria on the behavioural dysfunction of pupils, there is a paucity of literature on similar variables carried out in Oyo State, which is the identified gap this study filled in contribution to knowledge.

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Endnotes

1. M. Nasri, Y.T. Tsou, A. Koutamanis, M. Baratchi, S. Giest, D. Reidsma & C. Rieffe, *A Novel Data-Driven Approach to Examine Children's Movements and Social Behaviour In Schoolyard Environments,* **Children,** 9(8), 2022, 111-137

2. M.A., Mogbana & C. O., Edward, *Deviant Behaviours in Schools: Implications for Counselling*, **Journal of Educational Research & Development**, *5*(1), 2022, 12-22.

3. M. Miller, A.B. Arnett, E. Shephard, T. Charman, H.C. Gustafsson, H. M. Joseph & E. J. Jones, *Delineating Early Developmental Pathways to Adhd: Setting: An International Research Agenda*, **JCPP Advances,** 1(2), 2023, 124-144.

4. J.R. Budman, H. Fogel-Grinvald & A. Maeir, *Psychological Health and Quality of Life among Ultra-orthodox Mothers of Children with Attention-Deficit Hyperactivity Disorder: Impact of Occupational Experiences*, **Physical & Occupational Therapy in Pediatrics,** 1(1), 2023, 1-16.

5. W.W. Chan, K.K.M. Shum & E.J. Sonuga-Barke, *Attention Deficit/ Hyperactivity Disorder (ADHD) in Cultural Context: Do Parents in Hong Kong and the United Kingdom Adopt Different Thresholds When Rating Symptoms, and If So Why?* **International Journal of Methods in Psychiatric Research,** 1,2, 2023, 19-29.

6. E. Okyar, L. Bozatlı, I. Görker & S. Okyar, *Anxiety and Somatic Symptoms in Children and Adolescents Diagnosed with Attention-Deficit Hyperactivity Disorder*, **Psychiatry Journal**, 2(2), 2023*, 10-20*, 5523312. https://doi. org/10.1155/2023/5523312

7. D.R. Wilson & T. Seymour, *Three Types of ADHD: What Are the Differences?* **Medical News Today**, 2022. https://www. medicalnewstoday.com/articles/ adhd-awareness

8. National Institute of Mental Health, *Attention-Deficit/ Hyperactivity Disorder in Children and Teens: What You Need to Know*, 2021, NIMH.https://.ww w. nimh.nih.gov

9. G.J. DuPaul & G. Stoner, *ADHD in the Schools: Assessment and Intervention Strategies* (3rd ed.), New York: Guilford Press, 2023.

10. G. Polanczyk, M.S, de Lima, B. L., Horta, J., Biederman & L.A., Rohde, *The Worldwide Prevalence of ADHD: A Systematic Review and Meta-regression Analysis,* **American Journal of Psychiatry***,* 164(6), 2019, 942-948.

11. L. Jerome, P. Washington, C.J. Laine & A. Segal, *Graduating Teachers' Knowledge and Attitudes about Attention-Deficit Hyperactivity Disorder: A Comparison with Practising Teachers,* **Canadian Journal of Psychiatry***,* 44(2), 2019, 12-30

Lead City University DO NOT COPY

12. R. Drechsler, S. Brem, D. Brandeis, E. Grünblatt, G. Berger & S. Walitza,. *ADHD: Current Concepts and Treatments in Children and Adolescents*. **Neuropediatrics**, 51(5), 2020, 315–335. https://doi. org/10.1055/s-0040- 1701658

13. X. Fan, Y. Ma, J. Cai, G. Zhu, W. Gao, Y. Zhang, N. Lin, Y. Rao, S. Mao & R. Li, *Do Parents of Children with ADHD Know the Disease? Results from a Cross-Sectional Survey in Zhejiang, China*, **Children,** 9(11), 2022, 177-195. https://doi.org/10.3390/ children9111775

14. F. Alanazi & Y. Al Turki, *Knowledge and Attitude of Attention- Deficit and Hyperactivity Disorder (ADHD) among Male Primary School Teachers, in Riyadh City, Saudi Arabia*, **Journal of Family Medicine and Primary Care,** 10 (3), 2021, 1218–1226. https://doi.org/10.4103/jfmpc.jfmpc 219420

15. J.A. Sedgwick-Müller, U. Müller-Sedgwick, M. Adamou, M. Catani, R. Champ, G. Gudjónsson, B. Hank, M. Pitts, S. Young & P. Asherson, *University Students With Attention-Deficit Hyperactivity Disorder (ADHD): A Consensus Statement From The UK Adult ADHD Network (UKAAN),* **BMC Psychiatry***,* 22(1), 2022, 292-312. https://doi.org/10.1186/s12888-022- 03898-z

16. American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders: DSM-5, American Psychiatric Association, Washington, DC, 2023.

17. B. J. Sadock & V. A. Sadock, *Kaplan and Sadock's Synopsis of Psychiatry, Behavioural Sciences/Clinical Psychiatry*, in Lippincott Williams & Wilkins, 2021.

18. R. Thomas, S. Sanders, J. Doust, E. Beller, & P. Glasziou, *Prevalence of Attention-Deficit/Hyperactivity Disorder: A Systematic Review And Meta-Analysis,* **Pediatrics**, 135(4), 2020, e994–e1001

19. E. G. Willcutt, ―*The Prevalence of DSM-IV Attention-Deficit/- Hyperactivity Disorder: A Meta-Analytic Review*, **Neurotherapeutics**, 9(3), 2022, 490–499.

20. M. Odenwald, F. Neuner & M. Schauer, *Khat Use as Risk Factor For Psychotic Disorders: A Cross-Sectional and Case-control Study in Somalia,* **BMC Medicine**, 3(1), 2019, 5-15.

21. S. N. Visser, M. L. Danielson & R. H. Bitsko, *Trends in the Parent-Report of Health Care Provider-Diagnosed and Medicated Attention-Deficit/Hyperactivity Disorder: United States, 2013–2021,* **Journal of the American Academy of Child & Adolescent Psychiatry**, 3(1), 2022, 34–46.

22. K. Larson, S. A. Russ, R. S. Kahn & N. Halfon, *Patterns of Comorbidity, Functioning, and Service Use for US Children with ADHD,* 2017, **Pediatrics**, 127(3), 2021, 462–470.

Lead City University DO NOT COPY

[23] F. Catalá-López, S. Peiró, M. Ridao, G. Sanfélix-Gimeno, R. Gènova-Maleras, & M. A. Catalá, *Prevalence of Attention-Deficit Hyperactivity Disorder among Children and Adolescents in Spain: A Systematic Review and Meta-Analysis of Epidemiological Studies*, **BMC Psychiatry**, 12(1), 2022, 1-10.

[24] L.A. Rohde, C. Szobot, G. Polanczyk, M. Schmitz, S. Martins, & S. Tramontina, *Attention-Deficit/Hyperactivity Disorder in A Diverse Culture: Do Research and Clinical Findings Support the Notion of a Cultural Construct For The Disorder?,* **Biological Psychiatry**, 57(11), 2020, 1436–1441.

[25] C. Montiel, J. A. Peña, I. Montiel-Barbero, & G. Polanczyk, *Prevalence Rates of Attention Deficit/Hyperactivity Disorder in a School Sample of Venezuelan children*, **Child Psychiatry and Human Development**, 39(3), 2019, 311–32.

[26] J. H. Al Hamed, A. Z. Taha, A. A. Sabra & H. Bella, *Attention-Deficit Hyperactivity Disorder (ADHD) among Male Primary School children in Dammam, Saudi Arabia: Prevalence and Associated Factors,* **The Journal of the Egyptian Public Health Association**, 83(3-4), 2020, 165–182.

[27] M. Homidi, Y. Obaidat & D. Hamaidi, *Prevalence of Attention Deficit and Hyperactivity Disorder among Primary School Students in Jeddah City, KSA*, **Life Science Journal,** 10(3), 2023, 280–28.

[28] A. Meysamie, M. D. Fard, & M. R. Mohammadi, *Prevalence of Attention-Deficit/Hyperactivity Disorder Symptoms in Preschool-Aged Iranian Children,"* **Iranian Journal of Pediatrics,** 21(4), 2021, 467–472.

[29] M. Bakare, *Attention Deficit Hyperactivity Symptoms and Disorder (ADHD) Among African Children: A Review of Epidemiology and Co-morbidities*, **The African Journal of Psychiatry**, 15(5), 2022, 358–361.

[30] T. Farahat, M. Alkot, A. Rajab & R. Anbar, *Attention Deficit Hyperactive Disorder among Primary School Children in Menoufia Governorate, Egypt,* **International Journal of Family Medicine**, 2014, 2021, 1-7. Article ID 257369.

[31] C. E. Ofovwe, G. E. Ofovwe, & A. Meyer, *The Prevalence of Attention Deficit/Hyperactivity Disorder (ADHD) Among Primary School Pupils of Benin Metropolis, Nigeria,* **Journal of Child & Adolescent Mental Health**, 18(1), 2019, 1–5.

[32] J. M. Chinawa, O. I. Odetunde, H. A. Obu, A. T. Chinawa, M. O. Bakare, & F. A. Ujunwa, *Attention-Deficit Hyperactivity Disorder: A Neglected Issue in the Developing World*, **Behavioural Neurology**, 6 (2), 2022, 11-21.

Lead City University DO NOT COPY

33. S. Wamithi, R. Ochieng, F. Njenga, S. Akech & W. M. Macharia, *Cross-sectional Survey on Prevalence of Attention-Deficit Hyperactivity Disorder Symptoms at a Tertiary Care Health Facility in Nairobi,* **Child and Adolescent Psychiatry and Mental Health**, 9(1), 2021, 1-10.

34. E. Kashala, *Mental Health of African School Children: Epidemiological, Clinical and Neuropsychological Studies from Kinshasa, the Democratic Republic of Congo*, **The University of Bergen**, 2020.

35. F. M. El-Nemr, H. S. Badr, & M. S. Salem, *Prevalence of Attention-Deficit Hyperactivity Disorder in Children*, **Science Journal of Public Health**, 3(2), 2021, 274–280.

36. Y. Ashenafi, D. Kebede, M. Desta, & A. Alem, *Prevalence of Mental and Behavioural Disorders in Ethiopian Children,* **East African Medical Journal**, 78(6), 2021, 308–311.

37. E. Mick & S. V. Faraone, *Genetics of Attention-Deficit Hyperactivity Disorder*,‖ **Child and Adolescent Psychiatric Clinics of North America**, 17(2), 2020, 261–284.

38. G. Polanczyk, M. S. de Lima, B. L. Horta, J. Biederman & L. A. Rohde, ―*The Worldwide Prevalence of ADHD: A Systematic Review and Meta-regression Analysis,* **The American Journal of Psychiatry,** 164(6), 2020, 942–948,.

39. American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.). American Psychiatric Publishing, 2023

40. American Psychiatric Association, *Diagnostic and Statistical Manual Of Mental Disorders (DSM-IV),* Washington DC, 2021

41. G.J. DuPaul & G. Stoner, *ADHD in the Schools: Assessment and Intervention Strategies* (3rd ed.), New York: Guilford Press, 2023.

42. R.A. Barkley, *Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment (4th ed.),* New York: Guilford Press, 2020.

43. G.J. DuPaul, T. J. Power, A. D. Anastopoulos & R. Reid, *ADHD Rating Scale-IV: Checklists, Norms, and Clinical Interpretation*, New York: Guilford Press, 2020.

44. C. Green, *Management of Attention Deficit Disorder: A Personal Perspective,* **Modern Medicine of Australia,** 37(2), 2021, 38-53.

45. W.W. Chan, K.K.M. Shum & E. J. Sonuga-Barke, *Attention Deficit/Hyperactivity Disorder (ADHD) in Cultural Context: Do Parents in Hong Kong and the United*

Lead City University DO NOT COPY

Kingdom Adopt Different Thresholds When Rating Symptoms, and If so Why? **International Journal of Methods in Psychiatric Research**, 1(2), 2023, 19-29.

46. Y. Choksomngam, W. Jiraporncharoen, K. Pinyopornpanish, A. Narkpongphun, K. Ongprasert, & K. C. Angkurawaranon, *Associations between Family Functioning and Symptoms of Attention-Deficit Hyperactivity Disorder (ADHD): A Cross-Sectional Study*, **Healthcare,** 10(8), 2022, 1480-1502.

47. R. Schoeman & T. Voges, *Attention-Deficit Hyperactivity Disorder Stigma: The Silent Barrier to Care,* **South African Journal of Psychiatry**, *28*, 7, 2022, 12-30.

48. S. Eftari & A. Tajikesmaeili, *The Role of Cognitive Emotion Regulation Strategies in Marital Adjustment as Mediated By Lifestyle.* **Journal of Psychological Science,** 21(117), 2022, 1743-1760.

49. M.A. Mogbana & C. O. Edward, *Deviant Behaviours in Schools: Implications for Counselling,* **Journal of Educational Research & Development,** *5*(1), 2022, 12-22.

50. S.C. Anyama, *Parental Stressors and Psychological Wellbeing of Parents of Children with Special Needs: Implications for Counselling*, **African Education and Diaspora Studies**, 33(1), 2022, 1-10.

51. S. Rungan, M. Liu, H. V. Edwige, J. Smit-Merry & J. Eastwood, *What Does the Term Childhood Behavioural Disorders Mean in the Context of Aboriginal Culture Within Australia? Part 2: Historical and Social Context,* **Journal of Paediatrics and Child Health,** 58(11), 2022, 1946-1951.

52. T.J. Dekkers, R. Hornstra, B.J. van den Hoofdakker, S.R. de Jong, J. V. Schaaf, G. Bosmans & S. van der Oord, *Attachment Representations in Children with and Without Attention-Deficit/ Hyperactivity Disorder (ADHD),* **Brain Sciences***,* 11(11), 2021, 1500-1516. https:// doi.org/10.3390/brainsci11111516

53. M.O. Ogundele, *Behavioural and Emotional Disorders in Childhood: A Brief for Paediatricians.* **World Journal of Clinical Pediatrics,** *7*(1), 2018, 9–26. https://doi.org/10.5409/ wjcp.v7.i1.9

54. S. Bhandari, *ADHD in Children: When A Teacher Recognises ADHD Symptoms,* WedMD. https://www. webmd.com/add-adhd/childhood-adhd/when-teacher-recognises-adhd-symptoms, 2023

55. F. Alanazi & Y. Al Turki, *Knowledge and Attitude of Attention-Deficit and Hyperactivity Disorder (ADHD) Among Male Primary School Teachers, in Riyadh City, Saudi Arabia*, **Journal of Family Medicine and Primary Care***,* 10(3), 2021, 1218–1226. https://doi.org/10.4103/jfmpc.jfmpc 219420

Lead City University DO NOT COPY

56. C. Ching, G.D. Eslick & A. S. Poulton, *Evaluation of Methylphenidate Safety and Maximum-Dose Titration Rationale in Attention-Deficit/Hyperactivity Disorder: A Meta-Analysis*, **JAMA Pediatrics,** 173(7), 630-639.

57. V.A. Nazarova, A.V. Sokolov, V.N. Chubarev, V.V. Tarasov & H.B. Schiöth, *Treatment of ADHD: Drugs, Psychological Therapies, Devices, Complementary and Alternative Methods as well as the Trends in Clinical Trials,* ***Frontiers in Pharmacology*** 13(1), 2022, 12-30 https://doi. org/10.3389/fphar.2022.1066988

58. N. Salari, H. Ghasemi, & N. Abdoli, *The Global Prevalence of ADHD in Children and Adolescents: A Systematic Review and Meta-Analysis*. **Italian Journal of Pediatrics** 49, 2023, 38-48. https://doi.org/10.1186/s13052- 023-01456-1.

59. R.A. Lawson, N., Papadopoulos & L. Imeraj, *Parenting Style and Child Outcomes in ADHD: A Systematic Review of the Literature*, **Journal of Attention Disorders,** *25(1), 2021, 8-20.*

60. M. Mohammed, T., Bella-Awusah, B. Adedokun, I., Lagunju & C. Ani, *Effectiveness of a Training Programme on the Knowledge and Perception of Attention - Deficit Hyperactivity Disorder among Primary School Teachers in Kano, Nigeria,* **International Journal of Mental Health,** 1 (2), 2023, 12-30. DOI: 0.1080/00207411.2023.2253397.

61. American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV),* Washington DC, 2022.

62. G.J. DuPaul, *False and Simplistic Dichotomies: A Response to Valentine.* **NASP Communiqué**, 24, 3, 2019, 11-19

63. N. Zendarski, K. Haebich, S. Bhide, J. Quek, J. M. Nicholson, K. E. Jacobs, D. Efron & E. Sciberras, *Student–Teacher Relationship Quality in Children With and Without ADHD: A Cross-Sectional Community-Based Study,* **Early Childhood Research Quarterly,** 51(2), 2020, 275–284. https://doi.org/10.1016/j.ecresq.2019.12.006

64. R. A. Barkley & K. K. Murphy. *Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment, Book Review*, **Journal of Attention Disorders**, 11, 2019, 179-180.

65. M.L. Wolraich, J. F. Hagan, J. D. Winner & W. Zurhellen, *Clinical Practice Guideline For the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents*, **Pediatrics,** 144(4), 2019, 25-28. https://doi.org/10.1542/peds.2019

Lead City University DO NOT COPY

66. Center for Disease Control and Prevention, *What is ADHD? National Center on Birth Defects and Developmental Disabilities* (NCBDDD), 2023. https://www.cdc.gov/ncbddd/adhd/facts.html.

67. R. A. Barkley, *Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment* (4th ed.), New York: Guilford Press, 2023.

68. A. Sorubek, M. Kelly & X, Li, *Inattentiveness in Attention-Deficit/Hyperactivity Disorder,* **Neuroscience Bulletin,** 29, 2019, 103-110.

69. F. Lenzi, S. Cortese, J. Harris & G. Masi, *Pharmacotherapy of Emotional Dysregulation in Adults with ADHD: A Systematic Review and Meta-Analysis*. **Neuroscience and Biobehavioural Review,** 84, 2019, 395-367.

70. A.O. Adewuya & O.O. Famuyiwa, Attention-Deficit Hyperactivity Disorder *among Nigeria Primary School Children: Prevalence and Co-Morbid Conditions,* **Eur child Adolescent Psychiatry**, 6, 2019, 10-15.

71. E.G. Willcutt, *The Prevalence of DSM-IV Attention- Deficit/Hyperactivity Disorder: A Meta-Analytic Review*, **Neurotherapeutics**, 9, 2022, 490-499

72. P. Neca, M.L. Borges & P. *Compos-Pinto, Teachers with Disabilities: A Literature Review,* **Int. J. Incl. Educ**, 2020, 1–19. doi: 10.1080/13603116.2020.1776779

73. R.A. Barkley, *Deficient Emotional Self-Regulation: A Core Component of ADHD*, **Journal of ADHD and Related Disorders**, 1(1), 2020, 5-30

74. V.E. Snider, T. Busch & I. Arrowood, *Teacher Knowledge of Stimulant Medication and ADHD*. **Remedial and Special Education**, 24(1), 2021, 46–57.

75. N. Zendarski, K. Haebich, S. Bhide, J. Quek, J.M. Nicholson, K. E. Jacobs, D. Efron & E. Sciberras, *Student–Teacher Relationship Quality in Children With and Without ADHD: A Cross-Sectional Community-Based Study*, **Early Childhood Research Quarterly***, 51*(2), 2020, 275–284. https://doi.org/10.1016/j.ecresq.2019.12.006

76. T. Hai, & E.A. Climie, *Positive Child Personality Factors In Children with ADHD*, **Journal of Attention Disorders**, 1(2), 2021, 12–30. https://doi.org/10.1177/1087054721997

77. K. Murphy, *Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment (Book Review)*, **Journal of Attention Disorders**, 11, 2019, 179–180.

