

COGNITIVE BEHAVIORAL PLAY THERAPY EFFICACY IN THE  
TREATMENT OF GENDER SYMPTOMATOLOGY OF ANXIETY DISORDERS  
AMONG CHILDREN: A CASE OF SELECTED SCHOOLS IN DAGORETTI SUB-  
COUNTY, NAIROBI COUNTY, KENYA

by

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A dissertation presented to the School of Human and Social Sciences

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APPROVAL

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## DECLARATION

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AMONG CHILDREN: A CASE OF SELECTED SCHOOLS IN DAGORETTI SUB-  
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I declare that this dissertation is my original work and has not been submitted to any other college or university for academic credit.

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## LIST OF ABBREVIATIONS AND ACRONYMS

ADAA	Anxiety and Depression Association of America
AD	Anxiety Disorder
ANOVA	Analysis of Variance
APA	American Psychiatric Association
CBPT	Cognitive Behavioral Play Therapy
CBT	Cognitive Behavior Therapy
DSM-5	Diagnostic Statistical Manual of Mental Disorders
FSSC-R	Fear Survey Schedule for Children- Revised.
GAD	Generalized anxiety disorder.
HC	Homotypic Comorbidity
NACOSTI	National Commission for Science, Technology and Innovation
PD	Panic Disorder
PTSD	Post Traumatic Stress Disorder
SAD	Social Anxiety Disorder
SCARED	Screen for Childhood Anxiety and Related Emotional Disorders
SDQ	Strengths and Difficulties Questionnaire
SEP	Separation Anxiety Disorder
SES	Social Economic Status
SPSS	Statistical Package for Social Sciences.
UNICEF	United Nations Children's Fund
WHO	World Health Organization.

## ABSTRACT

Guided by Aaron Beck's cognitive behavior theory and Susan Knell's cognitive behavioral play therapy (CBPT), this study investigated the effect of CBPT on gender symptomatology of anxiety disorders (ADs) among children in two selected primary schools in Dagoretti Sub-County, Nairobi County. Both correlational and quasi-experimental study designs were utilized. The study used four questionnaires: the Screen for Child Anxiety Related Emotional Disorders (SCARED), the Fear Survey Schedule for Children and Adolescents-Revised (FSSC-R), the Strengths and Difficulties Questionnaire (SDQ), and the Child Social Demographic Questionnaire (CSDQ). Respondents ( $n=163$ ;  $n_{females}=94$ ) were derived from two public day primary schools in Dagoretti Sub-County, Nairobi County: Kawangware and Kabiria. Through purposive sampling, 28 children diagnosed with ADs from Kabiria Primary School were assigned to treatment, while 28 from Kawangware Primary School were assigned to the control group. The treatment arm received 12 sessions of CBPT. Data was collected again at mid line and end line for both arms and analyzed using the Statistical Package for the Social Sciences (SPSS), version 20. Descriptive statistics, analysis of variance (ANOVA), Pearson-Chi-square, the paired samples t-test, and the independent samples t-test were utilized in data analysis. Overall, the prevalence of ADs was 79.1%, where females had statistically significant higher means in ADs ( $p=0.004$ ) and fears ( $p=0.008$ ) than the males. All the respondents (100%) from the one-parent and no-parent family backgrounds and the sexual abuse categories had homotypic comorbidities. Both genders benefited from CBPT as per the independent t-test ( $p>.05$ ), though according to the samples t-test, females had greater symptom alleviation ( $p = 0.000$ ). Based on the findings, gender sensitivity in assessments and intervention is recommended for children displaying ADs.

## DEDICATION

To my beloved parents, Paul and Gladys, who have always believed in me and encouraged me to pursue my dreams. Also, to my lovely daughters: Shiku, Gladys, and Nicole - thank you for your love, patience, prayers, and endurance, as I relentlessly pursued this dream.

## CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

### 1.1 Introduction

This chapter presents an introduction as well as the background to the study. Thereafter the statement of the problem, the purpose of the study, objectives, research questions, and the hypotheses follow. The study's justification, significance, assumptions, and scope subsequently ensue. To conclude the chapter is a discussion on the limitations and delimitations of the study, followed by definitions of significant terms, and then a summary of the chapter.