78. R.J. Ward, S.J. Bristow, H. Kovshoff, S. Cortese, & J. Kreppner, *The Effects of ADHD Teacher Training Programmes on Teachers and Pupils: A Systematic Review*

Lead City University DO NOT COPY

and Meta-Analysis, **Journal of Attention Disorders**, 26(2), 2022, 225–244. https://doi.org/10.1177/1087054720972801

79. D.L. Anderson, S.E. Watt, W. Noble, & D.C. Shanley, *Knowledge of Attention-Deficit Hyperactivity Disorder (ADHD) And Attitudes Toward Teaching Children With ADHD: The Role Of Teaching Experience*, **Psychology in the Schools**, 49(6), 2022, 511–525.

80. L. Masse, M.F. Nadeau, N. Gaudreau, S. Nadeau, C. Gauthier, & N. Lessard, *Pre-Service Teachers' Attitudes Toward Students with Behavioural Difficulties: Associations With Individual And Educational Programmes Characteristics*, **Frontiers in Education**, 7(8), 2022, 46–73. https://doi.org/10.3389/feduc.2022.846223

81. J.M. Kauffman, & G. Farkas, *Veracity in Special Education*, **Exceptionality**, 30, 2021, 43–56. https://doi.org/10.1080/09362835.2021.1938066

82. H. Flavian, & E. Kass, *Israeli Mentoring Programmes: The Practice Component*, in *The International Handbook Of Mentoring: Paradigms, Practices, Programmes, And Possibilities*, eds B., Irby & J.N., Boswell, New York, NY: Wiley-Blackwell, 2020, 367–382. https://doi.org/10.1002/9781119142973.ch22

83. S. Adiputra, *Perceptions of Inclusion Education By Parents of Elementary School-Aged Children In Lampung, Indonesia*, **International Journal of Instruction**, 12(1), 3029, 199–212. https://doi.org/10.29333/iji.2019.12113a

84. J. Tibke, *Why The Brain Matters: A Teacher Explores Neuroscience*, SAGE, 2019. https://doi.org/10.36019/9780813593906

85. M.K. Merga, *Fallen Through The Cracks: Teachers' Perceptions Of Barriers Faced By Struggling Literacy Learners In Secondary School*, **English in Education**, 54(4), 2020, 371–395. https://doi.org/10.1080/04250494.2019.1672502

86. J. Hollingdale, E. Woodhouse, S. Young, A. Fridman, & W. Mandy, *Autistic Spectrum Disorder Symptoms in Children and Adolescents with Attention-Deficit/Hyperactivity Disorder: A Meta-Analytical Review*, **Psychological Medicine**, 50(13), 2020, 2240–2253. https://doi.org/10.1017/S0033291719002368

87. R. Martinussen, J. Hayden, S. Hogg-Johnson, & R. Tannock, *A Meta-Analysis of Working Memory Impairments in Children with Attention-Deficit/Hyperactivity Disorder*, **Journal of the American Academy of Child & Adolescent Psychiatry**, 44(4), 2020, 377–384.

88. M. Crawford, *Ecological Systems Theory: Exploring the Development of the Theoretical Framework as Conceived by Bronfenbrenner*, **J Pub Health Issue Pract**, 4(2), 2020, 170. doi: https://doi.org/10.33790/jphip1100170

Lead City University DO NOT COPY

[89] B. Msangi, *The Relevancy of Bronfenbrenner's Ecological Systems Theory in Early Childhood Education*, ***Journal of Issues and Practice in Education***, *4*(1), 2012. https://doi.org/10.61538/jipe.v4i1.244

[90] R. Tannock, *A Meta-Analysis of Working Memory Impairments in Children with Attention-Deficit/Hyperactivity Disorder*, **Journal of the American Academy of Child & Adolescent Psychiatry**, 44(4), 2020, 377–384.

[91] G. Polanczyk, M.S. de Lima, B.L. Horta, J. Biederman, & L.A. Rohde, *The Worldwide Prevalence of ADHD: A Systematic Review and Metaregression Analysis*, **American Journal of Psychiatry**, 164(6), 2019, 942–948.

[92] National Institute of Mental Health, *Attention-Deficit/Hyperactivity Disorder*. https://www.nimh.nih.gov/health/topics/attention, 2023.

[93] Center for Disease Control and Prevention, *What Is ADHD?* **National Center on Birth Defects and Developmental Disabilities (NCBDDD)**. https://www.cdc.gov/ncbddd/adhd/facts.html, 2023.

[94] L.E. Arnold, P. Hodgkins, J. Kahle, M. Madhoo, & G. Kewley, *Long-Term Outcomes of ADHD: Academic Achievement and Performance*, **Journal of Attention Disorders**, 24(1), 2023, 73–85. https://doi.org/10.1177/1087054714566076.

[95] F.X. Castellanos, *Anatomic Brain Abnormalities in Monozygotic Twins Discordant For Attention-Deficit Hyperactivity Disorder*, **American Journal of Psychiatry**, 163(5), 2019, 941–948.

[96] R.A. Barkley, *The Assessment Of Attention Deficit Hyperactivity Disorder*, **Behavioural Assessment**, 9, 2021, 207–233.

[97] E.G. Willcutt, *The Prevalence Of DSM-IV Attention-Deficit/Hyperactivity Disorder: A Meta-Analytic Review*, **Neurotherapeutics**, 9(3), 2022, 490–499.

[98] E.J. Sonuga-Barke, S.P. Becker, & S. Bölte, *Annual Research Review: Perspectives on Progress In ADHD Science - From Characterization To Cause*, **Journal of Child Psychology and Psychiatry**, 64, 2023, 506–532. https://doi.org/10.1111/jcpp.13696.

[99] B. Hoza, *Peer Functioning In Children with ADHD*, **Journal of Pediatric Psychology**, 32(6), 2019, 655–663.

[100] American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders (5th Ed.)*, Washington, DC: Author, 2023.

[101] M.A. Sullivan, A.D. Hutchinson, & J.D. Keehn, *Working Memory in Children With ADHD: A Systematic Review Of Working Memory Training Studies*, **Journal of**

Lead City University DO NOT COPY

Child Psychology and Psychiatry, 57(5), 2020, 483–496.

[102.] R. Martinussen, J. Hayden, S. Hogg-Johnson, & R. Tannock, *A Meta-Analysis of Working Memory Impairments In Children With Attention-Deficit/Hyperactivity Disorder*, **Journal of the American Academy of Child & Adolescent Psychiatry**, 44(4), 2020, 377–384.

[103.] J. Biederman, E., Mick, & S.V., Faraone, *Age-Dependent Decline of Symptoms Of Attention-Deficit Hyperactivity Disorder: Impact Of Remission Definition And Symptom Type*, **American Journal of Psychiatry**, 161(7), 2020, 1149–1156.

[104.] R.A. Barkley, *Attention-Deficit Hyperactivity Disorder: A Handbook For Diagnosis And Treatment (4th Ed.)*, New York: Guilford Press, 2020.

[105.] P. Shaw, A. Stringaris, J. Nigg, & E. Leibenluft, *Emotion Dysregulation In Attention-Deficit Hyperactivity Disorder*, **American Journal of Psychiatry**, 171(3), 2021, 276–293.

[106.] T.W. Frazier, E.A. Youngstrom, J.J. Glutting, & M.W. Watkins, *ADHD and Achievement: Meta-Analysis Of The Child, Adolescent, And Adult Literatures And A Concomitant Study With College Students*, **Journal of Learning Disabilities**, 40(1), 2019, 49–65.

[107.] J. Appleton, S.L. Christenson, D. Kim, & A.L. Reschly, *Measuring Cognitive And Psychological Engagement: Validation Of The Student Engagement Instrument*, **Journal of School Psychology**, 44(5), 2020, 427–445. https://doi.org/10.1016/j.jsp.2006.04.002.

[108.] UNICEF, *Primary Education*, 2021. https://www.unicef.org/education/primary-education.

[109.] UNICEF, *Secondary Education*, 2021. https://www.unicef.org/topics/secondary-education.

[110.] G.C. Patton, S.M. Sawyer & J.S. Santelli, *Our Future: A Lancet Commission on Adolescent Health and Wellbeing*, **The Lancet**, 87(10036), 2021, 2423–2478.

[111.] WHO and UNESCO, *Making Every School A Health-Promoting School: Global Standards And Indicators For Health-Promoting Schools And Systems*, Geneva: WHO, 2021.

[112.] D. Felmlee, C. McMillan, P. Inara, Rodis & D.W. Osgood, *Falling Behind: Lingering Costs of the High School Transition for Youth Friendships and Grades*, **Sociology of Education**, 91(2), 2018, 159–182.

Lead City University DO NOT COPY

[113] A. Hodges, R. Cordier, A. Joosten, H. Bourke-Taylor & R. Speyer, *Evaluating the Psychometric Quality of School Connectedness Measures: A Systematic Review*, **PLoS ONE**, 13(9), 2019, 20–33.

[114] M.T. Wang & J.L. Degol, *School Climate: A Review of the Construct, Measurement, and Impact on Student Outcomes*, **Educational Psychology Review**, 28(2), 2019, 315–352.

[115] C. Bonell, E. Allen & E. Warren, *Effects of the Learning Together Intervention on Bullying and Aggression in English Secondary Schools (INCLUSIVE): A Cluster Randomised Controlled Trial*, **The Lancet**, 392(10163), 2019, 2452–2464.

[116] S. Shinde, H.A. Weiss & B. Varghese, *Promoting School Climate And Health Outcomes With The SEHER Multi-Component Secondary School Intervention In Bihar, India: A Cluster-Randomised Controlled Trial*, **The Lancet**, 392(10163), 2019, 2465–2477.

[117] K. Allen, M.L. Kern, D. Vella-Brodrick, J. Hattie, & L. Waters, *What Schools Need To Know About Fostering School Belonging: A Meta-Analysis*, **Educational Psychology Review**, 30(1), 2019, 1–34.

[118] M. Jimoh, *Knowledge and Attitude Towards Attention-Deficit Hyperactivity Disorder among Primary School Teachers in Lagos State, Nigeria*, **Advances in Life Science and Technology**, 23, 2019, 7–15.

[119] I. Adeosun, O. Ogun, O. Fatiregun & S. Adeyemo, *Attitude of Nigerian Primary School Teachers To Children With Attention-Deficit Hyperactivity Disorders*, **European Psychiatry**, 28(1), 2019, 1–11.

[120] M. Moldavsky & K. Sayal, *Knowledge And Attitudes About Attention-Deficit/Hyperactivity Disorder (ADHD) And Its Treatment: The Views Of Children, Adolescents, Parents, Teachers And Healthcare Professionals*, **Current Psychiatry Reports**, 15(8), 2019, 37–57.

[121] M. Mohammed, T. Bella-Awusah, B. Adedokun, I. Lagunju, & C. Ani, *Effectiveness of a Training Programme on the Knowledge and Perception of Attention-Deficit Hyperactivity Disorder among Primary School Teachers In Kano, Nigeria*, **International Journal of Mental Health**, 2023. https://doi.org/10.1080/00207411.2023.2253397.

[122] D. Lasisi, C. Ani, V. Lasebikan, L. Sheikh, & O. Omigbodun, *Effect of Attention-Deficit-Hyperactivity-Disorder Training Programme on the Knowledge and Attitudes of Primary School Teachers in Kaduna, North-Western Nigeria*, **Child and Adolescent Psychiatry and Mental Health**, 11(1), 2020, 1–15. https://doi.org/10.1186/s13034-017-0153-8.

Lead City University DO NOT COPY

[123.] A.S. Strelow, M. Dort, M. Schwinger & H. Christiansen, *Influences on Pre-Service Teachers' Intention to Use Classroom Management Strategies For Students With ADHD: A Model Analysis*, **International Journal of Educational Research**, 103(101627), 2020, 1–13. https://doi.org/10.1016/j.ijer.2020.101627.

[124.] J.M. Kos, A.L. Richdale, & M.S. Jackson, *Knowledge of Attention-Deficit/Hyperactivity Disorder: A Comparison of In-Service and Pre-Service Teachers*, **Psychology in the Schools**, 41, 2021, 517–526.

[125.] K.J. Kramer, T. Davis, C.B. McNeil, & E.U. Brady, *Parental Knowledge and Perceptions of ADHD: A Comparison of Children with and Without ADHD*, **Journal of Child and Family Studies**, 29(9), 2020, 2558–2567.

[126.] S.V. Faraone, T. Banaschewski, & D. Coghill, *The World Federation of ADHD International Consensus Statement: 208 Evidence-Based Conclusions About The Disorder*, **Neuroscience and Biobehavioural Reviews**, 128, 2021, 789–818. https://doi.org/10.1016/j.neubiorev.2021.01.022.

[127.] I. Ajzen, *The Theory of Planned Behaviour*, **Organisational Behaviour and Human Decision Processes**, 50, 2017, 179–211.

[128.] I. Ajzen, *Attitudes, Personality, and Behaviour*, Buckingham: Open University Press; Reviewed by Open Library, 2022.

[129.] I. Ajzen, *The Directive Influence of Attitudes on Behaviour*, in P.M. Gollwitzer & J.A. Bargh (Eds.), *The Psychology of Action: Linking Cognition and Motivation to Behaviour*, New York, NY: Guilford, 385–403.

[130.] I. Ajzen, *Nature and Operation of Attitudes*, **Annual Review of Psychology**, 52, 27–58.

[131.] I., Ajzen, & M., Fishbein, *Understanding Attitude and Predicting Social Behaviour*, Englewood Cliffs, NJ: Prentice-Hall.

[132.] J. Hattie, *Visible Learning: Feedback*, New York: Routledge, 2016.

[133.] A.Y. Mikami, *Peer Relationships in Children with ADHD: A Meta-Analytic Review*, **Journal of Abnormal Child Psychology**, 38(5), 2020, 651–663.

[134.] G.A. Fabiano, *A Meta-Analysis of Behavioural Interventions For Attention-Deficit/Hyperactivity Disorder*, **Clinical Psychology Review**, 29(2), 2019, 185–198.

[135.] R.M. Ghandour, *Mental Health Conditions among Children: A New Look at Disparities*, **Journal of Child and Family Studies**, 27(4), 2018, 1329–1341.

Lead City University DO NOT COPY

[136.] A. Ehimwenma, & D. Omoike, *Classroom Structure And Behavioural Outcomes For Children With ADHD In Edo State*, **Journal of Special Education Needs**, 13(2), 2021, 22–35.

[137.] F.A. Akinbami, *Influence of Overcrowded Classrooms on ADHD Behaviours In Nigerian Primary Schools*, **Educational Research and Development Journal**, 18(4), 2020, 67–79.

[138.] J.N. Okeke, *Teacher Empathy and Behavioural Outcomes in Pupils with ADHD*, **International Journal of Psychological Studies**, 9(1), 2019, 12–29.

[139.] K. Olanrewaju, & O. Adeniyi, *School Infrastructure And Its Impact On ADHD Behaviour In Ibadan Public Schools*, **Nigerian Educational Review**, 25(3), 2019, 87–101.

[140.] S. Adeyemo, *Attitude Of Nigerian Primary School Teachers To Children With Attention-Deficit Hyperactivity Disorders*, **European Psychiatry**, 28(1), 2019, 1–11.

[141.] M. Moldavsky, & K., Sayal, *Knowledge And Attitudes About Attention-Deficit/Hyperactivity Disorder (ADHD) And Its Treatment: The Views Of Children, Adolescents, Parents, Teachers And Healthcare Professionals*, **Current Psychiatry Reports**, 15(8), 2019, 37–57.

[142.] R.J. Ward, S.J., Bristow, H., Kovshoff, S., Cortese, & J., Kreppner, *The Effects of ADHD Teacher Training Programmes n Teachers and Pupils: A Systematic Review And Meta-Analysis*, **Journal of Attention Disorders**, 26, 2022, 225–244. https://doi.org/10.1177/1087054720972801.

[143.] A.H. Woyessa, T.P. Tharmalingadevar, S.P., Upashe, & D.C., Diriba, *Primary School Teachers' Misconceptions About Attention-Deficit/Hyperactivity Disorder in Nekemte Town, Oromia Region, Western Ethiopia*, **BMC Research Notes**, 12(1), 2019, 510–524. https://doi.org/10.1186/s13104-019-4573-9.

[144.] M.A. Mogbana, & C.O., Edward, *Deviant Behaviours In Schools: Implications For Counselling*, **Journal of Educational Research & Development**, 5(1), 2022, 12–22.

[145.] W.J. Barbaresi, & R.D. Olsen, *An ADHD Educational Intervention For Elementary School Teachers: A Pilot Study*, **Journal of Developmental and Behavioural Pediatrics**, 19(2), 2019, 94–100.

[146.] R. Schoeman & T. Voges, *Attention-deficit Hyperactivity Disorder Stigma: The Silent Barrier to Care*, **The Journal of the Society of Psychiatrists of SouthAfrica,** 28, 2022, 1865. https://doi.org/10.4102/sajpsychiatry.v28i0.1865

Lead City University DO NOT COPY

[147.] M. R. De Leon, K. Gamboa, F. J. Lacson, J. C. Maniacup & E. Rodigero, *The Role of Special Education Teachers in the Understanding and Acceptance of Attention-Deficit/Hyperactivity Disorder (ADHD) as Perceived by Parents: A Basis for Parent-Teacher Collaboration Program*, ***PUNLA***, *6*, 2024, 65.

[148.] D. L. Anderson, S. E. Watt, W. Noble & D. C. Shanley, *Knowledge of Attention-Deficit Hyperactivity Disorder (ADHD) and Attitudes Toward Teaching Children with ADHD: The Role of Teaching Experience*, ***Psychology in the Schools,*** 49(6), 2012 511–525. https://doi.org/10.1002/pits.21617

[149.] M. J. Sciutto, M.D. Terjesen, & A.S.B. Frank, *Teachers' Knowledge and Misperceptions of Attention-Deficit/Hyperactivity Disorder*, **Psychology in the Schools**, 37(2), 2020, 115–122.

[150.] N. Vlah, T. Velki & E. Kovačić, *Teachers' Self-Efficacy Based on Symptoms of Attention-Deficit Hyperactivity Disorder in Primary School Pupils,* ***CEPS Journal****, 11*(3), 2021, 141–163. https://doi.org/10.26529/cepsj.1017

[151.] Researcher, 2025.

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Chapter Three

Methodology

This chapter provides the methodology adopted for this study. They are presented under the following sub-headings; research design; population, sample and sampling technique, description of instrument, procedure of data collection and method of data analysis.

3.1 Research Design

This study design adopted a descriptive survey design. It utilised a cross-sectional research design to examine the level of school involvement, and teachers' recognition (knowledge, and awareness) of Attention-Deficit Hyperactivity Disorder (ADHD) among primary school pupils in the 33 Local Government of Oyo State. Cross-sectional research allows for data collection at a single point in time and is suitable for assessing the current status without manipulating variables of interest.

3.2 Population of the Study

The population of interest for this study comprised all primary school teachers in Oyo State, Nigeria. The study focused on public primary schools in urban and rural areas to capture a diverse representation of teachers. The population was made up of 22,909 male and female primary school teachers from the 33 Local Government Areas (LGA) within Oyo State. 10 schools from each LGA were randomly selected and the most 5 senior teachers (the head teacher, the two assistances and the next two teachers on the pay role) from each school were the respondents, making a total of 50 teachers from each LGA. Therefore, 50 teachers multiplied by 33 LGA gives a total of 1,650 teachers as respondents. The breakdown of the schools is done in Table 3.1 below:

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Table 3.1: Number of Teachers in Oyo State Primary Schools Based on Local Government Area and Senatorial Districts

Here is the information formatted into a table:

S/N	Senatorial District	Local Government Areas	Number of Schools	Number of Teachers
1	Oyo Central	11	873	8,469
2	Oyo North	13	931	7,123
3	Oyo South	9	607	7,317
Total		**33**	**2411**	**22,909**

Source: [1]

3.3 Sample and Sampling Techniques

3.3.1 Sample Size Determination

The sample size for this study was determined using a multi-stage sampling procedure that incorporates the total enumeration technique, purposive and simple random techniques.

3.3.2 Sampling Technique

A multistage sampling procedure was employed for this study. Oyo State comprises 33 Local Government Areas, encompassing both urban and rural regions. These Local Government Areas, initially established by military administrations, are now recognized as the third tier of government under the 1999 Constitution of Nigeria. The stages include;

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Stage One: **Total Enumeration Technique**

In this first stage, the researcher conducted the total enumeration of all the teachers in Oyo State primary schools in the 33 Local Government areas which cut across the following senatorial districts in Oyo state: Oyo North, Oyo South and Oyo Central.