According to the World Health Organization (WHO, 2019), anxiety is the ninth leading cause of mental illness and disability for adolescents aged 15-19 years and sixth for those aged 10-14 years. Anxiety Disorders (ADs) are often long-lasting, resulting in a psychiatric disturbance that affects the family, academic, and social domains (Chiu, Falk, & Walkup, 2016). Furthermore, they are usually chronic with a waxing waning course across the lifespan, negatively affecting children's life outcomes (Craske et al., 2017).

Global coverage data among 5-17-year-olds, mainly based on reports from high-income countries, approximates the prevalence of ADs at 3.2% (Erskine et al., 2017). However, more recent data based on a meta-analytic study during the COVID-19 epidemic indicated high prevalence rates of anxiety among children and adolescents at 20.5% (Racine et al., 2021). Higher prevalence rates, above 80%, have been reported in community studies in Nairobi, Kenya. This points to specific risk factors that have a bearing on the development and maintenance of the disorders within communities (Mathenge, Ayuya, Ongaro, & Khasakhala, 2019; Nyagwencha, Munene, James, Mewes, & Barke, 2018b).

Despite the high prevalence of ADs, research suggests that the condition is rarely diagnosed or treated. This leads to multiple complications whereby the victims show both homotypic comorbidity and heterotypic comorbidities with mood and behavioral disorders (Bandelow, Michaelis, & Wedekind, 2017; Creswell, Waite, & Cooper, 2014; Jystad, Bjerkeset, Haugan, Sund, & Vaag, 2021). In the United States (US), Ghandour et al. (2019) found that approximately 7.1% of children and adolescents (3-17 years) had ADs, and only 59.3% had received treatment, compared to 80% of those who had depression. This points to existing treatment gaps in ADs.

Numerous studies have reported gender symptomatology or gender differences in the symptomatology of ADs in terms of the clinical features (symptom presentation), types of the ADs, and the comorbidities (Asher & Aderka, 2018; Jalnapurkar, Allen, & Pigott, 2018). For example, according to the current diagnostic and statistical manual of mental disorders, the clinical features of a separation anxiety disorder (SEP) differ where male children portray limited independent activity and female children show greater reluctance to attend school (American Psychiatric Association [APA], 2013). Some types of ADs are also more prominent in specific genders. For example, height phobias are more common in male children while females have a more natural environment or specific animal types of phobias.

The comorbidities also vary, with males being more prone to externalizing disorders, such as oppositional defiant and conduct disorders, while females have more internalizing disorders, such as mood disorders (Christiansen, 2015). Research suggests that females are twice more likely to develop any AD compared to males. Additionally, females show more severity and a chronic course of the illness (Anxiety and Depression Association of America [ADAA], 2020; Narmandakh, Roest, de Jonge, & Oldehinkel, 2020; Van Droogenbroeck, Spruyt, & Keppens, 2018).

Some of the factors presumed to be behind the observed gender differences in symptomatology are gender socialization processes that promote gender stereotypic behaviors and norms (Christiansen, 2015). On the same note, Ram, Strohschein, and Gaur's (2014) study in India revealed that female youth experienced more mental health problems when their households engaged in practices that favored males over females. The same practices were associated with fewer mental health problems among male youth. Furthermore, there is a lot of research based on sex differences that point to hormonal fluctuations among females during puberty as being risk factors for the development of ADs (Altemus, Sarvaiya, & Epperson, 2014; Hantsoo & Epperson, 2017). In females, anxiety before a period cycle is all-hormonal related due to the imbalance in progesterone and oestrogen (Rai, 2020).

Further substantiating gender considerations in assessing and treating ADs is the fact that low social-economic status (SES) backgrounds (such as the current study site) are rife with risk factors for ADs. Some of the risk factors are gender-specific, where males are more prone to physical abuse and child neglect, whereas females are more predisposed to sexual and emotional abuse. This has been reported in several studies conducted in the informal urban settings in Kenya (Kostelny, Wessells, Chabeda-Barthe, & Ondoro, 2013; Nyagwencha, Munene, & James, 2018a).