Stage Two; **Simple Random Sampling Technique**

The simple random sampling technique was applied for selection. Ten schools from each Local Government Area, were randomly picked resulting in a total of 330 schools across Oyo State. This approach was adopted to ensure a sufficiently large sample size, enabling the researcher to derive generalised findings and conclusions from the study.

Stage Three: Purposive Sampling was used to select the head teachers, 2 assistant head teachers and then 2 most senior teachers who had taught various primary school pupils across all the classes obtaining a total of 5. This amounted to 50 teachers in each local government area. In all, 1,650 teachers were sampled (50 teachers X 33 Local Government Areas).

Table 3.2 List of Selected Schools for the study

S/N	LGA	Name of School	No of Teachers	Male	Female
	Afijio				
1.		Methodist Primary School Fiditi	5	2	3
2.		First Baptist Primary School I, Ilora	5	2	3
3.		Baptist Primary School Oluwatedo	5	1	4
4.		Local Authority Primary School Temidire	5	2	3
5.		Sarafadeen Primary School Awe	5	3	2
6.		Christ Baptist Primary School , Awe	5	0	5

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7.		Answar Ul Deen Primary School Baba Elesin	5	3	2
8.		Saint Andrews Primary School Akinmorin	5	3	2
9.		Community Primary School Adebimpe	5	2	3
10.		Local Authority Primary School II, Aro Ilora	5	2	3
	Akinyele				
11.		Methodist Central Primary School Ikereku	5	0	5
12.		United Mission Primary School Ijaye	5	2	3
13.		Saint Paul's Primary School Ojedeji	5	2	3
14.		Saint Jame's Primary School Alabata	5	2	3
15.		Baptist Primary School Town Ijaye	5	1	4
16.		Saint Mathew's Primary School Oke-Ona	5	2	3
17.		Ibadan District Council Apapa Moniya	5	2	3
18.		Baptist Primary School Iware	5	3	2
19.		Saint John's Primary School Omilabu	5	3	2
20.		Army Children School I, Odogbo Ojoo	5	3	2
	Atiba				
21.		Aatan Baptist Primary School I Koso	5	2	3
22.		Local Authority Primary School I Isale Oyo	5	2	3
23.		Local Authority Primary School I Sabo	5	1	4
24.		Community Primary School Elerinle	5	3	2
25.		Community Primary School Oja Ajegunle	5	1	4
26.		Local Authority Primary School Baale	5	1	4
27.		Community Primary School Oba Adeyemi	5	2	3
28.		Community Primary School Aibu Idiroko	5	1	4

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29.		Isale Oyo Commuity Primary School Oroki	5	1	4
30.		Nomadic Basic School Gaa-Agric Otefon	5	3	2
	Atisbo				
31.		Answar Ul Deen Primary School Ii Tede	5	3	2
32.		First Baptist Primary School Ago-Are	5	3	2
33.		Baptist Primary School Ofiki	5	1	4
34.		Community Primary School Ajebamidele Tede	5	3	2
35.		Community Primary School Kajola Ago-Are	5	1	4
36.		Saint Mary Roman Catholic Mission School Tede	5	1	4
37.		Muslim Primary School Ofiki	5	3	2
38.		Migrant Farmer Primary School Abasokun Ago Area	5	2	3
39.		Irepodun Baptist Primary School Oke-Owu Tede	5	4	1
40.		Local Authority Primary School Sabe	5	3	2
	Egbeda				
41.		Ibadan District Council Primary School I Isebo	5	1	4
42.		Community Primary School I Olode	5	3	2
43.		Ibadan District Council Primary School Adeleye	5	3	2
44.		Saint Peter's Primary School Osegere	5	1	4
45.		Seventh Day Adventist Primary School Ayede	5	0	5
46.		Ibadan District Council Primary School Erunmu	5	0	5
47.		Islamic Mission School Olodan	5	3	2
48.		Saint Andrews Primary School Ajia	5	1	4
49.		Community Primary School School I Ayepe	5	1	4

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50.		Ibadan District Council Primary School Fajumo	5	1	4
	Ibadan North				
51.		Saint Paul's Anglican Primary School I, Yemetu	5	0	5
52.		Saint Thomas Primary School I Agbowo	5	2	3
53.		Abadina Primary School Iii University Ibadan	5	3	2
54.		Community Primary School I, Ijokodo	5	4	1
55.		Ibadan Municipal Government School II, Nalende/Oniyanrin	5	0	5
56.		Ibadan Municipal Government N4 Yemetu Adeoyo	5	2	3
57.		Ibadan Municipal Government School I, Oje-Igosun Ibadan	5	3	2
58.		Abadina Primary School Ii University Ibadan	5	3	2
59.		Methodist Primary School I Bodija	5	2	3
60.		Christ Apostolic Church School , III Sango	5	3	2
	Ibadan North East				
61.		Hizbu - Lahi - Algalibi Primary School I Agodi	5	4	1
62.		Ibadan Municipal Government Primary School E9 Agodi	5	0	5
63.		Methodist Primary School I, E9 Agodi	5	0	5
64.		Seventh Day Adventist Primary School Agodi	5	2	3
65.		Ibadan Municipal Government School I, Agugu	5	0	5
66.		Islamic Mission School Ii, Agugu	5	0	5
67.		Hizbu - Lahi - Algalibi Primary School School I, Ode Aje	5	1	4
68.		Saint John Primary School II, Aremo	5	1	4

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69.		Army Children School I, Iwo Road	5	2	3
70.		Ibadan Municipal Government School I, Aremo Ojagbo	5	3	2
	Ibadan North West				
71.		Army Children School III, Mokola	5	0	5
72.		Saint Patrick's Primary School I, Abebi	5	4	1
73.		Saint Patrick's Primary School II, Idikan	5	0	5
74.		Salvation Army Primary School I, Ekotedo	5	1	4
75.		Sacred Heart Convent Primary School I, Ekotedo	5	2	3
76.		Anwar-Ul-Islam Primary School I, Eleyele	5	2	3
77.		Community Primary School I, Olopomewa	5	0	5
78.		Community Primary School Idi-Osan	5	3	2
79.		Baptist Basic School Ii, Idikan	5	0	5
80.		Nw5 Baptist Basic School II, Nalende	5	0	5
	Ibadan South East				
81.		Ibadan Municipal Government S4 I,Elekuro	5	0	5
82.		Nawar Ul Deen Primary School, Elekuro	5	0	5
83.		Ibadan Municipal Government School Ii Eleta	5	2	3
84.		Saint Lukes Demonstration School I,Molete	5	0	5
85.		Ratibi Muslem Primary School I, Odinjo	5	2	3
86.		Saint Davids Primary School Iii,Kudeti	5	0	5
87.		Wesley College Practising School III, Elekuro	5	1	4
88.		Community Primary School II, Oyapidan	5	1	4

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89.		Saint Leos Catholic Primary School II,Orita	5	1	4
90.		Public Day Primary School II,Elekuro	5	1	4
	Ibadan South West				
91.		Baoku Memorial Primary School, Foko	5	1	4
92.		Answar Ul Deen Primary School I, Foko	5	3	2
93.		Seventh Day Adventist School II, Foko	5	0	5
94.		Methodist School I, Oke Ado	5	4	1
95.		People‘s Primary School I Ring Road	5	0	5
96.		Saint Teresa‘s Catholic Primary School, Oke Ado	5	0	5
97.		Baptist Primary School, Oke Ado	5	0	5
98.		Methodist Primary School I, Agbeni	5	2	3
99.		Ibadan Municipal Government School Ii, More Plantation Apata	5	1	4
100.		Community Model School Elewura Challenge	5	1	4
	Ibarapa Central				
101.		Answar Ul Deen Primary School I Sagan-un	5	3	2
102.		Methodist Primary School Idere	5	0	5
103.		Baptist Primary School I Idere	5	0	5
104.		Baptist Primary School I Igboora	5	0	5
105.		Local Authority Primary School Onile Igboora	5	3	2
106.		Local Authority Primary School Tuture	5	4	1
107.		Roman Catholic Mission School II Pako Igboora	5	4	1
108.		Islamic Mission School II Idere	5	3	2
109.		Nomadic Primary School Kondo Igboora	5	3	2

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110.		Community Primary School Tobalogo	5	1	4
	Ibarapa East				
111.		Roman Catholic Mission School Lanlate	5	0	5
112.		Baptist Primary School I Lanlate	5	0	5
113.		Baptist Primary School Maya, Lanlate	5	0	5
114.		Baptist Primary School Okolo, Eruwa	5	0	5
115.		Local Authority Primary School I, Oke Oba, Eruwa	5	0	5
116.		Local Authority Primary School I,New Eruwa	5	0	5
117.		Local Authority Primary School Lagaye	5	1	4
118.		Nomadic Primary School Sunmbare Eruwa	5	3	2
119.		Nomadic Primary School Owode, Lanlate	5	3	2
120.		All Saint's Primary School, Elere Eruwa	5	0	5
	Ibarapa North				
121.		Answar Ul Deen Primary School Ayete/Tapa	5	3	2
122.		Methodist Primary School I, Tapa	5	0	5
123.		Methodist Primary School I, Igangan	5	0	5
124.		Baptist Primary School I, Igangan	5	0	5
125.		Baptist United Primary School, Ayete/Tapa	5	0	5
126.		Local Authority Primary School Elewuro Aladura	5	0	5
127.		Local Authority Primary School Asunnara	5	2	3
128.		Community Primary School Temidire	5	0	5
129.		Community Primary School Alabi	5	1	4
130.		Answar Ul Deen Primary School I,	5	3	2

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	Ayete			
Ido				
131.	Saint Andrew Primary School I, Omi-Adio	5	0	5
132.	Nawar Ul Deen Primary School Ido	5	3	2
133.	Seventh Day Adventist Primary School Onikonko	5	0	5
134.	Baptist Primary School, Odetola	5	0	5
135.	Ibadan District Council School Aba-Oko	5	1	4
136.	Christ Anglican School Bakatari	5	2	3
137.	Ibadan District Council School Awotan	5	0	5
138.	Community Primary School, Akufo F/S	5	1	4
139.	Saint Peter Primary School Apete	5	0	5
140.	Saint Peter's Primary School, III Apete	5	0	5
Irepo				
141.	Local Authority Primary School I, Agede Kisi	5	2	3
142.	Baptist Primary School, Kanjuko Kisi	5	0	2
143.	Answar Ul Deen Primary School I, Gbandara Kisi	5	2	3
144.	Nybrosis Primary School, Oke- Tege	5	2	3
145.	Community Primary School, Mapo	5	0	5
146.	Migrant Farmer Primary School Katakata	5	3	2
147.	Migrant Farmer Primary School, Aba Paanu	5	3	2
148.	Community Primary School, Iwalesin	5	0	5
149.	Community Basic School Ajegunle, Kishi	5	1	4
150.	Local Authority Primary School Ii, Atipa	5	1	4
Iseyin				
151.	Baptist Primary School I, Koso, Iseyin	5	0	5

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152.	Saint Mary's Roman Catholic Mission I, Isalu, Iseyin	5	0	5
153.	Answar Ul Deen Primary School, Ebedi Iseyin	5	3	2
154.	Saint Paul's Anglican Primary School I, Okuta Pemo Iseyin	5	2	3
155.	Methodist Primary School, Ogungbe	5	0	5
156.	Community Primary School , Aba Ola	5	0	5
157.	Community Primary School , Otiiri, Iseyin	5	0	5
158.	Community Primary School , Odo-Ogun	5	1	4
159.	Community Primary School , Abugaga	5	2	3
160.	Ifelodun Community Primary School , Igboleya	5	1	4
Itesiwaju				
161.	Baptist Basic School Ipapo	5	0	5
162.	Answar Ul Deen School Basic School Ipapo	5	3	2
163.	Community Basic School Apata Erinte	5	0	5
164.	Baptist Basic School Okaka	5	0	5
165.	Nawar Ul Deen School Basic School Out	5	3	2
166.	Community Basic School Temidire	5	1	4
167.	Community Basic School Atoogun, Komu	5	1	4
168.	Baptist Basic School Babaode	5	0	5
169.	Community Basic School, Apawuruku	5	2	3
170.	Community Basic School Ogunsidi Komu	5	1	4
Iwajowa				
171.	Community Primary School Idi-Ose, Iganna	5	3	2
172.	Community Primary School Temidire	5	1	4

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173.	Baptist Primary School , Ijio	5	0	5
174.	Baptist Primary School, Itasa	5	0	5
175.	Community Primary School Agbaruru, Iwere-Ile	5	0	5
176.	Community Primary School Ayetoro-Ile	5	1	4
177.	Community Primary School Ofeegun	5	0	5
178.	Community Primary School Gbedu-Itasa	5	0	5
179.	Muslim Community Primary School Elekokan	5	3	2
180.	Nomadic Primary School, Alaraba	5	4	1
Kajola				
181.	Answar Ul Deen Basic School, I, Ilua	5	3	2
182.	Answar Ul Deen Basic School, Isemi-Ile	5	3	2
183.	First Baptist Basic School, Ilero	5	0	5
184.	Community Basic School Elewure, Okeho	5	0	5
185.	Community Basic School Ebi	5	0	5
186.	Roman Catholic Mission Basic School , Iwere-Oke	5	2	3
187.	Baptist Basic School I, Ayetor-Oke	5	2	3
188.	First Baptist, School , Isia	5	3	2
189.	Second Baptist Basic School , Ogan	5	2	3
190.	Community Basic School Ilaji-Oke	5	2	3
Lagelu				
191.	Anglican Central School Lalupon	5	0	5
192.	Answar Ul Deen Primary School Anifa	5	3	2
193.	Baptist Day Primary School Apatere	5	0	5
194.	Christ Apostolic Church Primary School Kutayi	5	3	2

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195.		Community Primary School Ilegbon	5	3	2
196.		Ibadan District Council Primary School Eniosa	5	3	2
197.		Ibadan District Council Primary School Elesu	5	3	2
198.		Islamic Mision Primary School Lagun	5	4	1
199.		Saint Andrew‘s Basic School Idiagba	5	0	5
200.		Saint James Primary School Edun	5	0	5
	Ogbomoso North				
201.		United Baptist Basic School Aaje/Ikose	5	0	5
202.		Abora Distric Council Basic School Oke-Owode	5	0	5
203.		Bolanta Distric Council Basic School Gaa Masifa	5	0	5
204.		Saint David's Ang Basic School Agboin	5	0	5
205.		Osupa Baptist Basic School I Osupa	5	2	3
206.		Ikose Community Basic School Ikose	5	1	4
207.		Aare-Ago Distric Council Basic School Ii Ikoyi Road Olugbon	5	1	4
208.		Alapo Community Basic School Randa Area	5	1	4
209.		Mercyland Community Basic School	5	1	4
210.		Aare Alasa Community Basic School	5	1	4
	Ogbomoso South				
211.		The Apostolic Primary School Iii Kajola	5	1	4
212.		Onisapa Community Primary School Onisapa	5	1	4
213.		Community Primary School Owolake	5	1	4
214.		Community Primary School Yako	5	1	4
215.		Onijeru Community Primary School	5	0	5

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216.		Answar Ul Deen Primary School Akata	5	3	5
217.		Ayegun Baptist Primary School I Ayegun	5	0	5
218.		Soun Distric Council School Oke Alapata	5	2	3
219.		Onpetu Distric Council School I Oke Ora	5	3	2
220.		The Apostolic Primary School Model Ajegunle	5	3	2
	Ogooluwa				
221.		Baptist Primary School Idewure	5	3	2
222.		District Council Primary School Ayede	5	0	5
223.		District Council Primary School Mowolowo	5	0	5
224.		District Council Primary School Ibapon	5	1	4
225.		District Council Primary School Ojutaye	5	0	5
226.		Baptist Primary School I Ajaawa	5	0	5
227.		Baptist Primary School Elega	5	0	5
228.		Community Primary School Oke Oguro	5	1	4
229.		Community Primary School Ibere	5	2	3
230.		Community Primary School Oke Awo	5	0	5
	Olorunsogo				
231.		United Missionary Society Primary School Apeeru	5	0	5
232.		Nawar Ul Deen Primary School I, Igbeti	5	3	2
233.		Community Primary School Karamo	5	2	3
234.		Community Primary School Ojo Aro	5	0	5
235.		Community Primary School Kondoro	5	2	3
236.		Saint Thomas Primary School Apata Alaje	5	2	3
237.		U. M. S. Primary School Tesi Garuba	5	1	4

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238.		U. M. S. Primary School Abe Asa	5	2	3
239.		Nomadic Primary School Gaa Thairu	5	4	1
240.		Nawar Ul Deen Primary School Ayekale	5	3	2
	Oluyole				
241.		Oluyole Local Government Council Primary School Ayegun	5	0	5
242.		Saint Andrew's Primary School Aba Ige	5	3	2
243.		Oluyole Local Government Council Primary School Oba Ado	5	3	2
244.		Saint John's Primary School Apadi	5	0	5
245.		Oluyole Local Government Council Primary School Oloode	5	1	4
246.		Methodist Primary School Papa	5	4	1
247.		Kolajo Community Primary School I Agric Olomi	5	3	2
248.		Oluyole Local Government Council Primary School Ile Nla	5	0	5
249.		Oluyole Local Government Council Primary School Obebe	5	2	3
250.		Saint Paul's Primary School Onigambari	5	4	1
	Ona-ara				
251.		Community Primary School VI Olomi	5	3	2
252.		Oluyole Local Government Council II Olurinde	5	2	3
253.		Crin Staff Primary School II Idi-Ayunre	5	2	3
254.		Oluyole Local Government Council Primary School II Oke-Ona Ikereku	5	1	4
255.		Community Primary School II Aba-Alfa	5	2	3
256.		Community Basic School Lanase	5	2	3
257.		Saint John Primary School Badeku	5	2	3
258.		Ibadan District Council Primary School I, Olunloyo	5	1	4

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259.		Saint John Anglican Primary School Odi-Aperin	5	2	3
260.		Ibadan District Council Primary School, Aba Epo	5	3	2
	Orelope				
261.		Community Primary School Abonde	5	2	3
262.		Community Primary School IV, Olosunde	5	1	4
263.		Community Primary School II, Idi-Obi Airport	5	0	5
264.		Community Primary School Alaase Oke Elesin	5	3	2
265.		Community Primary School Palupo Olorisa Oko	5	3	2
266.		Local Authority Primary School, Odo Oloko	5	2	3
267.		Community Primary School , Ologede	5	2	3
268.		Muslim Primary School, Igbope	5	4	1
269.		Adimula Community Primary School, Ajangba, Igbope	5	2	3
270.		Community Primary School Jago	5	2	3
	Oriire				
271.		Baptist Primary School Oolo	5	2	3
272.		Christ Apostolic Church Primary School Idi-Iroko	5	1	4
273.		Baptist Primary School Moleyo	5	3	2
274.		Local Authority Primary School Ahoro -Oko (Oko Ile)	5	2	3
275.		Local Authority Primary School Bosunla	5	2	3
276.		Local Authority Primary School Boosa	5	1	4
277.		Community Primary School Olokiti	5	1	4
278.		Community Primary School Bofowo	5	1	4
279.		Local Authority Primary School Ipeku	5	2	3
280.		District Council Primary School Iporin	5	3	2

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Oyo-East				
281.	Nomadic Basic School Elebe Araromi	5	2	3
282.	Answar Ul Deen Basic School I, Balogun	5	4	1
283.	Baptist Basic School I, Agboye	5	0	5
284.	Community Basic School , Kosobo	5	2	3
285.	Local Authority Basic School I, Jabata	5	0	5
286.	Local Authority Basic School I, New Durbar	5	1	4
287.	Methodist Primary Basic School I, Apaara	5	1	4
288.	Migrant Farmer Basic School Ita Merin	5	3	2
289.	Nomadic Basic School Apasu	5	5	0
290.	Nomadic Basic School Asanre	5	5	0
Oyo-West				
291.	Methodist Primary Basic School Iii, Apaara	5	2	3
292.	Saint Augustine Rcm School I, Apaara Oyo	5	1	4
293.	Baptist Basic School , Maye	5	2	3
294.	Local Authority Basic School , Idi-Iya	5	3	2
295.	Local Authority Basic School II, New Durbar	5	0	5
296.	Army Children School Isokun	5	3	2
297.	Ifedapo Primary School I Opapa	5	2	3
298.	Local Authority Primary School I Awumaro	5	1	4
299.	Methodist Primary School I Akeetan	5	1	4
300.	Community Primary School Enuoranoba	5	2	3
Saki-East				
301.	Community Primary School Akinnu	5	2	3
302.	Community Primary School Apataoloro	5	2	3

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303.		Community Primary School Aruna	5	1	4
304.		Baptist Primary School Oje Owode	5	1	4
305.		Nawar Ur Deen Primary School I, Ajegunle	5	4	1
306.		Community Primary School Budo Bank Ago Amodu	5	3	2
307.		Nawar Ur Deen Primary School I Oke Taasi Sepeteri	5	3	2
308.		Community Primary School Kanga	5	4	1
309.		Local Authority Primary School Imodi	5	3	2
310.		Adimula Primary School Oke Agoro	5	3	2
	Saki-West				
311.		Community Primary School Ago-Oluwabi	5	1	4
312.		Community Primary School Orisumbare	5	2	3
313.		Community Primary School Jariogbe	5	2	3
314.		Community Primary School Oke Mua	5	3	2
315.		Community Primary School Palapala	5	2	3
316.		Community Primary School Akorede Sinmi	5	3	2
317.		Muslim Community Primary School Kinnikinni	5	4	1
318.		Community Primary School Laipapa	5	2	3
319.		Community Primary School Kukute	5	2	3
320.		Al-Medinah Community Primary School, Ogboro	5	3	2
	Surulere				
321.		Community Primary School Orita Gbaabe	5	2	3
322.		Community Primary School Tiwadayo	5	3	2
323.		Nomadic Basic School Monduro	5	4	1
324.		Nomadic Basic School Toose	5	3	2

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325.	Distric Council Primary School , Lekewogbe	5	1	4
326.	Distric Council Primary School , Adudu	5	3	2
327.	Distric Council Primary School , Mumini	5	2	3
328.	Distric Council Primary School , Egbeda	5	1	4
329.	Distric Council Primary School , Iwofin	5	2	3
330.	Baptist Primary School , Origi	5	2	3
		1650	**528**	**1122**

3.4 Research Instrument

The instrument utilised in this study was a developed and adopted questionnaire specifically named School Involvement, Teachers Knowledge and Awareness, and Attention Deficit Questionnaire (STEKAADQ), designed to align with the study's objectives. This questionnaire assessed teachers‘ awareness, knowledge, and school involvement in recognising and managing ADHD among elementary school pupils in Oyo State, Nigeria. It includes **Section A** on demographic data, gathering information about respondents‘ gender, education level, and teaching experience; followed by **Section B** measuring teachers' awareness of ADHD through their exposure to related information from seminars, media, and classroom encounters. **Section C** evaluates teachers‘ knowledge of ADHD, including its nature, causes, symptoms, and misconceptions. **Section D** of the questionnaire examines school involvement in identifying, supporting, and managing ADHD pupils, focusing on collaboration with parents and government support. Lastly, **Section E** assesses teachers‘ observations of ADHD-related behavioral dysfunctions, such as inattention, impulsivity, restlessness, and difficulty completing tasks. Respondents were required to answer the questionnaire items, with their responses rated on a 4-

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point Likert scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (4). Sections B, C, D and E had 12 items each.

3.5 Validity of the Research Instrument

Questionnaires from previous studies on similar variables were consulted and then adapted to the original variables to enable the achievement of the study objectives. The instrument was thereafter reviewed by the researcher‘s supervisor and other experts in the field of test and measurement to ensure face validity and construct validity. The validity coefficient was obtained at 0.81 following the initial retest.

3.6 Reliability of the Research Instrument

A retest of the instrument was conducted on a similar population, distinct from the study population. The instrument was administered to 100 respondents from 20 Private Primary Schools consisting of 5 top teachers from each school. Following the retest, the completed questionnaires were reviewed for completeness, sorted, cleaned, and further analysed. The reliability coefficient of the instrument was determined to be 0.85 Cronbach's Alpha coefficient.

3.7 Method of Data Collection

An introductory letter was obtained from the Researcher‘s Department which was taken to the Ministry of Education Ibadan, Oyo State and later presented to the schools designated as research sites. The head teachers were approached and briefed on the purpose of the study. A team of 15 Research Assistants (RAs) were recruited and trained to carry out the exercise for the study. Each RA was assigned to two Local Government Areas (LGAs), while the researcher directly oversaw the remaining three LGAs within the city. These trained RAs assisted in administering the questionnaires at the study sites. The data collection process spanned approximately six weeks. Initial visits were made to the selected schools to establish contact and schedule specific

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dates for data collection. Before distributing the questionnaires, the study‘s objectives were explained to the head teachers. In each school, the five most senior teachers; Head Teacher, Assistant Head Teacher and the next three on the seniority and payroll were selected. Verbal consent was obtained from participants who agreed to participate. After each session, the completed questionnaires were thoroughly reviewed for completeness and accuracy. Any missing or incomplete information was promptly addressed in order to maintain the quality and reliability of the data collected.

3.8 Method of Data Analysis

The data collected was analysed using descriptive and inferential statistics. Particularly, descriptive statistics of frequency count, simple percentage, mean, and standard deviation were used to analyse the research questions. Inferential statistics of Multiple Regression was used to test the hypotheses at 0.05 level of significance.

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Endnotes

1. S. O. Ukutegbe, A. O. Isaac & S. Ileuma, *Motivation Strategies as Correlate of Teachers' Job Satisfaction in the Public Primary Schools in Oyo State, Nigeria*, **Fuoye Journal of Management Sciences**,1(1), 2024, 193-213.

2. Oyo State Universal Basic Education Board, *List of Schools for 2022/2023 Academic year as at July 2023*.

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Chapter Four

Results and Discussion of Findings

4.1 Demographic Data Analysis

Table 4.1: Sex of Respondents

	Number	%
Male	528	31.8%
Female	1,122	68.2%
Total	1,650	100%

Source: Field Survey, 2024

Table 4.1 presents the distribution of primary school teachers in Oyo State who were sampled for this study based on their sex. Out of a total of 1650 respondents surveyed, 528 teachers, representing 31.8%, are male, while the remaining 1122 respondents, accounting for 68.2%, are female. The data indicates a significant gender disparity, with female respondents forming the majority of the population sampled. This sex distribution could reflect the demographic characteristics of the target population or a sampling design that captured more females. This indicated that there are more female teachers in the 33 LGAs teaching in primary schools.

Table 4.2: Level of Education of Respondents

	Number	%
Nigeria Certificate in Education	1004	60.8%
B Ed.	444	27.0%
M Ed	202	12.2%
Total	1,650	100.0%

Source: Field Survey, 2024

Table 4.2 outlines the educational qualifications of the sampled primary school teachers in Oyo State. The largest group, comprising 1004 individuals or 60.8% of the respondents, holds the Nigeria Certificate in Education. Following this, 444 respondents, equivalent to 27.0%, possess a

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Bachelor of Education (BEd.) degree. The smallest group comprises 202 respondents (12.2%) with a Master of Education (MEd) degree. The data shows that most respondents have foundational teaching qualifications, with fewer individuals advancing to higher levels of education, such as postgraduate degrees.

Table 4.3: Years of Experience of Respondents

	N	%
1 - 20 years	678	41.2%
21 - 30 years	746	45.3%
Above 30 years	222	13.5%
Total	1,650	100.0%

Source: Field Survey, 2024

Table 4.3 focuses on the years of experience of primary school teachers in Oyo State sampled for this study. A substantial proportion, 746 respondents (45.3%), have more than 20 years of professional experience, making it the most common category. This is closely followed by 678 respondents (41.2%) with over 10 years of experience. The smallest group, comprising 222 individuals (13.5%), has more than 30 years of experience. This data suggests that the surveyed population includes a considerable number of seasoned professionals with significant experience in their respective fields, indicating a potentially high level of expertise and familiarity with their roles.

4.2 Presentation of Data

4.2.1 Research Questions

Research Question One: What is the level of perceived behavioural dysfunction among primary school pupils in Oyo State, Nigeria?

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Table 4.4: Descriptive Summary of the Level of Perceived Behavioural Dysfunction among Primary School pupils in Oyo State, Nigeria

	Number	Mean	Std. Deviation
Pupils with ADHD find it difficult to complete a task	1,650	3.39	.573
They are very restless and do not pay attention to details	1,650	3.44	.496
They have very low attention span	1,650	3.44	.496
Pupils with ADHD are easily distracted and they also distract others	1,650	3.44	.580
They are always fidgeting and very forgetful	1,650	3.35	.705
They are super and hyperactive in class	1,650	3.52	.500
They are not safety conscious - they hurt themselves and others Unintentionally	1,650	3.52	.500
They can frustrate both teachers and classmates	1,650	3.39	.488
they are easily angered and provoked	1,650	3.35	.705
They are unintentionally destructive	1,650	3.48	.500
They can be aimless in their activities sometimes eg. climbing the walls without any purpose	1,650	3.43	.718
They are easily and always frustrated on a job hence disturbing the peace of their colleagues and the class in General	1,650	3.43	.718
Weighted Average Mean= 3.43			

Source: Field Survey, 2024

Decision Rule: Strongly Disagree **(1):** 1.00 – 1.4, Disagree **(2):** 1.51 – 2.49, Agree (**3**): 2.50 – 3.49, Strongly Agree **(4):** 3.50 – 4.00

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The descriptive summary in Table 4.4 highlights the level of perceived behavioural dysfunction among primary school pupils in Oyo State, Nigeria. The weighted average mean of 3.43 indicates a high level of agreement among respondents on the prevalence of behavioural dysfunction characteristics such as hyperactivity, distraction, low attention span, forgetfulness, and unintentional destructiveness. Notably, pupils with ADHD are perceived as super and hyperactive (mean = 3.52) and not safety-conscious, often unintentionally hurting themselves or others (mean = 3.52). Other notable behavior dysfunctions include being easily distracted (mean = 3.44) and frustrating teachers and classmates (mean = 3.39). Based on the decision rule, which typically interprets means above 3.00 as a high level of agreement, the findings suggest that behavioural dysfunction is perceived high among pupils with ADHD. These behaviours may disrupt classroom activities and pose challenges to effective learning and teaching dynamics.

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Research Question Two: What is the level of school involvement with pupils with ADHD in public primary schools in Oyo State, Nigeria?

Table 4.5: Descriptive Summary of the Level of School Involvement with Pupils with ADHD in Public Primary Schools in Oyo State, Nigeria

	Number	Mean	Std. Deviation
Most times the school discovers children with ADHD before their parents	1,650	3.38	.841
The school is a principal figure in managing pupils with ADHD	1,650	3.46	.799
For learning to be effective for pupils with ADHD the school must be adequately equipped with both human resources and teaching aids	1,650	3.62	.695
My school is actively involved in caring for pupils with ADHD	1,650	2.46	1.419
The school needs to be empowered by the government to be able to help pupils with ADHD	1,650	3.83	.379
The school cannot do much without the directives from the government through the Ministry of Education	1,650	3.79	.408
The school should educate parents on ADHD and other learning disabilities that can interfere with learning and jointly seek a solution	1,650	3.83	.372
The parents must be willing to cooperate with the school and the teachers to help their children with ADHD	1,650	3.83	.372
The school must be duly informed by the medicals about the clinical attention to be given to pupils with ADHD	1,650	3.83	.372
Teachers' supports are limited without the support of the school	1,650	3.79	.408
schools should not be involved in handling ADHD pupils	1,650	3.00	1.223
Special schools should be for pupils with ADHD	1,650	3.45	.920

Weighted Average Mean=2.56

Source: Field Survey, 2024

Decision Rule: Strongly Disagree **(1):** 1.00 – 1.4, Disagree **(2):** 1.51 – 2.49, Agree (**3**): 2.50 – 3.49, Strongly Agree **(4):** 3.50 – 4.00

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The descriptive summary in Table 4.5 examines the level of school involvement with pupils with ADHD in public primary schools in Oyo State, Nigeria. With a weighted average mean of 2.56**,** the data indicates that the majority of respondents agree to a high level of involvement in schools, but there is room for improvement. The mean scores for specific items vary, highlighting areas of strength and weakness. For instance, high mean scores for government empowerment (3.83, SD = **.**379) and parent cooperation (3.83**,** SD = **.**372) suggest strong consensus on the importance of external support. Similarly, the school's need for directives from the Ministry of Education scores highly (3.79, SD = .408), signifying systemic dependencies. However, the low mean for active school involvement (2.46**,** SD = 1.419) reveals significant variability in responses and limited engagement in direct care for pupils with ADHD. The findings suggest that while the majority of primary school teachers recognise the need for a comprehensive support framework, including collaboration among stakeholders, practical involvement by schools remains limited. The standard deviations highlight variability in perceptions, particularly on issues receiving less but _agree' scores like the necessity of special schools (3.45, SD = **.**920) or whether schools should handle ADHD pupils (3.00**,** SD = 1.223).

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Research Question Three: What is the level of teachers' knowledge of Attention-Deficit Hyperactivity Disorder among primary school pupils in Oyo State, Nigeria?

Table 4.6: Descriptive Summary of the Level of Teachers' Knowledge of Attention Deficit Hyperactivity Disorder among Primary Pupils in Oyo State, Nigeria

	Number	Mean	Std. Deviation
ADHD is a mental disorder and malformation of an aspect of the brain	1,650	2.83	1.090
ADHD is a contagious disease	1,650	1.48	.975
ADHD can be seen as a spiritual problem	1,650	2.05	1.344
ADHD is a behavioural disorder	1,650	2.96	1.083
ADHD is a neurodevelopmental disorder	1,650	2.97	1.083
It is also an emotional disorder	1,650	2.93	1.064
ADHD is a social disorder	1,650	2.93	1.064
ADHD is not treatable	1,650	2.04	1.108
ADHD affects only girls	1,650	1.41	.885
Both male and female can be affected by ADHD	1,650	3.24	.970
It is more common in boys than in girls	1,650	2.61	.871
Correct diet is a treatment for ADHD	1,650	2.49	1.235
Weighted Average Mean=2.50			

Source: Field Survey, 2024
Decision Rule: Strongly Disagree **(1):** 1.00 – 1.4, Disagree **(2):** 1.51 – 2.49, Agree (**3**): 2.50 – 3.49, Strongly Agree **(4):** 3.50 – 4.00

The descriptive summary in Table 4.6 evaluates teachers' knowledge of ADHD among primary school pupils in Oyo State, Nigeria. The data reveals a weighted average mean of approximately 2.50, indicating general agreement with most statements regarding the knowledge of ADHD. Teachers correctly identified ADHD as a neurodevelopmental disorder (2.97, SD = 1.083) as well as a behavioural disorder (2.96**,** SD = 1.083), showing sufficient understanding of the

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nature of the conditions. The high mean for ―both male and female can be affected by ADHD‖ (3.24**,** SD = **.**970), this reflects strong agreement and clarity on this aspect, though the belief that ADHD affects only girls (1.41, SD = **.**885**)** shows appropriate rejection of a misconception. Furthermore, disagreements exist in areas like considering ADHD as a spiritual problem as reflected by the mean scores (2.05, SD = 1.344) or untreatable (2.04, SD = 1.108). Overall, primary school teachers in Oyo State demonstrate a high level of knowledge regarding ADHD.

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Research Question 4: what is the level of teachers' awareness of Attention-Deficit Hyperactivity Disorder among primary school pupils in Oyo State, Nigeria?

Table 4.7: Descriptive Summary of the Level of Teachers' Awareness of Attention Deficit Hyperactivity Disorder among Primary School Pupils in Oyo State, Nigeria

	N	Mean	Std. Deviation
Have you ever heard of learning disability in pupils	1,650	2.55	1.049
Are you aware of any learning disabilities in pupils	1,650	2.68	1.035
Have you heard of Attention-Deficit Hyperactivity Disorder	1,650	2.49	1.094
Have you attended any symposium or seminar targeted at ADHD	1,650	1.86	1.084
Are you aware of any behavioural dysfunction of ADHD	1,650	1.64	.952
Have you come across any jingles on the Radio focusing on ADHD	1,650	1.04	.207
Are you aware of any NGOs addressing ADHD	1,650	1.22	.667
Have you come across any religious organisation attempting to address ADHD in children	1,650	1.18	.386?
Have you ever seen a child with ADHD	1,650	1.38	.671
Are aware of any technique for effectively teaching pupils with ADHD	1,650	1.53	.921
Have you ever watched any documentary or discussion on TV on ADHD	1,650	1.60	.931
Are you aware of any of the symptoms of ADHD	1,650	2.01	1.060
Weighted Average Mean= 1.77			

Source: Field Survey, 2024
Decision Rule: Strongly Disagree **(1):** 1.00 1.4, Disagree **(2):** 1.51 – 2.49, Agree (**3**): 2.50 – 3.49, Strongly Agree **(4):** 3.50 – 4.00

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The descriptive summary above evaluates the level of teachers‘ awareness of ADHD among primary school pupils in Oyo State, Nigeria, as presented in Table 4.7. The weighted average mean of 1.77 indicates a general disagreement with awareness statements, highlighting a high level of lack of awareness. Teachers show moderate awareness of learning disabilities (2.55, SD = 1.049) and ADHD (2.49, SD = 1.094). However, awareness declines when asked about exposure to ADHD-specific training or materials, with mean scores such as 1.86 (SD = 1.084) for seminars and 1.04 (SD = **.**207) for radio jingles. Awareness of behavioural dysfunctions (1.64, SD = .952) and techniques for teaching pupils with ADHD (1.53, SD = **.**921) remains limited. Low mean scores for exposure to NGO activities (1.22, SD = **.**667) and religious organisations addressing ADHD (1.18**,** SD = **.**386) further emphasise the issue. These findings reveal limited awareness of ADHD, suggesting an urgent need for comprehensive teacher training and widespread sensitisation programmes to bridge the awareness gap.

4.2.2 Hypotheses

Ho1: there will be no significant joint influence of school involvement and teachers‘ knowledge and awareness of Attention-Deficit Hyperactivity Disorder on behavioural dysfunction among primary pupils in public schools in Oyo State, Nigeria.

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Table 4.8: Regression Summary of the Joint Influence of School Involvement and Teachers' Knowledge and Awareness of Attention-Deficit Hyperactivity Disorder on Behavioural Dysfunction among Primary School Pupils in Oyo State, Nigeria

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.483[a]	.233	.230	.46984	.233	82.915	3	1643	.000

a. Predictors: (Constant), School involvement, Teacher knowledge, Teacher awareness

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	54.910	3	18.303	82.915	.000
	Residual	180.791	1642	.221		
	Total	235.700	1645			

Source: Field Survey, 2024

a. Dependent Variable: behavioural dysfunction

b. Predictors: (Constant), School involvement, Teacher knowledge, Teacher awareness

The regression analysis in Table 4.8 explores the joint influence of school involvement, teachers' knowledge, and awareness of ADHD on behavioural dysfunction among primary school pupils in Oyo State, Nigeria. The model summary indicates a correlation coefficient (R = .483) and an R Square = .233, implying that 23.3% of the variance in behavioural dysfunction is explained by the predictors. The adjusted R Square of .230 confirms the model's reliability after accounting for sample size and predictors. The standard error of the estimate **(.**46984) suggests moderate accuracy in the predictions.

The ANOVA table shows a statistically significant model (F (3, 819) = 82.915, p < .05), indicating that the combined effect of school involvement, teacher knowledge, and awareness significantly predicts behavioural dysfunction. The regression sum of squares **(**54.910**)** is

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substantially higher than the residual sum of squares (18.791), affirming the model's predictive strength. Given the significance level (p = .000), which is less than 0.05, the null hypothesis (Ho1) is rejected. This indicates a significant joint influence of school involvement, teacher knowledge, and awareness on behavioural dysfunction among primary school pupils in Oyo State, Nigeria.