Proactive interventions must, therefore, aim at addressing the gender specific risk factors that promote vulnerabilities in children and offer gender-sensitive protective factors and treatments (Kapungu & Petroni, 2017). This is more so crucial for children at the onset of adolescence, a period when they seek autonomy from authority figures and experience monumental changes cognitively, emotionally, socially, and biologically (Backes & Bonnie, 2019). It is also at this stage when most ADs have their peak as gender norms are being consolidated (Whiteford et al., 2013).

One way of offering efficacious gender-sensitive treatments among children is considering shifting mental health treatments to non-clinical settings such as schools (Eichengreen, 2019; Kiima & Jenkins, 2010). Most of the public primary schools in the country have a mixed population of male and female children, which ensures that both male and female children can equally access treatment (Global Partnership for Education, 2019). The additional benefits of school-based treatments are ensuring a wider reach and reducing the costs and time spent seeking mental health treatments in hospitals (Link et al., 2020).

In the US and several European countries, there is the utilization of non-clinical settings such as schools for assessments and interventions. To this end, several manualized cognitive behavior therapy (CBT) based programs are in existence. One of the major benefits of CBT is the structured protocols, which means it can be manualized. Hence, it is easy to integrate it into school programs since it parallels other education services. The structured nature of CBT also ensures replicability and results are evidence-based (Mennuti, Christener, & Freeman, 2012).

Efficacy rates as high as 70 to 80% post-intervention have been reported in studies that have utilized CBT-based manuals in school settings in the West (Herzig-Anderson, Colognori, Fox, Stewart, & Warner, 2012). Aside from CBT, the efficacy of play therapy in treating ADs and other disorders in community studies is reported (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012; Jensen, Biesen, & Graham, 2017). However, the lack of structure in play therapy presents a problem because results are not empirically validated (Jensen et al., 2017). Cognitive behavioral play therapy (CBPT), therefore, attempts to take advantage of the structured approach of CBT, while incorporating age-appropriate play activities to de-emphasize the complexities of CBT.

Cognitive behavioral play therapy was developed in the 1900s by Susan Knell, a clinical psychologist in the US (Knell, 2011). The therapy incorporates play activities into each of the six CBT protocols (psycho education, somatic management, exposure, cognitive restructuring, and relapse prevention) according to the children's developmental age (Fazio-Griffith & Ballard, 2014). Knell designed the therapy for use with children below six years (Knell, 2015). However, the current study will explore the efficacy of CBPT among boys and girls aged 8-16 years by incorporating age-appropriate play and art therapy activities into the CBT protocols.

Children within the age group 8-16 years were selected for the study since they are all within the same developmental period. According to the National Institutes of Health, puberty usually begins in girls between 8 and 13 years of age and in boys between 9 and 14 years of age, and it may last up to four years (Benjamin, 2020). At this age group (8-16 years), play gives a sense of accomplishment, resiliency, and security and improves social interactions and emotional stability, which is fundamental towards helping them navigate through adolescence (Mah & Ford-Jones, 2012). Play is also a good way to create rapport, reduce stigma, and, additionally, children are given an opportunity to express their painful experiences that would otherwise be difficult to verbalize (Lugo, King, Lamphere, & McArdle, 2017).

Developmentally, the age group 8-16 years is characterized by rapid growth spurts - physically, cognitively, emotionally, and socially. It is also at this stage that children are most prone to the negative impacts of life's adversities (Morin, 2019). Several studies conducted in informal urban settings in Kenya report the numerous risk factors that children constantly encounter. These include abuse (all types), violence, orphanhood, parentification, and poverty, among others (Kostelny et al.,

2013; Newport Academy, 2019; Shafiq, Haider, & Ijaz, 2020). Therefore, offering efficacious age-appropriate and gender-sensitive assessments and treatments is crucial to ensure a healthier transition into adolescence and later adulthood.

While CBPT usually involves parents in assessments and therapy, this study explored assessments and treatments in school settings without the parent component. Teachers, not parents, were utilized for the assessment of the heterotypic comorbidities among the 8-10-year-olds based on research. This was based on the reasoning that teachers have the unique advantage of spending more daytime hours with children compared to parents. The presumption was that teachers' assessments of the child's mental health would not be different from the parents,' as previous research has revealed (Boman et al., 2015; Miller, Martinez, Shumka, & Baker, 2014).