Ho2: There will be no significant relative influence of school involvement and teachers' knowledge and awareness of Attention-Deficit Hyperactivity Disorder on behavioural dysfunction among e pupils in Oyo State, Nigeria;

Table 4.9: Summary of the Relative Influence of School Involvement and Teachers' Knowledge and Awareness of Attention-Deficit Hyperactivity Disorder on Behavioural Dysfunction among primary pupils in public schools in Oyo State, Nigeria

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.133	.168		6.758	.000
	Teacher Awareness	-.004	.038	-.004	-.098	.922
	Teacher knowledge	.330	.029	.413	11.520	.000
	School involvement	.421	.044	.312	9.630	.000

Source: Field Survey, 2024

a. Dependent Variable: Behavioural dysfunction

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The regression analysis in Table 4.9 examines the relative influence of school involvement, teachers‘ knowledge, and awareness of ADHD on behavioural dysfunction among primary school pupils in Oyo State, Nigeria. The results indicate that teacher knowledge (B = 0.330, Beta = 0.413, t = 11.520, p < .05**)** and school involvement **(**B = 0.421, Beta = 0.312, t = 9.630, p < .05**)** significantly contribute to behavioural dysfunction, with teacher knowledge being the strongest predictor. However, teacher awareness **(**B = -0.004, Beta = -0.004, t = -0.098, p = .922) shows no significant influence. The significance values for teacher knowledge and school involvement confirm their substantial impact, whereas teacher awareness does not contribute meaningfully. Consequently, the null hypothesis (Ho2) is rejected for school involvement and teacher knowledge but retained for teacher awareness, highlighting that teacher knowledge and school involvement are essential factors, while teacher awareness alone is insufficient in predicting behavioural dysfunction among primary school pupils in Oyo State.

4.3 Discussion of Findings

The findings highlight a significant level of perceived behavioural dysfunction among students, particularly those with ADHD, as indicated by the weighted average mean. This aligns with previous research demonstrating that children with ADHD experience widespread difficulties in school functioning, including academic challenges, social struggles, and behavioural issues. Specifically, ADHD has been shown to impair academic performance, making it harder for students to meet educational expectations and engage effectively in learning activities. Furthermore, the presence of comorbid oppositional defiant disorder (ODD) or conduct disorder (CD) aggravates behavioural problems, leading to increased disciplinary actions, peer conflicts, and difficulties in maintaining positive relationships with teachers and classmates. Interestingly,

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while students with both ADHD and ODD/CD face greater behavioural challenges, their academic performance remains similar to those with ADHD only, suggesting that comorbid ODD/CD primarily intensifies social and conduct-related impairments rather than cognitive deficits[1]. Attention-Deficit/Hyperactivity Disorder (ADHD) is the most prevalent childhood neurodevelopmental disorder, affecting approximately 3% to 9% of school-aged children and often persisting into adulthood. Given its extensive impact on children and young people (CYP), their caregivers, and society at large, ADHD is frequently associated with significant behavioral dysfunction. The high prevalence of co-occurring neurodevelopmental, emotional, and behavioral disorders further amplifies these challenges, making behavioural dysfunction the norm rather than the exception. This aligns with findings that indicate a high level of perceived behavioural dysfunction among students, particularly those with ADHD, as reflected in the weighted average mean. The complex interplay of ADHD symptoms with other comorbid conditions stresses the necessity for early intervention and targeted support strategies within educational settings[2]. By addressing these issues proactively, educators and mental health professionals can implement tailored support systems that mitigate negative outcomes, improve school engagement, and foster better social development among students with ADHD and comorbid conditions.

High scores in areas like hyperactivity distractibility, as this current study affirms, align with the classic symptoms of ADHD, such as inattention, impulsivity, and hyperactivity, described in DSM-5. This suggests that teachers recognise these behaviours as disruptive to classroom learning and social interactions. Moreover, there is a significant prevalence rate of Attention-Deficit Hyperactivity Disorder (ADHD) among primary school pupils in Ikot-Ekpene, with 12.4% diagnosed using the teacher's scale and 8.5% using the parent's scale. The hyperactive

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subtype was the most common form of ADHD identified, highlighting the need for early screening and intervention within the school health programme[3]. Meanwhile a recent study proposes an evolutionary mismatch hypothesis, suggesting that the high trait curiosity seen in individuals with ADHD, which may have been adaptive in ancestral environments, manifests as distractibility and impulsivity in modern industrialised societies[4]. Another study found that students with ADHD exhibited significantly lower task completion rates and had greater difficulty disengaging from distractions and returning to their tasks, when compared to their peers without ADHD, suggesting that deficits in task vigilance, rather than general cognitive deficits, may contribute to their academic underachievement[5].

These findings highlight the urgent need for early screening and intervention within school health programmes to address ADHD-related challenges, particularly hyperactivity and distractibility, which hinder academic performance and social interactions. Additionally, recognising ADHD traits as an evolutionary mismatch suggests the importance of developing strength-based educational strategies that leverage curiosity while mitigating the negative impacts of distractibility in modern learning environments.

The perception that ADHD pupils frustrate teachers and classmates as the current ascertains is consistent with the report that teaching demands significant emotional awareness, understanding, and regulation to foster supportive relationships and ensure quality instruction[6]. This is reinforced by the submission that teachers gave significantly more corrective feedback to children with ADHD than to typically developing children (TDC). While TDC received more positive than corrective feedback, the opposite was true for children with ADHD. Additionally, greater motor hyperactivity was linked to lower positive feedback, and higher verbal

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hyperactivity was associated with more corrective feedback, especially when the teacher-student relationship lacked closeness[7]. To support students with ADHD, a recent study found that classroom interventions significantly reduce off-task and disruptive behaviour in children with ADHD symptoms, with the most effective strategies being consequence-based interventions in within-subject designs and self-regulation interventions in single-subject designs. Interventions were more effective in general education classrooms than in other settings, though moderating effects of age, gender, intelligence, and medication use could not be reliably assessed due to power limitations. Additionally, classroom interventions not only improved the behaviour of children with ADHD but also had positive effects on the behavioral and academic outcomes of their classmates[8].

These findings further suggest that a close teacher–student relationship may help reduce the amount of corrective feedback that children with ADHD receive. This stresses the need for specialised training for teachers to manage ADHD behaviours effectively. However, the variability in responses (forgetfulness and anger) suggests differing levels of experience or awareness among respondents, potentially pointing to gaps in professional development. Findings from the current study also indicate moderate school involvement with pupils with ADHD, with significant variability in active care and direct intervention for ADHD pupils. Schools' reliance on government empowerment and directives from the Ministry of Education highlights systemic dependence. This is as a study suggested that effective ADHD interventions begin with a thorough evaluation and emphasise collaborative school-home strategies, peer integration, and tailored support to address the child‘s unique educational and behavioural needs while fostering self-esteem and confidence[9].

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The low engagement scores, such as active involvement in caring for ADHD pupils, suggest limited institutional efforts beyond basic recognition. This opposes findings that optimal treatment of a child or adolescent with attention-deficit/hyperactivity disorder (ADHD) begins by establishing a collaborative care team consisting of the family, school personnel, primary care clinician (PCC), mental health and subspecialty clinicians, and other adults, such as tutors and coaches. To facilitate communication among care team members, a standardised, reliable system should be established to securely collect and share information about the child‘s ADHD symptoms and functioning, medication side effects, receipt of ADHD treatments, family treatment preferences and goals, and educational resources[10].

Another study emphasised the significance of school involvement in caring for students with ADHD submitting that a specialized motor science teaching programme significantly improved school inclusion and engagement among students with ADHD, as indicated by higher scores on the Ainscow Inclusion Scale and Student Engagement Scale. A strong positive correlation was observed between inclusion and engagement, highlighting the programme‘s effectiveness. Qualitative analysis of teachers‘ interviews further emphasised the programme‘s benefits and the need for targeted training to manage behavioural difficulties and create an inclusive school environment. These findings corroborated the findings of the current study.

Teachers demonstrated moderate knowledge of ADHD, with a weighted mean falling within the _agree‘ range. The majority agreed to correct the identification of ADHD as a neurodevelopmental and behavioural disorder. This is under the finding that 75.4% of parents and teachers had no prior awareness of ADHD, and only half could accurately identify its traits in children, with 32.2% recognising that adults could also have ADHD. Educational

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qualifications significantly influenced ADHD knowledge, highlighting the need for targeted awareness programmes in private schools in Lagos to improve identification and support for affected children[11]. The findings are significant considering that it was found that Nigerian educators possess high levels of misconception and limited knowledge about ADHD, which do not improve with increased years of teaching experience or higher levels of education. Additionally, their understanding of ADHD significantly influences their choice of behaviour management strategies, often leading to the use of negative disciplinary measures rather than effective classroom management practices[12]. Teachers' disagreement with viewing ADHD as a spiritual problem notwithstanding, the variability in scores and the influence of cultural beliefs on understanding ADHD in Nigerian contexts avail. This points to inconsistent knowledge levels, reflecting gaps in formal training. Integrating neuroscience education into teacher training enhances teacher preparation by promoting evidence-based practices that support neurocognitive development in learners[13].

Additionally, while many teachers acknowledged the equal susceptibility of boys and girls to ADHD, biases about gender prevalence remain necessitating focused awareness campaigns. The results of the current study also suggest low awareness of ADHD, with particularly low scores for exposure to media content (e.g., radio jingles, and NGO activities.) The lack of awareness about effective teaching techniques and behavioural dysfunction symptoms emphasises the critical gaps in professional development. While some teachers are aware of learning disabilities broadly, the absence of ADHD-specific seminars and resources hinders practical application. This reinforces the need for targeted campaigns which will adopt multi-sectoral approaches to sensitisation and training. This aligns with the study which highlights gender disparities in ADHD diagnosis resulting from differences in symptom presentation, comorbidities, and biases

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among parents, teachers, and healthcare providers, leading to delayed diagnoses in females. This underdiagnosis negatively impacts girls' access to support and treatment, affecting their health, social and economic outcomes, underscoring the need for increased awareness and targeted interventions[14]. Relatedly, ADHD is diagnosed significantly more often in males during childhood, but by adulthood, diagnosis rates between males and females become nearly equal. This emphasises the need for more research on sex differences in ADHD, as these differences have important implications for accurate identification and treatment across the lifespan[15].

These findings stress the urgent need for increased ADHD awareness and professional development for teachers, particularly through targeted campaigns and multi-sectoral approaches. Addressing gender biases in ADHD diagnosis is crucial to ensuring that girls receive timely support and treatment, preventing long-term social and economic disadvantages. Additionally, further research on gender differences in ADHD is essential for improving diagnostic accuracy and tailoring interventions across different life stages.

The significant joint influence of school involvement, teachers‘ knowledge, and awareness of behavioural dysfunction reflects the interconnected nature of these variables. School involvement and teacher knowledge emerge as critical factors, with their combined effects explaining 23.3% of the variance. These findings align with the study that demonstrated the importance of systemic and teacher-related factors in managing behavioural issues in classrooms[16]. Accordingly, a study found that teachers with greater knowledge of mental health issues had more positive attitudes toward students with mental disorders, which correlated with lower perceptions of danger and devaluation. Also, special education teachers reported higher levels of value reduction in assessing their students with mental disorders compared to regular education teachers[17]. These findings highlight the importance of increasing mental health

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knowledge among teachers to reduce stigma and improve student support. The model's significance highlights the efficacy of a collaborative framework in addressing ADHD challenges. However, the unexplained variance stresses the role of additional factors like parental involvement and societal attitudes could be significant. These findings advocate for comprehensive, multi-stakeholder interventions. In a related manner, the regression coefficients reveal that school involvement and teacher knowledge significantly predict behavioural dysfunction, with teacher knowledge having a stronger relative impact.

In contrast, teacher awareness shows no significant influence, suggesting that basic awareness alone is insufficient without deeper understanding and practical application.

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Endnotes

[1] C. Y. Liu, W. L. Huang, W. C. Kao & S. S. F. Gau, *Influence of Disruptive Behavior Disorders On Academic Performance And School Functions of Youths with Attention-Deficit/Hyperactivity Disorder*, **Child Psychiatry & Human Development***,* 48(6), 2017, 870–880. https://doi.org/10.1007/s10578-017-0710-7

[2] M. O. Ogundele & H. F. Ayyash, *ADHD in Children and Adolescents: Review of Current Practice of Non-Pharmacological and Behavioural Management,* **AIMS Public Health,** *10*(1), 2023, 35-51. https://doi.org/10.3934/publichealth.2023004

[3] E. Hogan, M. Akpan,E. Ijezie & K. Edem, *Prevalence of Attention-Deficit Hyperactivity Disorder Symptoms among Primary School Children in Nigeria: a Comparison of Teachers and Parent Reports*, **International Journal of Research in Medical Sciences**, 10(5), 2022, 1021-1027. https://doi.org/10.18203/2320-6012.IJRMS20221172

[4] A. L. Le Cunff, *Distractibility and Impulsivity in ADHD as an Evolutionary Mismatch of High Trait Curiosity*, **Evolutionary Psychological Science**, 10, 2024, 282–297. https://doi.org/10.1007/s40806-024-00400-8

[5] P. Ross & J. Randolph, *Differences between Students with and without ADHD on Task Vigilance Under Conditions of Distraction,* **Journal of Educational Research and Practice***, 4*(1), 2014, 1–10. https://doi.org/10.5590/JERAP.2014.04.1.01

[6] M. L. Chang, I. Buric & H. Wang, *Editorial: Teachers' Emotion Regulation and Emotional Labor: Relationships with Teacher Motivation, Well-being, and Teaching,* **Frontiers in Education**, 7, 2022, 1062498. https://doi.org/10.3389/feduc.2022.1062498

[7] A. I. Staff, J. Oosterlaan, S. van der Oord, F. de Swart, L. Imeraj, B. J. van den Hoofdakker & M. Luman, *Teacher feedback, student ADHD behavior, and the teacher–student relationship: Are these related?* **School Mental Health,** *15*, 2023, 287–299. https://doi.org/10.1007/s12310-022-09548-3

[8] G. F. Gaastra, Y. Groen, L. Tucha & O. Tucha, *The Effects of Classroom Interventions on Off-Task and Disruptive Classroom Behaviour in Children with Symptoms Of Attention-Deficit/Hyperactivity Disorder: A Meta-Analytic Review*, **PLOS One**, 11(2), 2016, e0148841. https://doi.org/10.1371/journal.pone.0148841

[9] F. I. Lincă, *The Effectiveness of Intervention Programmes in the Case of Pupils With ADHD*, **Journal of Education, Society & Multiculturalism**, *2022*, 172–188. https://doi.org/10.2478/jesm-2022-0025

[10] E. Chan, *Improving Engagement in ADHD Care,* **Pediatrics,** 148(2), 2021, e2021050766

Lead City University DO NOT COPY

[11] T. S. Adekoya & K. O. Taiwo, *Educational Qualification and Awareness of ADHD: Knowledge Gap among Teachers and Parents/Guardians in Lagos Private Schools,* **LASU Postgraduate School Journal***, 1*(2), 2025, 143–156. https://doi.org/10.5281/zenodo.14776752

[12] A. N. Ojionuka, Nigerian *Educators' Attention-Deficit Hyperactivity Disorder Knowledge and Classroom Behaviour Management Practices* (Doctoral dissertation, Walden University), Walden Dissertations and Doctoral Studies Collection, 2016. Retrieved from https://scholarworks.waldenu.edu/dissertations/2224/

[13] A. Sortwell, E. Gkintoni, S. Zagarella, U. Granacher, P. Forte, R. Ferraz, R. Ramirez-Campillo, B. Carter, B. Thuillier, F. Konukman, A. Nouri, B. Bentley, P. Marandi, & M. Jemni, *Making Neuroscience a Priority in Initial Teacher Education Curricula: A Call for Bridging the Gap Between Research and Future Practices in the Classroom,* **Neuroscience Research Notes***, 6*(4), 1–7. https://doi.org/10.31117/neuroscirn.v6i4.266

[14] A. Kayla & J. Sonia, *Unveiling Gender Disparities in ADHD: A Literature Review on Factors and Impacts of Late Diagnosis in Females (2010- 2023)*, **Journal of Womans Mental Health**, 1 (1), 2024, 9-21

[15] D. E. Babinski, *Sex Differences in ADHD: Review and Priorities for Future Research,* **Curr Psychiatry Rep***,* 26, 2024, 151–156 (2024). https://doi.org/10.1007/s11920-024-01492-6

[16] B. Boruah, P. Phogat, & A. Singh, *A Mixed Methods Exploration of Teacher Involvement and its Effects on Adolescent Behavioural and Emotional Problems,* **Discov Psychol**, 4(115), 2024. https://doi.org/10.1007/s44202-024-00231-5

[17] I. Levkovich & S. S. Cohen, *The Impact of Teachers' Knowledge, Attitudes, and Barriers on Their Perceptions of Students with Mental Disorders*, **School Mental Health**, 2024. https://doi.org/10.1007/s12310-024-09714-1

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Chapter Five

Conclusion

5.1 Summary of Findings

The study reveals a high level of behavioural dysfunction among some primary school pupils in Oyo State, Nigeria, characterised by hyperactivity, distraction, and low attention spans, particularly among pupils with ADHD. Teachers recognise these behaviours as disruptive and challenging for classroom management, with a weighted average mean of 3.43 supporting this perception. While schools demonstrate moderate involvement in addressing ADHD-related challenges, gaps remain in direct engagement and practical support frameworks, as highlighted by the low mean for active school involvement (2.46). The findings emphasise the importance of systemic support from stakeholders, including governmental and parental collaboration, to enhance intervention efficacy in inclusive settings.

Teachers in Oyo State exhibit moderate knowledge of ADHD, with a weighted mean of approximately 2.50 reflecting sufficient understanding of the condition's neurodevelopmental and behavioural aspects. However, gaps exist in awareness, with a weighted mean of 1.77 indicating limited exposure to ADHD-specific training, materials, and strategies. The study highlights the need for comprehensive teacher training and awareness programmes to equip educators with the tools to effectively manage and support pupils with ADHD. Low awareness levels of intervention methods further emphasise the importance of bridging these knowledge gaps to improve inclusive education practices.

Regression analysis reveal that school involvement and teacher knowledge significantly predict behavioural dysfunction among pupils, explaining 23.3% of the variance. Teacher knowledge

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(Beta = 0.413) emerges as the strongest predictor, followed by school involvement (Beta = 0.312), while teacher awareness shows no significant influence (p = .922). These findings suggest that while increasing teacher knowledge and school involvement are critical to mitigating behavioural dysfunction, awareness alone is insufficient. The study calls for targeted initiatives to enhance teacher knowledge and active school engagement to address ADHD challenges effectively in primary schools.

5.2 Conclusion

The study identifies behavioural dysfunction in pupils, particularly in pupils with ADHD, within primary schools in Oyo State, Nigeria and the level of school involvement, particularly in creating awareness and increase teachers‘ knowledge about these dysfunctions. While teachers recognise the disruptive behaviours associated with ADHD, the findings indicate a need for stronger school involvement and support frameworks, which are currently limited. Although there is a moderate level of teacher knowledge regarding ADHD, the lack of comprehensive training and awareness of specific intervention strategies remains a critical barrier to effective management.

To address these challenges, the study emphasises the importance of improving teacher knowledge and increasing school involvement in supporting pupils with ADHD. The regression analysis confirms that both teacher knowledge and active school engagement are key predictors of behavioural dysfunction, highlighting the need for targeted professional development and systemic support. Enhancing teacher training, promoting awareness, and fostering collaborative efforts between schools, parents, and government are essential steps in improving the educational outcomes and well-being of students with ADHD in Oyo State.