Some studies also indicate that some parents may fail to notice anxious symptoms in their children due to their overwhelming daytime duties. Such parents may experience work-related fatigue and stress or stress related to economic pressures, denying them opportunities to have quality time with their children. Other parents, who themselves suffer from ADs, may also fail to recognize the same problem in their children since, for them, it is normal (Dishion & Snyder, 2016; Kelley et al., 2017).

Momentous social development occurs at 8-16 years, where the children become less dependent on their parents, focusing more on peers (Drewes & Schaefer, 2015). In cognizance of the important role played by peers in influencing behavior at this stage, the study employed group treatments rather than individual treatments. The gap, therefore, was to assess the gender differences in the symptomatology of ADs

and CBPT efficacy among 8 to 16-year-olds in school settings without the parent component.

## 1.2 Background to the Study

The seven major classifications of ADs, according to APA (2013), are separation anxiety (SEP), selective mutism, social anxiety disorder (SAD), specific phobias, panic disorder (PD), agoraphobia, and generalized anxiety disorder (GAD). Although the ADs differ in terms of the fear-evoking stimuli, they share the common features of excessive and abnormal fears and anxieties towards certain situations or objects. These fears and anxieties are presented psychologically by the child's feelings of apprehension or dread, restlessness or irritability, being tense or jumpy, anticipating the worst, and constantly watching for signs of danger. Physically, the child may have a rapid or pounding heartbeat, shortness of breath, excessive sweating, tremors or twitches, headache, fatigue or weakness, insomnia, nausea or upset stomach, and frequent urination or diarrhea (Iannelli, 2021).

The types of ADs also vary developmentally where, for example, before 6 to 8 years, most children are afraid of the dark and imaginary creatures. After eight years, these fears gradually diminish, giving way to anxiety related to school performance and social relationships (Bandelow et al., 2017; Bhatt & Bienenfeld, 2019; de Lijster et al., 2017). As they grow older, at about 8-11 years, the children are more anxious about personal achievements in areas such as academics and sports. At 12-18 years, the focus changes, where forming relationships with other peers becomes paramount. These children's anxieties may, therefore, center on situations involving peer rejection or acceptance or other people, such as teachers and acquaintances (de Lijster, 2019).

The main difference between ADs and normal developmental fears is that ADs are persistent and affect normal functioning (APA, 2013). ADs worsen when

there is a lack of timely diagnosis and treatment. The lack of treatment can contribute not only to poor academic and social functioning but may also lead to a poor self-concept, alcohol, and substance abuse (Colizzi, Lasalvia, & Ruggeri, 2020; Siegel & Dickstein, 2011).

There are reported gender differences in the types and intensity of fears, prevalence rates, and comorbidities. Global studies utilizing the variant forms of the Fear Survey Schedule for Children-Revised (FSSC-R) questionnaire have found enormous differences in the types and intensity of fears exhibited by male and female children. Females reportedly exhibit more fears, at a greater intensity, than males (Arab, Keshky, & Hadwin, 2016; Muris, Ollendick, Roelofs, & Austin, 2014). As for the prevalence rates, some studies associate females with twice as much risk for developing disorders as males (ADAA, 2020). A few community studies from Africa also confirm that being female is a major risk factor for developing an AD (Abbo et al., 2013; Frank-Briggs & Alikor, 2010).

Research associates the observed gender differences in symptomatology to biological and psychosocial factors (Altemus et al., 2014; APA, 2013; Hantsoo & Epperson, 2017; Ram et al., 2014). Prominent among the psychosocial factors are the gender socialization processes involving stereotypic gender roles and expectations (Nugent, 2013; Sociology Guide, 2018a). It is justified in some cultures that these strict gender roles and expectations are essential for the smooth running of society (Sociology Guide, 2018b). Males are, thus, expected to be masculine and competitive and females to be submissive and nurturing (Christiansen, 2015; Koenig, 2018).

These gender expectations influence AD symptomatology in that males tend to deny the fear symptoms and their intensity leading to higher prevalence rates being reported among females (Ivarsson, Skarphedinsson, Andersson, & Jarbin, 2018; Mc

Clain, 2019). One study in India found that the expectations to adhere to strict gender roles predicted the development of ADs in female children and not male children (Ram et al., 2014). Knowledge of the gender symptomatology of ADs would, therefore, highlight some of these psychosocial factors and consequently inform treatment strategies.

While ADs are highly comorbid, research points out that internalizing disorders are more common in females while externalizing disorders as well as alcohol and substance abuse, predominate in males (Christiansen, 2015; Shikora, 2019). Nevertheless, several comorbid conditions, gender notwithstanding, subsist such that having an AD is an indicator of severe psychopathology, ill health, and possible resistance to treatment (de Young, 2015). For example, in Western countries, researchers have documented comorbidities of ADs with eating disorders and other anxiety or mood disorders (Asztalos, Sipos, & Predescu, 2018; de Young, 2015). A review of several epidemiological and clinical studies by Seligman and Ollendick (2011) found comorbidities of 75% for multiple anxiety disorders, 50% to 60% for affective disorders, and 25% and 33% for comorbid externalizing disorders. The study also noted that AD symptoms can mimic medical conditions such as hyperthyroidism and asthma, leading to high chances of misdiagnosis.

On the same line, Khasakhala, Ndeti, Mathai, and Harder (2013) found the presence of multiple psychiatric disorders among youth (13-22 years) attending a mental health clinic at Kenyatta National Hospital in Kenya. The disorders ranged from mood, conduct, alcohol and substance abuse disorders, and suicidality. While there is no known etiology for the ADs, studies report that ADs may develop through genetic or environmental-related factors. The genetic factors are, for example, parental psychopathology such that parents can transmit ADs to their offspring

through modeling anxious behavior, overprotection, or over-controlling behaviors (Affrunti & Ginsburg, 2012; Gere, Villabø, Torgersen, & Kendall, 2012; Jami, Hammerschlag, Bartels, & Middeldorp, 2021).

Some of the environmental factors rife within the informal urban settings may include traumatic events in the child's life, insecurity, and economic deprivation (Dabkowska & Dabkowska, 2015; Funk, Drew, & Knapp, 2012; Lawrence et al., 2015). The relationship between economic deprivation and the development of ADs was shown in a recent study in five urban slums in Varanasi, India, among teenage girls (13-19 years) from food-insecure households (Rani et al., 2018). Results indicated that economic deprivation in terms of food insecurity led to high levels of anxiety, as well as other moods, hence psychological and behavioral problems.

The site for this study borders the seventh-largest slum in Africa, Kawangware, in Dagoretti Sub-County, Nairobi County (Africa Ranking, 2017). Several other slums also exist within the constituency, such as the Kabiria slums (Makau & Karanja, 2015). Kawangware slum, in particular, has over 300,000 residents and most families lack basic needs such as food and clothing. Moreover, crime, drug and alcohol abuse, and prostitution are rampant in the area (Africa Equip Ministry, 2018). Thus, children living in these conditions are constantly predisposed to a lot of deprivation and insecurity (Adhiambo & Okuro, 2017).

According to research, living in insecurity increases the prevalence of ADs, where Musisi and Kinyanda (2020) argued that chronic warfare, as a lived experience, has caused significant classic anxiety, other mental illnesses, and general ill-health in many African communities. Other researchers posited that geographical locations can influence the development of ADs development; for example, a meta-analytic study in different provinces in Iran found varied prevalence rates of ADs ranging from 6% to

85%, highlighting specific factors influencing symptomatology within the communities (Zarafshan, Mohammadi, & Salmanian, 2015). In concurrence, de Lijster et al. (2017) asserted that geographical locations, as well as SES, have a bearing on ADs development, underpinning a need for community assessments.

Previous studies in informal urban settings in Kenya confirmed that female children are more prone to sexual abuse, parentification, and child labor within the home, while male children are more exposed to alcohol and drug abuse, physical abuse, and neglect (Kabiru, 2015; Kostelny et al., 2013; Nyagwencha et al., 2018a). Gender symptomatology and treatment outcome studies are thus crucial to elucidate such risk factors, which may lead to a proactive stance in the management of ADs.