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5.3 Recommendations

The current study made these recommendations based on the findings:

1. Schools in Oyo State should implement comprehensive professional development programmes to enhance teachers' knowledge of ADHD, focusing on its neurodevelopmental and behavioural aspects. This will equip teachers with the necessary skills to effectively manage students with ADHD and reduce classroom disruptions.
2. Schools should increase active involvement in the management of ADHD by establishing clear frameworks for intervention, promoting collaboration with parents, and engaging with external support systems such as government agencies and NGOs. This will ensure a more comprehensive approach to addressing the needs of pupils with ADHD.
3. Teachers should be exposed to more ADHD-specific training, seminars, and resources to improve their awareness while educational institutions and local education authorities should work together to organise sensitisation programmes to bridge the knowledge gap among teachers.
4. Government and educational authorities should collaborate more closely with parents, teachers, and health professionals in order to provide a supportive environment for ADHD students. This could include improving access to specialised resources and ensuring that schools have the tools to support affected students effectively.
5. Given that teacher knowledge and school involvement were found to significantly influence behavioural dysfunction, initiatives should prioritise increasing teacher expertise and school participation. This could involve creating support networks and peer-learning opportunities for teachers to share effective strategies for managing ADHD students.

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6. Ongoing evaluation of interventions and their effectiveness should be conducted to ensure that practices are up-to-date and meet the evolving needs of ADHD pupils. Monitoring these interventions will also allow schools to refine and improve their approaches over time, ensuring that the support provided is both effective and sustainable.

5.4 Contribution to Knowledge

This study makes a significant contribution to the existing body of knowledge by highlighting the prevalent behavioural dysfunctions observed in primary school pupils in Oyo State, Nigeria, particularly those with ADHD. By systematically assessing the perceptions of teachers regarding the challenges associated with ADHD, the study provides a comprehensive understanding of the common behavioural issues, such as hyperactivity, distraction, and low attention span that disrupt classroom dynamics. The study also addresses the need for enhanced teacher knowledge and school involvement in addressing these issues. The findings suggest that while teachers possess a foundational understanding of ADHD, there are substantial gaps in awareness and exposure to ADHD-specific training. This is a crucial insight for educational policymakers and practitioners aiming to improve inclusive education practices and intervention strategies for children with ADHD in Nigeria and similar contexts.

Furthermore, the study contributes to the academic discourse on ADHD by examining the joint and relative influence of school involvement and teacher knowledge on behavioural dysfunction among pupils. The regression analyses demonstrate that teacher knowledge and school involvement are strong predictors of behavioural dysfunction, with teacher knowledge emerging as the most influential factor. These findings challenge the traditional focus on teacher awareness

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and highlight the importance of in-depth knowledge and active school participation in mitigating ADHD-related challenges. By quantifying the impact of these factors, the study provides empirical evidence that can guide the development of more effective teacher training programmes and school policies aimed at supporting children with ADHD, thus advancing the broader field of inclusive education.

5.5 Suggested Areas for Research

Further research could be done to examine the effect of Attention-Deficit Hyperactivity Disorder on Cognitive Dysfunction among Primary School Pupils in Oyo State, Nigeria using qualitative designs / approach. Additionally, parental recognition of behavioural dysfunction of Attention-Deficit Hyperactivity Disorder among Children within the ages of five to nine years in Oyo State, Nigeria can also be researched in order to elicit the knowledge and awareness among this group. Furthermore, investigating the impact of governmental influences and contributions can be looked into.

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Bibliography

Books

Ajzen, I. (Reviewed by Open Library). *Attitudes, Personality and Behaviour.* Buckingham: Open University Press. 1988.

Ajzen, I., & Fishbein, M. (Reviewed by Open Library). *Understanding attitude and predicting social behaviour.* Englewood Cliffs, NJ: Prentice-Hall. 2010.

American Psychiatric Association. *Diagnostic and statistical manual of mental disorders (DSM-V).* Washington, DC. 2013.

American Psychiatric Association. *Diagnostic and statistical manual of mental disorders (DSM-V).* Washington, DC. 2022 (Revised Edition).

American Psychiatric Association. *Diagnostic and statistical manual of mental disorders: DSM-5.* Washington, DC: American Psychiatric Association. 2024 Updates.

American Psychiatric Association. *Practice Guidelines for the Treatment of Psychiatric Disorders disorders (5th ed.).* Washington, DC: American Psychiatric Publishing. 2006.

American Psychiatric Association. *Diagnostic and statistical manual of mental disorders (5th ed. Text Revision, DSM-5-TR).* Washington, DC: Author. 2025.

Barkley, R. A. *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment (4th ed.).* New York: Guilford Press. 2015.

DuPaul, G. J., & Stoner, G. *ADHD in the schools: Assessment and intervention strategies (3rd ed.).* New York: Guilford Press. 2015.

DuPaul, J. G., Power, T. J., Anastopoulos, A. D., & Reid, R. *ADHD Rating Scale-IV: Checklists, norms, and clinical interpretation.* New York: Guilford Press. 2016.

Flavian, H., & Kass, E., Israeli Mentoring Programmes: The Practice Component, in The International Handbook of Mentoring: Paradigms, Practices, Programmes, and Possibilities, eds Irby, B., & Boswell, J. N., Wiley-Blackwell, 2020, 367–382. https://doi.org/10.1002/9781119142973.ch22

Hattie, J. Clarke, S. *Visible learning: Feedback.* New York: Routledge. 2018.

Lead City University DO NOT COPY

Journal

Adeosun, I., Ogun, O., Fatiregun, O., & Adeyemo, S., *Attitude of Nigerian Primary School Teachers to Children with Attention-Deficit Hyperactivity Disorders*, **European Psychiatry**, 28(1), 2019, 1–11.

Adewuya, A. O., & Famuyiwa, O. O., *Attention-Deficit Hyperactivity Disorder among Nigeria Primary School Children: Prevalence and Co-Morbid Conditions,* **European Child and Adolescent Psychiatry**, 6, 2019, 10-15.

Adeyemo, S., *Attitude of Nigerian Primary School Teachers to Children With Attention-Deficit Hyperactivity Disorders*, **European Psychiatry**, 28(1), 2019, 1–11.

Adiputra, S., *Perceptions of Inclusion Education by Parents of Elementary School-Aged Children in Lampung, Indonesia*, **International Journal of Instruction**, 12(1), 2019, 199–212. https://doi.org/10.29333/iji.2019.12113a

Ajzen, I., *Nature and Operation of Attitudes*, **Annual Review of Psychology**, 52, 2017, 27–58.

Ajzen, I., *The Directive Influence of Attitudes on Behaviour*, **Social Psychology**, 1996, 385–403.

Ajzen, I., The Theory of Planned Behaviour, **Organisational Behaviour and Human Decision Processes**, 50, 2017, 179–211.

Akinbami, F. A., *Influence of Overcrowded Classrooms on ADHD Behaviours in Nigerian Primary Schools,* **Educational Research and Development Journal**, 18(4), 2020, 67–79.

Al Hamed, J. H., Taha, A. Z., Sabra, A. A., & Bella, H., *Attention-Deficit Hyperactivity Disorder (ADHD) among Male Primary School Children in Dammam, Saudi Arabia: Prevalence and Associated Factors,* **The Journal of the Egyptian Public Health Association**, 83(3–4), 2020, 165–182.

Alanazi, F., & Al Turki, Y., *Knowledge and Attitude of Attention-Deficit and Hyperactivity Disorder (ADHD) among Male Primary School Teachers in Riyadh City, Saudi Arabia,* **Journal of Family Medicine and Primary Care**, 10(3), 2021, 1218–1226. https://doi.org/10.4103/jfmpc.jfmpc219420

Allen, K., Kern, M. L., Vella-Brodrick, D., Hattie, J., & Waters, L., *What Schools Need to Know About Fostering School Belonging: A Meta-Analysis*, **Educational Psychology Review**, 30(1), 2019, 1–34.

Lead City University DO NOT COPY

Al-Moghamsi, E. Y., & Aljohani, A., *Elementary School Teachers' Knowledge of Attention Deficit/Hyperactivity Disorder*, **Journal of Family Medicine and Primary Care**, 7(5), 2018, 907–915. https://doi.org/10.4103/jfmpc.jfmpc_183_18

Alshammari, N. A., *Elementary School Counselors' Level of Knowledge of Attention-Deficit Hyperactivity Disorder: The Case of the North Border Region of Saudi Arabia,* **International Journal of Advanced Research***, 8*(08), 2020 618–624. https://doi.org/10.21474/IJAR01/11533

Alshehri, A. M., Shehata, S. F., Almosa, K. M., & Awadalla, N. J., *Schoolteachers' Knowledge of Attention-Deficit/Hyperactivity Disorder-Current Status and Effectiveness of Knowledge Improvement Programme: A Randomized Controlled Trial,* **International Journal of Environmental Research and Public Health**, 17, 2020, 5605. https://doi.org/10.3390/ijerph17155605

Amiri, D., & Eriksson, T., *Long-Term Safety and Efficacy of Stimulant vs. Non-Stimulant Medications in ADHD Treatment: A Comparative Meta-Analysis Over Two Years,* **J Psychiatry Cogn Behav**, 7, 2023, 166. https://doi.org/10.29011/2574-7762.100166

Anderson, D. L., Watt, S. E., Noble, W., & Shanley, D. C., *Knowledge of Attention-Deficit Hyperactivity Disorder (ADHD) and Attitudes Toward Teaching Children with ADHD: The Role of Teaching Experience*, **Psychology in the Schools**, 49(6), 2022, 511–525.

Anyama, S. C., *Parental Stressors and Psychological Wellbeing of Parents of Children with Special Needs: Implications for Counselling*, **African Education and Diaspora Studies**, 33, 2022, 1–10.

Appleton, J., Christenson, S. L., Kim, D., & Reschly, A. L., *Measuring Cognitive and Psychological Engagement: Validation of the Student Engagement Instrument*, **Journal of School Psychology**, 44(5), 2020, 427–445. https://doi.org/10.1016/j.jsp.2006.04.002

Arnold, L. E., Hodgkins, P., Kahle, J., Madhoo, M., & Kewley, G., *Long-Term Outcomes of ADHD: Academic Achievement and Performance,* **Journal of Attention Disorders**, 24(1), 2023, 73–85. https://doi.org/10.1177/1087054714566076

Ashenafi, Y., Kebede, D., Desta, M., & Alem, A., *Prevalence of Mental and Behavioural Disorders in Ethiopian Children*, **East African Medical Journal**, 78, 2021, 308–311.

Ataben, M. O., Sunday, M. O., & Adie, R. U., *Attention-Deficit Hyperactivity Disorder (ADHD) and Adjustment of In-School Adolescents in an Inclusive Education Setting in Cross River State, Nigeria,* **The Researcher's Journal: A Journal of Contemporary Educational Research**, 2021, 15–28.

Bakare, M., *Attention Deficit Hyperactivity Symptoms and Disorder (ADHD) Among African Children: A Review of Epidemiology and Comorbidities*, **The African Journal of Psychiatry**, 15(5), 2022, 358–361.

Lead City University DO NOT COPY

Barbaresi, W. J., & Olsen, R. D., *An ADHD Educational Intervention for Elementary School Teachers: A Pilot Study,* **Journal of Developmental and Behavioural Pediatrics**, 19(2), 2019, 94–100.

Barkley, R. A., & Murphy, K. K., *Attention-Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment, Book Review*, **Journal of Attention Disorders**, 11, 2019, 179-180.

Barkley, R. A., *Deficient Emotional Self-Regulation: A Core Component of ADHD*, **Journal of ADHD and Related Disorders**, 1(1), 2020, 5-30.

Barkley, R. A., *The Assessment of Attention-Deficit Hyperactivity Disorder*, **Behavioural Assessment**, 9, 2021, 207–233.

Biederman, J., Mick, E., & Faraone, S. V., *Age-Dependent Decline of Symptoms of Attention-Deficit Hyperactivity Disorder: Impact of Remission Definition and Symptom Type,* **American Journal of Psychiatry**, 161(7), 2020, 1149–1156.

Bonell, C., Allen, E., & Warren, E., *Effects of the Learning Together Intervention on Bullying and Aggression in English Secondary Schools (INCLUSIVE): A Cluster Randomised Controlled Trial*, **The Lancet**, 392(10163), 2019, 2452–2464.

Boruah, B., Phogat, P. & Singh, A., *A Mixed Methods Exploration of Teacher Involvement and Its Effects on Adolescent Behavioural and Emotional Problems*, **Discover Psychology**, 4(115), 2024. https://doi.org/10.1007/s44202-024-00231-5.

Braude, S., & Dwarika, V., *Teachers' Experiences of Supporting Learners with Attention-Deficit Hyperactivity Disorder: Lessons for Professional Development of Teachers,* **South African Journal of Childhood Education**, 10, 2020, 843. https://doi.org/10.4102/sajce.v10i1.843

Brynte, C, Aeschlimann, M. & Barta, C., *The Clinical Course of Comorbid Substance Use Disorder and Attention Deficit/Hyperactivity Disorder: Protocol and Clinical Characteristics of the INCAS Study,* **BMC Psychiatry**, 22, 2022, 625. https://doi.org/10.1186/s12888-022-04259-6

Budman, J. R., Fogel-Grinvald, H., & Maeir, A., *Psychological Health and Quality of Life among Ultra-Orthodox Mothers of Children with Attention-Deficit Hyperactivity Disorder: Impact of Occupational Experiences*, **Physical & Occupational Therapy in Pediatrics**, 1(1), 2023, 1–16.

Castellanos, F. X., *Anatomic Brain Abnormalities in Monozygotic Twins Discordant for Attention-Deficit Hyperactivity Disorder*, **American Journal of Psychiatry**, 163(5), 2019, 941–948.

Lead City University DO NOT COPY

Catalá-López, F., Peiró, S., Ridao, M., Sanfélix-Gimeno, G., Gènova-Maleras, R., & Catalá, M. A., *Prevalence of Attention-Deficit Hyperactivity Disorder among Children and Adolescents in Spain: A Systematic Review and Meta-Analysis of Epidemiological Studies*, **BMC Psychiatry**, 12(1), 2022, 1–10.

Chan, E., Improving Engagement in ADHD Care, **Pediatrics**, 148 (2), 2021, e2021050766.

Chan, W. W., Shum, K. K. M., & Sonuga-Barke, E. J., *Attention Deficit/Hyperactivity Disorder (ADHD) in Cultural Context: Do Parents in Hong Kong and the United Kingdom Adopt Different Thresholds When Rating Symptoms, and If So, Why?* **International Journal of Methods in Psychiatric Research**, 1(2), 2023, 19–29.

Chang, M. L., Buric, I., & Wang, H., *Editorial: Teachers' Emotion Regulation and Emotional Labor: Relationships With Teacher Motivation, Well-being, and Teaching,* **Frontiers in Education**, 7, 2022, 1062498. https://doi.org/10.3389/feduc.2022.1062498.

Chhasatia, A. H., Kataria, L. R., & Kataria, I. R., *Knowledge and Misperception of Attention-Deficit Hyperactivity Disorder (ADHD) Among the Primary School Teachers of Vadodara District, Gujarat, India,* **International Neuropsychiatric Disease Journal**, 16(2), 2021, 1–7.

Chinawa, J. M., Odetunde, O. I., Obu, H. A., Chinawa, A. T., Bakare, M. O., & Ujunwa, F. A., *Attention-Deficit Hyperactivity Disorder: A Neglected Issue in the Developing World,* **Behavioural Neurology**, 6(2), 2022, 11–21.

Ching, C., Eslick, G. D., & Poulton, A. S., *Evaluation of Methylphenidate Safety and Maximum-Dose Titration Rationale in Attention-Deficit/Hyperactivity Disorder: A Meta-Analysis,* **JAMA Pediatrics**, 173, 2021, 630–639.

Choi, W. S., Woo, Y. S., Wang, S. M., Lim, H. K., & Bahk, W. M., *The Prevalence of Psychiatric Comorbidities in Adult ADHD Compared with Non-ADHD Populations: A Systematic Literature Review,* **PLOS One**, 17, 2022, e0277175. https://doi.org/10.1371/journal.pone.0277175

Choksomngam, Y., Jiraporncharoen, W., Pinyopornpanish, K., Narkpongphun, A., Ongprasert, K., & Angkurawaranon, K. C., *Associations between Family Functioning and Symptoms of Attention-Deficit Hyperactivity Disorder (ADHD): A Cross-Sectional Study*, **Healthcare**, 10, 2022, 1480–1502.

Chopra, A., Vishnupriya, V., Gayathri, R., & Kavitha, S., *Knowledge and Awareness of Dental Students on Attention-Deficit Hyperactivity Disorder,* **Journal of Advanced Pharmaceutical Technology & Research**, 13, 2022, S308–S313.

Claussen, A. H., Holbrook, J. R., Hutchins, H. J., Robinson, L. R., Bloomfield, J., Meng, L., Bitsko, R. H., O'Masta, B., Cerles, A., Maher, B., Rush, M., & Kaminski, J. W., *All in the Family? A Systematic Review and Meta-Analysis of Parenting and Family*

Lead City University DO NOT COPY

Environment as Risk Factors for Attention-Deficit/Hyperactivity Disorder (ADHD) in Children, **Prevention Science**, *25*(Suppl 2), 2024, S249–S271. https://doi.org/10.1007/s11121-022-01358-4

Cortese, S., Fusetto, S., Veronesi, G., Gabellone, A., Margari, A., Marzulli, L., Matera, E., & Margari, L., *The Management of Sleep Disturbances in Children with Attention-Deficit/Hyperactivity Disorder (ADHD): An Update of the Literature,* **Expert Review of Neurotherapeutics**, *24*(6), 2024, 585–596. https://doi.org/10.1080/14737175.2024.2353692

Dekkers, T. J., Hornstra, R., van den Hoofdakker, B. J., de Jong, S. R., Schaaf, J. V., Bosmans, G., & van der Oord, S., *Attachment Representations in Children with and Without Attention-Deficit/Hyperactivity Disorder (ADHD)*, **Brain Sciences**, 11, 2021, 1500–1516. https://doi.org/10.3390/brainsci11111516

Drechsler, R., Brem, S., Brandeis, D., Grünblatt, E., Berger, G., & Walitza, S., ADHD: *Current Concepts and Treatments in Children and Adolescents*, **Neuropediatrics**, 51(5), 2020, 315–335. https://doi.org/10.1055/s-0040-1701658

DuPaul, G. J., *False and Simplistic Dichotomies: A Response to Valentine*, **NASP Communiqué**, 24, 2019, 11–19.

Eftari, S., & Tajikesmaeili, A., *The Role of Cognitive Emotion Regulation Strategies in Marital Adjustment as Mediated By Lifestyle*, **Journal of Psychological Science**, 21, 2022, 1743–1760.

Ehimwenma, A., & Omoike, D., *Classroom Structure and Behavioural Outcomes for Children With ADHD in Edo State,* **Journal of Special Education Needs**, 13(2), 2021, 22–35.

El-Nemr, F. M., Badr, H. S., & Salem, M. S., *Prevalence of Attention-Deficit Hyperactivity Disorder in Children*, **Science Journal of Public Health**, 3(2), 2021, 274–280.

Fabiano, G. A., A *Meta-Analysis of Behavioural Interventions for Attention-Deficit/Hyperactivity Disorder*, **Clinical Psychology Review**, 29(2), 2019, 185–198.

Fan, X., Ma, Y., Cai, J., Zhu, G., Gao, W., Zhang, Y., Lin, N., Rao, S., Mao, Y., & Li, R., *Do Parents of Children with ADHD Know the Disease? Results from a Cross-Sectional Survey in Zhejiang, China*, **Children**, 9(11), 2022, 177–195. https://doi.org/10.3390/children9111775

Farahat, T., Alkot, M., Rajab, A., & Anbar, R., *Attention Deficit Hyperactive Disorder among Primary School Children in Menoufia Governorate, Egypt*, **International Journal of Family Medicine**, 2014, 2021, 1–7. Article ID 257369.

Faraone, S. V., Banaschewski, T., & Coghill, D., *The World Federation of ADHD International Consensus Statement: 208 Evidence-Based Conclusions About the Disorder,*

Lead City University DO NOT COPY

Neuroscience and Biobehavioural Reviews, 128, 2021, 789–818. https://doi.org/10.1016/j.neubiorev.2021.01.022.

Felmlee, D., McMillan, C., Rodis, P., & Osgood, D. W., *Falling Behind: Lingering Costs of the High School Transition for Youth Friendships and Grades*, **Sociology of Education**, 91(2), 2018, 159–182.