Cognitive behavioral play therapy effectively integrates both CBT and play therapy by taking advantage of a child's strengths and de-emphasizing the complexities of CBT involving cognitive and verbal processes (Knell, 2015). Children's problems are, thus, resolved using both play-based activities and non-verbal forms of communication (Fazio-Griffith & Ballard, 2014). Each of these therapies (CBT and play therapy) has proved efficacious for the treatment of ADs. Studies by Davidson, Satchi, and Venkatesan (2017), among 8-10-year-olds hospitalized children in India, and Hateli (2021), among elementary school children in Iran, found that play was beneficial for the treatment of ADs. Other studies utilizing CBT-based manuals that incorporate play in school settings also reported symptom alleviation post-treatment (Chiu et al., 2013; Henefer & Rodgers, 2013; Stallard, 2013; Stallard et al., 2014).

Cognitive behavioral play therapy incorporates play-based activities into each of the CBT protocols of rapport building, psychoeducation, somatic management, exposure, cognitive restructuring, and relapse prevention. The play-based approaches

aid in rapport building, boosting confidence in the children and giving them a sense of power (Yogman, Garner, Hutchinson, Hirsh-Pasek, & Golinkoff, 2018). However, cultural sensitivity is crucial to ensure that the play materials, approaches, and activities are familiar to the children such that they can easily relate to them (Davis & Mellenthin, 2020).

In play, children can express those deep-seated emotions and learn new ways of relating and expressing themselves (Gaidica, 2012). It can free them from their anxieties, allowing even the children forced to grow up by circumstances (parentified) to regress to childhood. This is where they may engage in play activities meant for younger children, something necessary for their healing process (Alisa, n.d.). It is also important for children displaying regressive behavior due to stress, frustration, or traumatic events (Lokko & Stern, 2015). In play, therefore, there is an expression of these unmet needs, thus helping the child to release suppressed negative emotionality.

### 1.3 Statement of the Problem

Anxiety disorders are some of the most common mental disorders among children and adolescents globally (Erskine et al., 2017). However, some studies found that anxiety disorders are rarely diagnosed or treated (Bandelow et al., 2017; Ghandour et al., 2019). This lack of diagnosis or treatment leads to multiple complications where the victims show homotypic and heterotypic comorbidities (Aillon et al., 2014; Hofmeijer-Sevink et al., 2012). Furthermore, they are usually chronic with a waxing waning course across the lifespan, which negatively affects children's life outcomes (Craske et al., 2017).

Gender differences in the symptomatology of ADs are rampant, with most studies pointing to females being twice vulnerable as males (ADAA, 2020; APA, 2013). Concerning the numerous gender differences in the types and intensity of fears,

comorbidities, and prevalence rates of ADs, studies opined a combination of factors, among them environmental and biological dispositions, more so for females during puberty (Hantsoo & Epperson, 2017). The low social-economic backgrounds are also rife with economic deprivation, insecurity, traumatic events, abuse, and child neglect - all factors predisposing male and female children to develop ADs (Dabkowska & Dabkowska, 2015). These risk factors are also gender-specific, and hence gender-based assessments of the symptomatology and treatment efficacy may highlight some of the gender-based risk factors for the development and maintenance of ADs and the gender-based factors that may impede treatment outcomes. Therefore, this study endeavored to assess the gender symptomatology and gender differences in CBPT efficacy. The goal was to pinpoint some of the gender-based factors within this sample that can predispose the 8-16 years age group from the low social-economic backgrounds to ADs and interfere with treatment outcomes.

#### 1.4 Purpose of the Study

The purpose of this study was to investigate the effect of CBPT on gender symptomatology of ADs among children in two selected primary schools in Dagoretti Sub-County, Nairobi County: Kawangware and Kabiria primary schools.

#### 1.5 Objectives of the Study

The specific objectives of this study were as follows:

1. Establish the prevalence of ADs among primary school children in the 8-10, 11-13, and 14-16 years age groups.
2. Assess the gender differences in the symptomatology of ADs and fears among children in the selected schools.