Frazier, T. W., Youngstrom, E. A., Glutting, J. J., & Watkins, M. W., *ADHD and Achievement: Meta-Analysis of the Child, Adolescent, and Adult Literatures and a Concomitant Study with College Students,* **Journal of Learning Disabilities**, 40(1), 2019, 49–65.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H., *School Engagement: Potential of the Concept, State of the Evidence,* **Review of Educational Research**, 74, 2004, 59–109. https://doi.org/10.3102/00346543074001059

French, B., Nalbant, G., Wright, H., Sayal, K., Daley, D., Groom, M. J., Cassidy, S., & Hall, C. L., *The Impacts Associated with Having ADHD: An Umbrella Review,* **Frontiers in Psychiatry**, 15, 2024, 1343314. https://doi.org/10.3389/fpsyt.2024.1343314

Gaastra, G. F., Groen, Y., Tucha, L., & Tucha, O., *The Effects of Classroom Interventions on Off-Task and Disruptive Classroom Behaviour in Children With Symptoms of Attention-Deficit/Hyperactivity Disorder: A Meta-Analytic Review*, **PLOS One**, 11(2), 2016, e0148841. https://doi.org/10.1371/journal.pone.0148841.

Ghandour, R. M., *Mental Health Conditions Among Children: A New Look at Disparities,* **Journal of Child and Family Studies**, 27(4), 2018, 1329–1341.

Gkora, V., *Advancing ADHD Education: Autonomy, Technology, and Inclusive Strategies,* ***GSC*** **Advanced Research and Reviews**, 18(3), 2024, 101–111. https://doi.org/10.30574/gscarr.2024.18.3.0084

Green, C., *Management of Attention Deficit Disorder: A Personal Perspective*, **Modern Medicine of Australia**, 37, 2021, 38–53.

Hai, T., & Climie, E. A., *Positive Child Personality Factors in Children with ADHD*, **Journal of Attention Disorders**, 1(2), 2021, 12–30. https://doi.org/10.1177/1087054721997

Hodges, A., Cordier, R., Joosten, A., Bourke-Taylor, H., & Speyer, R., *Evaluating the Psychometric Quality of School Connectedness Measures: A Systematic Review*, **PLOS One**, 13(9), 2019, 20–33.

Hogan, E., Akpan, M., Ijezie, E., & Edem, K., *Prevalence of Attention-Deficit Hyperactivity Disorder Symptoms Among Primary School Children in Nigeria: A Comparison of Teachers and Parent Reports,* **International Journal of Research in Medical Sciences**, 10(5), 2022, 1021–1027. https://doi.org/10.18203/2320-6012.IJRMS20221172.

Lead City University DO NOT COPY

Hollingdale, J., Woodhouse, E., Young, S., Fridman, A., & Mandy, W., *Autistic Spectrum Disorder Symptoms in Children and Adolescents with Attention-Deficit/Hyperactivity Disorder: A Meta-Analytical Review*, **Psychological Medicine**, 50(13), 2020, 2240–2253. https://doi.org/10.1017/S0033291719002368

Homidi, M., Obaidat, Y., & Hamaidi, D., *Prevalence of Attention Deficit and Hyperactivity Disorder among Primary School Students in Jeddah City, KSA,* **Life Science Journal**, 10(3), 2023, 280–288.

Hoza, B., Peer Functioning in Children with ADHD, **Journal of Pediatric Psychology**, 32(6), 2019, 655–663.

Ishehri, A. M., Shehata, S. F., Almosa, K., & Awadalla, N. J., *School Teachers' Knowledge of Attention-Deficit/Hyperactivity Disorder—Current Status and Effectiveness of Knowledge Improvement Programme: A Randomized Controlled Trial,* **International Journal of Environmental Research and Public Health**, 17(15), 2020, 5605. https://doi.org/10.3390/ijerph17155605.

Jeong, J., Kim, B. J., & Kim, M. J., *The Impact of Job Insecurity on Knowledge-Hiding Behaviour: The Mediating Role of Organizational Identification and the Buffering Role of Coaching Leadership,* **International Journal of Environmental Research and Public Health**, 19(23), 2022, 16017. https://doi.org/10.3390/ijerph192316017

Jerome, L., Washington, P., Laine, C. J., & Segal, A., *Graduating Teachers' Knowledge and Attitudes about Attention-Deficit Hyperactivity Disorder: A Comparison with Practicing Teachers*, **Canadian Journal of Psychiatry**, 44(2), 2019, 12–30.

Jimoh, M., *Knowledge and Attitude Towards Attention-Deficit Hyperactivity Disorder Among Primary School Teachers in Lagos State, Nigeria*, **Advances in Life Science and Technology**, 23, 2019, 7–15.

Kara, K., Kaya Kara, O., Kose, B., Doğan, M., Cetin, S. Y., Sahin, S., & Anaby, D., *School Participation, Supports, and Barriers of Children With and Without Attention-Deficit Hyperactivity Disorder,* **BMJ Paediatrics Open**, 9, 2025, e002917. https://doi.org/10.1136/bmjpo-2024-002917

Kashala, E., *Mental Health of African School Children: Epidemiological, Clinical, and Neuropsychological Studies from Kinshasa, the Democratic Republic of Congo*, *The University of Bergen*, **Bergen Open Access Publishing**, 2020.

Kauffman, J. M., & Farkas, G., *Veracity in Special Education*, **Exceptionality**, 30, 2021, 43–56. https://doi.org/10.1080/09362835.2021.1938066

Kim, D., Yadav, D., & Song, M., *An Updated Review on Animal Models to Study Attention-Deficit Hyperactivity Disorder,* **Translational Psychiatry***, 14(*187), 2024. https://doi.org/10.1038/s41398-024-02893-0

Lead City University DO NOT COPY

Koirala, S., Grimsrud, G., Mooney, M. A., Larsen, B., Feczko, E., Elison, J. T., Nelson, S. M., Nigg, J. T., Tervo-Clemmens, B., & Fair, D. A., *Neurobiology of Attention-Deficit Hyperactivity Disorder: Historical Challenges and Emerging Frontiers,* **Nature Reviews Neuroscience***, 25,* 2024, 759–775. https://doi.org/10.1038/s41583-024-00869-z

Kos, J. M., Richdale, A. L., & Jackson, M. S., *Knowledge of Attention-Deficit/Hyperactivity Disorder: A Comparison of In-Service and Pre-Service Teachers,* **Psychology in the Schools**, 41, 2021, 517–526.

Koutsoklenis, A., & Honkasilta, J., *ADHD in the DSM-5-TR: What Has Changed and What Has Not,* **Frontiers in Psychiatry***, 13*, 2022, 1064141. https://doi.org/10.3389/fpsyt.2022.1064141

Kramer, K. J., Davis, T., McNeil, C. B., & Brady, E. U., *Parental Knowledge and Perceptions of ADHD: A Comparison of Children With and Without ADHD,* **Journal of Child and Family Studies**, 29(9), 2020, 2558–2567.

Krtkova, R., Krtek, A., Pesoutova, M., Meier, Z., Tavel, P., & Trnka, R., *School Functioning and Experience of the School Environment by Students with ADHD,* **European Journal of Special Needs Education**, 37(4), 2022, 614–628. https://doi.org/10.1080/08856257.2022.2145687

Larson, K., Russ, S. A., Kahn, R. S., & Halfon, N., *Patterns of Comorbidity, Functioning, and Service Use for US Children with ADHD*, **Pediatrics**, 127(3), 2021, 462–470.

Lasisi, D., Ani, C., Lasebikan, V., Sheikh, L., & Omigbodun, O., *Effect of Attention-Deficit-Hyperactivity-Disorder Training Programme on the Knowledge and Attitudes of Primary School Teachers in Kaduna, North-Western Nigeria,* **Child and Adolescent Psychiatry and Mental Health**, 11(1), 2020, 1–15. https://doi.org/10.1186/s13034-017-0153-8

Lawson, R. A., Papadopoulos, N., & Imeraj, L., *Parenting Style and Child Outcomes in ADHD: A Systematic Review of the Literature*, **Journal of Attention Disorders**, 25, 2021, 8–20.

Le Cunff, A. L., *Distractibility and Impulsivity in ADHD as an Evolutionary Mismatch of High Trait Curiosity,* **Evolutionary Psychological Science**, 10, 2024, 282–297. https://doi.org/10.1007/s40806-024-00400-8.

Lenzi, F., Cortese, S., Harris, J., & Masi, G., *Pharmacotherapy of Emotional Dysregulation in Adults with ADHD: A Systematic Review and Meta-Analysis*, **Neuroscience and Biobehavioural Review**, 84, 2019, 395-367.

Lincă, F. I., *The Effectiveness of Intervention Programmes in the Case of Pupils With ADHD,* **Journal of Education, Society & Multiculturalism**, 2022, 172–188. https://doi.org/10.2478/jesm-2022-0025.

Lead City University DO NOT COPY

Liu, Y., Huang, W. L., Kao, W. C., & Gau, S. S. F., *Influence of Disruptive Behavior Disorders on Academic Performance and School Functions of Youths With Attention-Deficit/Hyperactivity Disorder,* **Child Psychiatry & Human Development**, 48(6), 2017, 870–880. https://doi.org/10.1007/s10578-017-0710-7.

Loe, I. M., & Feldman, H. M., *Academic and Educational Outcomes of Children With ADHD,* **Journal of Pediatric Psychology**, 32(6), 2007, 643–654. https://doi.org/10.1093/jpepsy/jsl054

Martella, D., Aldunate, N., Fuentes, L. J., & Sanchez-Perez, N., *Arousal and Executive Alterations in Attention-Deficit Hyperactivity Disorder (ADHD),* **Frontiers in Psychology***, 11*, 2020, 1991. https://doi.org/10.3389/fpsyg.2020.01991

Martinussen, R., Hayden, J., Hogg-Johnson, S., & Tannock, R., *A Meta-Analysis of Working Memory Impairments in Children with Attention-Deficit/Hyperactivity Disorder*, **Journal of the American Academy of Child & Adolescent Psychiatry**, 44(4), 2020, 377–384.

Masse, L., Nadeau, M. F., Gaudreau, N., Nadeau, S., Gauthier, C., & Lessard, N., *Pre-Service Teachers' Attitudes Toward Students with Behavioural Difficulties: Associations with Individual and Educational Programmes Characteristics*, **Frontiers in Education**, 7(8), 2022, 46–73. https://doi.org/10.3389/feduc.2022.846223

Merga, M. K., *Fallen Through the Cracks: Teachers' Perceptions of Barriers Faced by Struggling Literacy Learners in Secondary School*, **English in Education**, 54(4), 2020, 371–395. https://doi.org/10.1080/04250494.2019.1672502

Meysamie, A., Fard, M. D., & Mohammadi, M. R., *Prevalence of Attention-Deficit/Hyperactivity Disorder Symptoms in Preschool-Aged Iranian Children*, **Iranian Journal of Pediatrics**, 21(4), 2021, 467–472.

Mick, E., & Faraone, S. V., *Genetics of Attention-Deficit Hyperactivity Disorder*, **Child and Adolescent Psychiatric Clinics of North America**, 17, 2020, 261–284.

Mikami, A. Y., *Peer Relationships in Children With ADHD: A Meta-Analytic Review*, **Journal of Abnormal Child Psychology**, 38(5), 2020, 651–663.

Miller, M., Arnett, A. B., Shephard, E., Charman, T., Gustafsson, H. C., Joseph, H. M., & Jones, E. J., *Delineating Early Developmental Pathways to ADHD: Setting an International Research Agenda,* **JCPP Advances**, 1(2), 2023, 124–144.

Mogbana, M. A., & Edward, C. O., *Deviant Behaviours in Schools: Implications for Counselling*, **Journal of Educational Research & Development**, 5(1), 2022, 12–22.

Mohammed, M., Bella-Awusah, T., Adedokun, B., Lagunju, I., & Ani, C., *Effectiveness of a Training Programme on The Knowledge and Perception of Attention-Deficit Hyperactivity Disorder among Primary School Teachers in Kano, Nigeria*, **International**

Lead City University DO NOT COPY

Journal of Mental Health, 1, 2023, 1–15. https://doi.org/10.1080/00207411.2023.2253397

Moldavsky, M., & Sayal, K., *Knowledge and Attitudes about Attention-Deficit/Hyperactivity Disorder (ADHD) and its Treatment: The Views of Children, Adolescents, Parents, Teachers, and Healthcare Professionals*, **Current Psychiatry Reports**, 15(8), 2019, 37–57.

Montiel, C., Peña, J. A., Montiel-Barbero, I., & Polanczyk, G., *Prevalence Rates of Attention Deficit/Hyperactivity Disorder in a School Sample of Venezuelan Children*, **Child Psychiatry and Human Development**, 39(3), 2019, 311–332.

Moore, D. A., Russell, A., Matthews, J., Ford, T., Rogers, M., Ukoumunne, O., Kneale, D., Thompson-Coon, J., Sutcliffe, K., Nunns, M., Shaw, L., & Gwernan-Jones, R., *School-Based Interventions for Attention-Deficit/Hyperactivity Disorder: A Systematic Review with Multiple Synthesis Methods,* **Review of Education**, 6(3), 2018, 209–263. https://doi.org/10.1002/rev3.3149

Morales, J. S., Alberquilla del Río, E., Valenzuela, P. L., & Martínez-de-Quel, Ó., *Physical Activity and Cognitive Performance in Early Childhood: A Systematic Review and Meta-Analysis of Randomized Controlled Trials,* **Sports Medicine***, 54,* 2024, 1835–1850. https://doi.org/10.1007/s40279-024-01859-0

Nasri, M., Tsou, Y. T., Koutamanis, A., Baratchi, S., Giest, M., Reidsma, D., & Rieffe, C., *A Novel Data-Driven Approach to Examine Children's Movements and Social Behaviour in Schoolyard Environments*, **Children**, 9(8), 2022, 111–137.

Nazarova, V. A., Sokolov, A. V., Chubarev, V. N., Tarasov, V. V., & Schiöth, H. B., *Treatment of ADHD: Drugs, Psychological Therapies, Devices, Complementary and Alternative Methods as well as the Trends in Clinical Trials*, **Frontiers in Pharmacology**, 13, 2022, 12–30. https://doi.org/10.3389/fphar.2022.1066988

Neca, P., Borges, M. L., & Compos-Pinto, P., *Teachers with Disabilities: A Literature Review,* International **Journal of Inclusive Education**, 2020, 1–19. https://doi.org/10.1080/13603116.2020.1776779

Odenwald, M., Neuner, F., & Schauer, M., Khat *Use as a Risk Factor for Psychotic Disorders: A Cross-Sectional and Case-Control Study in Somalia*, **BMC Medicine**, 3(1), 2019, 5–15.

Ofovwe, C. E., Ofovwe, G. E., & Meyer, A., *The Prevalence of Attention Deficit/Hyperactivity Disorder (ADHD) Among Primary School Pupils of Benin Metropolis, Nigeria*, **Journal of Child & Adolescent Mental Health**, 18(1), 2019, 1–5.

Ogundele, M. O., & Ayyash, H. F., *ADHD in Children and Adolescents: Review of Current Practice of Non-Pharmacological and Behavioural Management,* **AIMS Public Health**, 10(1), 2023, 35–51. https://doi.org/10.3934/publichealth.2023004.

Lead City University DO NOT COPY

Ogundele, M. O., *Behavioural and Emotional Disorders in Childhood: A Brief for Paediatricians*, **World Journal of Clinical Pediatrics**, 7, 2018, 9–26. https://doi.org/10.5409/wjcp.v7.i1.9

Ojionuka, A. N., *Nigerian Educators' Attention-Deficit Hyperactivity Disorder Knowledge and Classroom Behaviour Management Practices (Doctoral Dissertation, Walden University),* **Walden Dissertations and Doctoral Studies Collection**, 2016. Retrieved from https://scholarworks.waldenu.edu/dissertations/2224/.

Okeke, J. N., Teacher Empathy and Behavioural Outcomes in Pupils With ADHD, **International Journal of Psychological Studies**, 9(1), 2019, 12–29.

Okyar, E., Bozatlı, L., Görker, I., & Okyar, S., *Anxiety and Somatic Symptoms in Children and Adolescents Diagnosed with Attention-Deficit Hyperactivity Disorder,* **Psychiatry Journal**, 2(2), 2023, 10–20. https://doi.org/10.1155/2023/5523312

Olanrewaju, K., & Adeniyi, O., *School Infrastructure and Its Impact on ADHD Behaviour in Ibadan Public Schools,* **Nigerian Educational Review**, 25(3), 2019, 87–101.

Pagán, A. F., Huizar, Y. P., Short, T. R., Gotcher, Z., & Schmidt, A. T., *Adult Attention-Deficit/Hyperactivity Disorder: A Narrative Review of Biological Mechanisms, Treatments, and Outcomes,* **Current Neurology and Neuroscience Reports***, 23*, 2023, 451–460. https://doi.org/10.1007/s11910-023-01312-9

Parlatini, V., Bellato, A., Gabellone, A., Margari, L., Marzulli, L., Matera, E. & Cortese, S., *A State-of-the-Art Overview of Candidate Diagnostic Biomarkers For Attention-Deficit/Hyperactivity Disorder (ADHD),* **Expert Review of Molecular Diagnostics***, 24*(4), 2024, 259–271. https://doi.org/10.1080/14737159.2024.2333277

Patton, G. C., Sawyer, S. M., & Santelli, J. S., Our Future: *A Lancet Commission on Adolescent Health and Wellbeing,* **The Lancet**, 87(10036), 2021, 2423–2478.

Paulus, F. W., Ohmann, S., Möhler, E., Plener, P., & Popow, C., *Emotional Dysregulation In Children And Adolescents With Psychiatric Disorders: A Narrative Review,* **Frontiers in Psychiatry***, 12,* 2021, 628252. https://doi.org/10.3389/fpsyt.2021.628252.

Peterson, B. S., Trampush, J., Maglione, M., Bolshakova, M., Rozelle, M., Miles, J., Pakdaman, S., Brown, M., Yagyu, S., Motala, A., & Hempel, S., *Treatments for ADHD in Children and Adolescents: A Systematic Review.* **Pediatrics***, 153,* 2024, e2024065787. https://doi.org/10.1542/peds.2024-065787

Polanczyk, G., de Lima, M. S., Horta, B. L., Biederman, J., & Rohde, L. A., *The Worldwide Prevalence of ADHD: A Systematic Review and Meta-Regression Analysis*, **American Journal of Psychiatry**, 164(6), 2019, 942–948.

Lead City University DO NOT COPY

Polanczyk, G., de Lima, M. S., Horta, B. L., Biederman, J., & Rohde, L. A., *The Worldwide Prevalence of ADHD: A Systematic Review and Meta-regression Analysis*, **The American Journal of Psychiatry**, 164, 2020, 942–948.

Polanczyk, G., de Lima, M. S., Horta, B. L., Biederman, J., & Rohde, L. A., *The Worldwide Prevalence of ADHD: A Systematic Review and Metaregression Analysis*, **American Journal of Psychiatry**, 164(6), 2019, 942–948.

Researcher, 2025.

Reuben, C., & Elgaddal, N., *Attention-Deficit/Hyperactivity Disorder in Children Ages 5–17 Years: United States, 2020–2022,* **NCHS Data Brief**, (499), 2021, 1-9 https://www.cdc.gov/nchs/products/index.html

Rohde, L. A., Szobot, C., Polanczyk, G., Schmitz, M., Martins, S., & Tramontina, S., *Attention-Deficit/Hyperactivity Disorder in a Diverse Culture: Do Research and Clinical Findings Support the Notion of a Cultural Construct for the Disorder?* **Biological Psychiatry**, 57(11), 2020, 1436–1441.

Ross, P., & Randolph, J., *Differences Between Students With and Without ADHD on Task Vigilance Under Conditions of Distraction,* **Journal of Educational Research and Practice**, 4(1), 2014, 1–10. https://doi.org/10.5590/JERAP.2014.04.1.01.

Rungan, S., Liu, M., Edwige, H. V., Smit-Merry, J., & Eastwood, J., *What Does the Term Childhood Behavioural Disorders Mean in the Context of Aboriginal Culture Within Australia? Part 2: Historical and Social Context,* **Journal of Paediatrics and Child Health**, 58, 2022, 1946–1951.

Saad, S., Aljanahi, F., Coumaravelou, S., Agha, A., Alsamiri, M., & Allami, S., *Knowledge About Attention-Deficit/Hyperactivity Disorder Among Primary School Teachers in Sharjah, UAE,* **National Library of Medicine**, 11, 2022, 99.

Sadock, B. J., & Sadock, V. A., *Kaplan and Sadock's Synopsis of Psychiatry,* **Behavioural Sciences/Clinical Psychiatry**, Lippincott Williams & Wilkins, 2021.

Salari, N., Ghasemi, H., & Abdoli, N., *The Global Prevalence of ADHD in Children and Adolescents: A Systematic Review and Meta-Analysis*, **Italian Journal of Pediatrics**, 49, 2023, 38–48. https://doi.org/10.1186/s13052-023-01456-1

Schoeman, R., & Voges, T., *Attention-Deficit Hyperactivity Disorder Stigma: The Silent Barrier to Care*, **South African Journal of Psychiatry**, 28, 2022, 12–30.

Schwartz-Mette, R. A., Lawrence, H. R., Shankman, J., Fearey, E., & Harrington, R., *Intrapersonal Emotion Regulation Difficulties And Maladaptive Interpersonal Behaviour In Adolescence,* **Research on Child and Adolescent Psychopathology***, 49, 2021,* 749–761. https://doi.org/10.1007/s10802-020-00743-1

LeadCity University DO NOT COPY

Sciutto, M. J., Terjesen, M. D., & Frank, A. S. B., *Teachers' Knowledge and Misperceptions of Attention-Deficit/Hyperactivity Disorder,* **Psychology in the Schools**, 37(2), 2020, 115–122.

Sedgwick-Müller, J. A., Müller-Sedgwick, U., Adamou, M., Catani, M., Champ, R., Gudjónsson, G., Hank, B., Pitts, M., Young, S., & Asherson, P., *University Students With Attention-Deficit Hyperactivity Disorder (ADHD): A Consensus Statement From The UK Adult ADHD Network (UKAAN),* **BMC Psychiatry**, 22(1), 2022, 292–312. https://doi.org/10.1186/s12888-022-03898-z

Shaw, P., Stringaris, A., Nigg, J., & Leibenluft, E., *Emotion Dysregulation in Attention-Deficit Hyperactivity Disorder,* **American Journal of Psychiatry**, 171(3), 2021, 276–293.

Shinde, S., Weiss, H. A., & Varghese, B., *Promoting School Climate and Health Outcomes with the SEHER Multi-Component Secondary School Intervention in Bihar, India: A Cluster-Randomised Controlled Trial,* **The Lancet**, 392(10163), 2019, 2465–2477.

Skogli, E. W., Teicher, M. H., Andersen, P. N., Hovik, K. T., & Øie, M., *ADHD in Girls and Boys – Gender Differences in Co-existing Symptoms and Executive Function Measures,* **BMC Psychiatry**, 13, 2013, 298. https://doi.org/10.1186/1471-244X-13-298

Snider, V. E., Busch, T., & Arrowood, I., *Teacher Knowledge of Stimulant Medication and ADHD,* **Remedial and Special Education**, 24(1), 2021, 46–57.

Sonuga-Barke, E. J., Becker, S. P., & Bölte, S., *Annual Research Review: Perspectives on Progress in ADHD Science - From Characterization to Cause*, **Journal of Child Psychology and Psychiatry**, 64, 2023, 506–532. https://doi.org/10.1111/jcpp.13696

Sortwell, A., Gkintoni, E., Zagarella, S., Granacher, U., Forte, P., Ferraz, R., Ramirez-Campillo, R., Carter, B., Thuillier, B., Konukman, F., Nouri, A., Bentley, B., Marandi, P., & Jemni, M., *Making Neuroscience a Priority in Initial Teacher Education Curricula: A Call for Bridging the Gap Between Research and Future Practices in the Classroom*, **Neuroscience Research Notes**, 6(4), 2024, 1–7. https://doi.org/10.31117/neuroscirn.v6i4.266.

Sorubek, A., Kelly, M., & Li, X., *Inattentiveness in Attention-Deficit/Hyperactivity Disorder*, **Neuroscience Bulletin**, 29, 2019, 103-110.

Staff, L., Oosterlaan, J., van der Oord, S., de Swart, F., Imeraj, L., van den Hoofdakker, B. J., & Luman, M., *Teacher Feedback, Student ADHD Behavior, and the Teacher–Student Relationship: Are These Related?* **School Mental Health**, 15, 2023, 287–299. https://doi.org/10.1007/s12310-022-09548-3.

Strelow, A. S., Dort, M., Schwinger, M., & Christiansen, H., *Influences on Pre-Service Teachers' Intention to Use Classroom Management Strategies for Students With ADHD:*

Lead City University DO NOT COPY

A Model Analysis, **International Journal of Educational Research**, 103, 2020, 101627. https://doi.org/10.1016/j.ijer.2020.101627.

Sullivan, M. A., Hutchinson, A. D., & Keehn, J. D., *Working Memory in Children with ADHD: A Systematic Review of Working Memory Training Studies*, **Journal of Child Psychology and Psychiatry**, 57(5), 2020, 483–496.

Tannock, R., *A Meta-Analysis of Working Memory Impairments in Children with Attention-Deficit/Hyperactivity Disorder,* **Journal of the American Academy of Child & Adolescent Psychiatry**, 44(4), 2020, 377–384.

Thomas, R., Sanders, S., Doust, J., Beller, E., & Glasziou, P., *Prevalence of Attention-Deficit/Hyperactivity Disorder: A Systematic Review and Meta-Analysis*, **Pediatrics**, 135(4), 2020, e994–e1001.

Tibke, J., Why the Brain Matters: A Teacher Explores Neuroscience, **SAGE**, 2019. https://doi.org/10.36019/9780813593906

Ukutegbe, S. O., Isaac, A. O., & Ileuma, S., *Motivation Strategies as Correlate of Teachers' Job Satisfaction in the Public Primary Schools in Oyo State, Nigeria,* **Fuoye Journal of Management Sciences**, 1(1), 2024, 193–213.

Visser, S. N., Danielson, M. L., Bitsko, R. H., et al., *Trends in the Parent-Report of Health Care Provider-Diagnosed and Medicated Attention-Deficit/Hyperactivity Disorder: United States, 2013–2021,* **Journal of the American Academy of Child & Adolescent Psychiatry**, 3(1), 2022, 34–46.

Wamithi, S., Ochieng, R., Njenga, F., Akech, S., & Macharia, W. M., *Cross-Sectional Survey on Prevalence of Attention-Deficit Hyperactivity Disorder Symptoms at a Tertiary Care Health Facility in Nairobi*, **Child and Adolescent Psychiatry and Mental Health**, 9(1), 2021, 1–10.

Wang, M. T., & Degol, J. L., *School Climate: A Review of the Construct, Measurement, and Impact on Student Outcomes*, **Educational Psychology Review**, 28(2), 2019, 315–352.

Ward, R. J., Bristow, S. J., Kovshoff, H., Cortese, S., & Kreppner, J., *The Effects of ADHD Teacher Training Programmes on Teachers and Pupils: A Systematic Review and Meta-Analysis,* **Journal of Attention Disorders**, 26(2), 2022, 225–244. https://doi.org/10.1177/1087054720972801

Willcutt, E. G., *The Prevalence of DSM-IV Attention-Deficit/Hyperactivity Disorder: A Meta-Analytic Review*, **Neurotherapeutics**, 9(3), 2022, 490–499.

Wolraich, M. L., Hagan, J. F., Winner, J. D., & Zurhellen, W., *Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in*

Lead City University DO NOT COPY

Children and Adolescents, **Pediatrics**, 144(4), 2019, 25-28. https://doi.org/10.1542/peds.2019

Woyessa, A. H., Tharmalingadevar, T. P., Upashe, S. P., & Diriba, D. C., *Primary School Teachers' Misconceptions About Attention-Deficit/Hyperactivity Disorder in Nekemte Town, Oromia Region, Western Ethiopia*, **BMC Research Notes**, 12(1), 2019, 510–524. https://doi.org/10.1186/s13104-019-4573-9.

Yerys, B. E., Tao, S., Shea, L., & Wallace, G. L., *Attention-Deficit/Hyperactivity Disorder in Medicaid-enrolled Autistic Adults,* **JAMA Netw Open**, *8*(2), 2025, e2453402. https://doi.org/10.1001/jamanetworkopen.2024.53402

Zendarski, N., Haebich, K., Bhide, S., Quek, J., Nicholson, J. M., Jacobs, K. E., Efron, D., & Sciberras, E., *Student–Teacher Relationship Quality in Children With and Without ADHD: A Cross-Sectional Community-Based Study*, **Early Childhood Research Quarterly**, 51(2), 2020, 275–284. https://doi.org/10.1016/j.ecresq.2019.12.006

Zendarski, N., Sciberras, E., Mensah, F., & Hiscock, H., *Early High School Engagement in Students With Attention-Deficit/Hyperactivity Disorder,* **British Journal of Educational Psychology**, 87(4), 585–599. https://doi.org/10.1111/bjep.12140

Zhang, L., Li, L., Andell, P., Garcia-Argibay, M., Quinn, P. D., D'Onofrio, B. M., Brikell, I., Kuja-Halkola, R., Lichtenstein, P., Johnell, K., Larsson, H., & Chang, Z., *Attention-Deficit/Hyperactivity Disorder Medications and Long-Term Risk of Cardiovascular Diseases.* **JAMA Psychiatry**, *81*(2), 2024, 178–187. https://doi.org/10.1001/jamapsychiatry.2023.4294

Websites

Bhandari S., *ADHD in Children: When A Teacher Recognises ADHD Symptoms,* WedMD. https://www. webmd.com/add-adhd/childhood-adhd/when-teacher-recognises-adhd-symptoms. , 2023

Center for Disease Control and Prevention, *What is ADHD? National Center on Birth Defects and Developmental Disabilities* (NCBDDD), 2023. https://www.cdc.gov/ ncbddd/adhd/facts.html.

Center for Disease Control and Prevention, *What Is ADHD?* National Center on Birth Defects and Developmental Disabilities (NCBDDD). https://www.cdc.gov/ncbddd/adhd/facts.html, 2023.

Centers for Disease Control and Prevention, Content source: National Center on Birth Defects and Developmental Disabilities, 2022. Retrieved from https://www.cdc.gov

Lead City University Do NOT COPY

LeBlanc, L., *Sweeping review reveals latest evidence on the diagnosis, treatment, and monitoring of ADHD.* 2024. *Newsroom.* https://keck.usc.edu/news/sweeping-review-reveals-latest-evidence-on-the-diagnosis-treatment-and-monitoring-of-adhd/

National Center on Birth Defects and Developmental Disabilities, *Attention-Deficit/Hyperactivity Disorder (ADHD), Centers for Disease Control & Prevention,* 2022. https://www.cdc.gov/ncbddd/adhd/facts.html

National Institute of Mental Health, *Attention-Deficit/ Hyperactivity Disorder in Children and Teens: What You Need to Know*, 2021, NIMH.https://.ww w. nimh.nih.gov

National Institute of Mental Health, *Attention-deficit/hyperactivity Disorder*. U.S. Department of Health and Human Services, National Institutes of Health, 2020. https://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorderadhd#part_145444

National Institute of Mental Health, *Attention-deficit/hyperactivity Disorder*, U.S. Department of Health and Human Services, National Institutes of Health, 2020. https://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorderadhd#part_145444

National Institute of Mental Health, *Attention-Deficit/Hyperactivity Disorder*. https://www.nimh.nih.gov/health/topics/attention, 2023.

UNICEF, *Primary Education*, 2021. https://www.unicef.org/education/primary-education.

UNICEF, *Secondary Education*, 2021. https://www.unicef.org/topics/secondary-education

Wilson D.R. & Seymour, T. *Three Types of ADHD: What Are the Differences?* Medical News Today, 2022. https://www. medicalnewstoday.com/articles/ adhd-awareness.

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Appendix

Lead City University,

Faculty of Arts and Education,

Department of Guidance and Counseling

Dear Respondent,

I am a PhD student at Lead City University researching School Involvement and teachers' recognition of Behavioural Dysfunction of Attention-Deficit Hyperactivity Disorder among Elementary school pupils in Oyo State. Please your cooperation is needed in filling out the questionnaire which is designed basically for this research purpose. Please be honest with your responses and all information provided will be treated confidentially.

Thanks for your cooperation

Section A: Demography Data of Respondents

Please tick the appropriate:

1. Sex - (A) Male (B) Female

3. Level of Education

   A. Nigeria Certificate in Education (NCE)
   B. Bachelor of Education (B. Ed)
   C. Master of Education (M. Ed)

4. How long have you been in the Teaching Industry?

   A. 1 - 10 years
   B. 11 - 20 years
   C. Above 20years

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Section B: **Teachers' awareness of ADHD Scale**

SN		Strongly Disagree	Disagree	Agree	Strongly Agree
	Teacher‘s Awareness of ADHD				
1.	I have heard of learning disability in Pupils				
2.	I am aware of any learning disability in Pupils				
3.	Hyperactivity Disorder (ADHD) is well recognised by me				
4	Have you attended any symposium or seminar targeted at ADHD				
5.	I am aware of behavioural dysfunction of ADHD				
6.	I have come across any jingles on the radio focusing on ADHD				
7.	I am aware of NGOs addressing ADHD in children				
8.	I am aware of religious organisation addressing ADHD in children				
9.	I have seen a child or a pupil with ADHD Techniques for effective teaching of pupils with				
10.	ADHD is common				
11.	I have watched documentaries and listened to discussion on television on ADHD				
12.	I am aware o of the symptoms of ADHD				
	Section B	Strongly Disagree	Disagree	Agree	Strongly Agree
	Teacher’s Knowledge of ADHD Scale				
1.	ADHD a mental disorder and a malformation of an aspect of the brain				
2.	ADHD a contagious disease				
3.	ADHD can be seen as a spiritual problem				
4.	ADHD is a behavioural disorder				
5.	ADHD is a neurodevelopmental disorder				
6.	It is also an emotional disorder				
7.	ADHD is a social disorder				

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8.	ADHA is not treatable				
9.	ADHD affects only girls				
10.	Both sexes (male and female) can be affected by ADHD				
11.	It is more common in boys than in girls				
12.	Correct diets is a treatment for ADHD				
	Section C				
	School Involvement with ADHD Pupils Scale	Strongly Disagree	Disagree	Agree	Strongly Agree
1.	Most times the school discovers children with ADHD before their parents				
2.	The school is a principal figure in managing pupils with ADHD				
3.	For learning to be effective for pupils with ADHD, the school must be adequately equipped with both human resources and teaching aids				
4.	My school is actively involved in caring for pupils with ADHD				
5.	The school needs to be empowered by the Government to be able to help pupils with ADHD				
6.	The school as a whole cannot do much without the directives from the Government through the Ministry of Education				
7.	The school should educate parents on ADHD and other learning disabilities that can interfere with learning and jointly seek for Solution				
8.	The parents must be willing to cooperate with the school and the teachers to help their children suffering from ADHD				
9.	The school must be duly informed by the medicals about the clinical attention to be given to pupils suffering from ADHD.				
10.	Teachers supports are limited without the support of the school				
11.	Schools should not be involved in handling ADHD pupils.				
12.	Special schools should be created for pupils with ADHD				

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	Section D				
	Behavioural Dysfunction of ADHD	Strongly Disagree	Disagree	Agree	Strongly Agree
1.	ADHD Pupils find it difficult to complete a task at a given period of time				
2.	They are very restless and do not pay attention to details				
3.	They have very low attention span				
4.	ADHD pupils are easily distracted and they also distract others				
5.	They are always fidgeting and very forgetful				
6.	They are super and hyper active in class				
7.	They are not safety conscious - they hurt self and others unintentionally				
8.	They can frustrate both teachers and Classmates				
9.	They are easily angered and provoked				
10.	They are unintentionally destructive				
11.	They can be aimless in their activities sometimes e. g. climbing the walls without any purpose				
12.	They are easily and always frustrated on a job hence disturbing the peace of their colleagues and the class in general.				

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Biodata

A.

Personal Data

Name:	**Foluso Modupe ORIMADEGUN**
Phone number:	07082151592
Email:	mamaorimadegun@gmail.com
Date of birth:	September 29, 1962
Place of birth:	Ibadan
Home Address:	No 24, Alagogo, Ajibode, Ibadan
State of Origin:	Oyo
Local Government:	Ibadan North East
Nationality:	Nigerian
Marital status:	Married
Sex:	Female
Religion:	Christianity

B.

Educational Qualifications with Dates

1. Qualification:	Doctor of Philosophy (PhD) in Guidance and Counselling in view
Course:	Guidance and Counselling
Institution:	Lead City University, lbadan Nigeria, 2022 till date.
2. Qualification:	Master in Education, Guidance and Counselling
Course:	Guidance and Counselling
Institution:	University of Ibadan, lbadan Nigeria, 1993 - 1994

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3. Qualification:	Bachelor of Education, Home Economics
Course:	Guidance and Counselling
Institution:	Ahmadu Bello University, Zaria Nigeria, 1984 - 1987
4. Qualification:	Nigeria Certificate in Education (NCE)
Course:	Home Economics
Institution:	Federal College of Education, Pankshin Nigeria, 1980 - 1983
5. Qualification:	Teachers_ Grade ll
Course:	Teachers_ Grade ll
Institution:	Ikere Teachers_ College, Ikere Ekiti Nigeria, 1979 – 1980
6. Qualification:	West African School Certificate
Institution:	St. Monica Girls Grammar School, Ondo Nigeria, 1974 - 1979

C.

Work History

(Principal) Bodija – Ashi Baptist College, Ibadan Nigeria (2015 – 2023)

(Administrator) Chrysolite Model School, Ibadan Nigeria (2009 - 2014)

(Principal) Christ Covenant Secondary School, Idi - Ayunre Ibadan Nigeria (2007 - 2009)

(Principal) Achievers High School, Bodija Ibadan Nigeria (2005 - 2007)

(Class & Subject Teacher) The International School, University of Ibadan, Nigeria (1991 - 2004)

D.

Awards and Fellowships - Nil

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E.

Memebership of Academic / Professional Bodies

Member, Nigeria Union of Teachers (NUT)

Member, Home Economics Association of Nigeria, Oyo State Chapter

Member, Counselling Association of Nigeria, Oyo State Chapter

F.

Publications

Chapter Contributions in Books

Killian T. O. & Orimadegun F. M. *Adolescents Self-Concept and Identity Formation: Counselling for Positive Development* in B. A. Adeyemi, O. F. Alabi & F. M. Oduntan (Eds.), *Enhancing Language Educational Practices and Educational Evaluation through Multidisciplinary Perspectives: A Book in Honour of Professor Joseph Abiodun Adegbile.* Ibadan: 2025, pp. 229 - 237.

Articles in Learned Journals

Orimadegun B. C., Obembe T. A, Adeniji F. & Orimadegun F. M. *Perception of Secondhand Smoke among Secondary School Teachers in Ibadan, Nigeria* (In view).

G.

Major Conferences Attended with Dates

2nd Annual Stakeholders' Workshop on the Best Practices in Education for Sustainable National Development in Nigeria, organized by the Department of Arts & Social Science Education, Lead City University, Ibadan, Nigeria, on Tuesday 11th July, 2023.

H.

Referees

Dr Olabisi T. Precious Killian
Faculty of Education

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Department of Arts & Social Science Education
Lead City University, Ibadan, Nigeria

Dr Monisola Dasola Oyetade
Faculty of Education
Department of Arts & Social Science Education
Lead City University, Ibadan, Nigeria

Dr Monisola Sonaike
Department of Anaesthesia
University College Hospital, Ibadan, Nigeria

…… …….
Signature Date

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The University Compliance Certification

This is to certify that this thesis was written by Foluso Modupe ORIMADEGUN with matriculation number LCU/PG/003037 in the Department of Arts and Social Science Education, Faculty of Education, Lead City University, Ibadan, in compliance with the approved University format and style

…… ……

Signature Date

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