3. Determine the homotypic and heterotypic comorbid conditions present among the children diagnosed with ADs according to gender.
4. Investigate the social demographic predictors for homotypic comorbidity among those diagnosed with ADs.
5. Assess the efficacy of CBPT in the treatment of ADs according to gender.

### 1.6 Research Questions

The following research questions guided the study:

1. What is the prevalence of ADs among primary school children in the 8-10, 11-13, and 14-16 years age groups?
2. Are there gender differences in the symptomatology of ADs and fears among children in the selected schools?
3. What are the comorbid conditions present among the children diagnosed with ADs according to gender?
4. What are the social demographic predictors for comorbid ADs among those diagnosed with ADs?
5. Is CBPT efficacious for the treatment of ADs among boys and girls?

#### 1.6.1 Hypothesis

The null hypothesis for the study was: CBPT is not efficacious for the treatment of ADs among boys and girls aged 8-16 years.

### 1.7 Justification for the Study

Poor mental health is now the greatest contributor to the non-fatal burden of disease in young people worldwide (Sawyer et al., 2012). It is only in recent years, however, that the global health community has begun to recognize these factors (Whiteford et al., 2013). The Kenya government's commitment to improving mental

health services is seen in one of the big four agendas, which led to recently launching the universal health coverage pilot program named Afya Care - Wema wa Mkenya. The program was aimed at enabling Kenyans to access affordable healthcare without financial hardship. This would involve scaling up prevention of physical, mental illnesses, offering early diagnosis and suitable treatments for outpatient and in-patient clients (Government of Kenya, Ministry of Health, 2018).

However, this may be insufficient since mental health treatments require a proactive stance, given that it is at adolescence when most mental health-related illnesses peak just as gender norms are being consolidated (Whiteford et al., 2013). Such a stance is necessary to elucidate the gender-specific risk factors for ADs within communities, plan assessments, and offer efficacious interventions.

Worldwide, only a few programs and policies have effectively addressed the mental health needs of children (Colizzi et al., 2020). Worse, the existing programs and policies rarely take gender differences into account or reach the most marginalized such as the very young and those living in poverty (Kapungu & Petroni, 2017). The low social-economic backgrounds are rife with economic deprivation, insecurity, traumatic events, abuse, and child neglect, all factors predisposing male and female children to develop anxiety disorders (Dabkowska & Dabkowska, 2015). These risk factors are gender-specific, and hence, gender investigations on their impacts, as highlighted by treatment outcomes, would inform society, mental health workers, and researchers.

The daily economic struggles experienced in such communities hardly leave any resources available for seeking mental health treatment. This, coupled with the lack of accessible mental health programs and the high costs of seeing mental health specialists, means that most of these disorders are rarely managed (Kiima & Jenkins,

2010; Ndetei, Khasakhala, Mbwayo, & Mutiso, 2011). Regrettably, this leads to their comorbidity with other mental problems as well as physical problems (Seligman & Ollendick, 2011).

Failure to seek treatment leads to the children adopting negative coping mechanisms where males are more inclined to use alcohol and substance abuse, while females develop comorbid internalizing disorders (APA, 2013). This inadvertently increases their vulnerability, and, therefore, it is important to understand children's unique and common vulnerabilities to mental health from a gender perspective. This should also include understanding the impacts of harmful gender socialization processes and the interventions that can protect and enhance children's mental health and wellbeing. To ensure children's healthy development, the focus must shift to alleviating risks and offering protective factors (Kapungu & Petroni, 2017). A gender-based approach in assessments and treatments was deemed imperative in order to elucidate the etiological factors and devise protective mechanisms.

### 1.8 Significance of the Study

A study on gender symptomatology would create awareness on symptoms of ADs, ultimately educating parents, caregivers, and teachers. Parents are the primary caregivers of children, and it is necessary for them to know how to recognize symptoms of ADs in their children and how to help them. Teachers also spend a lot of time with the children, and it is imperative for them to know how to recognize children with ADs and make proper referrals.

Medical practitioners would also benefit from the diagnosis since symptoms of ADs mimic medical conditions (Seligman & Ollendick, 2011). Understanding both gender symptomatology and the gender differences in comorbidities is crucial towards diagnosing ADs and the comorbid conditions, minimizing misdiagnosis, and ensuring

the offering of appropriate treatments. Thus, doctors would gain insight to screen for underlying mental conditions when patients present medical-related comorbidities in the hospitals. Such efficacious assessments would go a long way in improving mental health treatments in the country.

By conducting these assessments and interventions within a school setting, there is great hope that mental health interventions can have a wider reach. Thus, it would inform the government and relevant stakeholders on possibilities of instituting mental health assessments and interventions within the school curriculum, which is crucial to promoting the mental health well-being of the children. These, therefore, are the numerous potential benefits of this research.

#### 1.9 Assumptions of the Study

1. There would be some children and adolescents presenting with ADs in the selected schools. The study confirmed that there were children and adolescents who presented with ADs.
2. There would be gender differences in the symptomatology of ADs and the fears. This was confirmed during the data analysis.
3. The children who presented with ADs would have comorbidities. During the data analysis, comorbidities with ADs, emotional, conduct, hyperactivity, and peer problems were ascertained.
4. Some social demographic factors would be associated with having multiple ADs. The analysis confirmed indeed that there were social demographic factors associated with multiple ADs.
5. CBPT would be effective in the treatment of ADs diagnosed among children. Data analyzed revealed that CBPT was effective in treating anxiety among children and adolescents.

6. There would be gender differences in the treatment outcomes using CBPT. Gender differences in CBPT treatment outcomes were established during the analysis.

#### 1.10 Scope of the Study

The current study aimed at establishing gender differences in the symptomatology of ADs before and after CBPT administration among children aged 8-16 years. Hence, children below 8 years or above 16 years were excluded from the study. The study, thus, sought to understand gender symptomatology and treatment outcomes for only those aged between 8 to 16 years and attending the selected primary schools in Dagoretti Sub-County, Nairobi County.

The investigation of predictors of homotypic comorbidities was only for those diagnosed with ADs. Hence, it did not encompass those without ADs. Furthermore, not all the predictors were investigated; the study specifically focused on the types of abuse (sexual, physical, and verbal), the family type, and the number of siblings. Furthermore, children were not required to give details concerning the types of abuse they had received, from whom they had received them, or concerning the duration of the abuse or whether it was ongoing.

The comorbidities investigated were also restricted to the multiple ADs and only four conditions, as assessed in the strengths and difficulties questionnaire (SDQ) (emotional, conduct, hyperactivity, and peer problems). Hence, there was no assessment for other comorbid conditions as described in the diagnostic and statistical manual of mental disorders (DSM-5). Only two questionnaires were used for the assessment of anxiety disorders and fears. These were the screen for childhood anxiety and related emotional disorders (SCARED) and the FSSC-R. Therefore,

anxiety disorders investigated were limited to the five categories in the SCARED and the fears investigated were limited to the 80 questions in the FSSC-R.

### 1.11 Limitations and Delimitations of the Study

One of the greatest limitations was the fact that the sample selection exercise was limited to class 4 and class 8 students. This was because students in classes five, six, and seven were not in session due to the covid-19 restrictions that required social distance. To delimit this, more of class four and class eight students were recruited in order to get an adequate sample size.

Absenteeism was also a major issue, and this called for increasing the participants in the control group in order to maintain the required sample size by end line. A major limitation also occurred because there were a good number of subjects in class 4 who could not read, write, or comprehend English. Pupils in this category had to be dropped out from the study, and more of those in class 8 were recruited.

The study also required the respondents to have informed consent forms. However, there were those who had no signed informed consent form from their parents, which led to their disqualification from the study. Due to all these selection criteria, it was not possible to get an equal number of children in the different age groups. Furthermore, the reduced population in the schools affected the selection of an equal number of males and females. The limitations were overcome by ensuring that all ages were represented in the final sample and by using appropriate statistical software for data analysis to eliminate bias resulting from unequal sample sizes.

There was also a limitation in terms of infrastructure in that public primary schools do not have specific rooms set aside for mental health services. Furthermore, there is no time set apart for co-curricular activities regarding mental health. The challenge was overcome by using an open area behind the classrooms, where there

was minimal interruption. Some teachers were also opposed to counseling, and they would use time meant for therapy to offer extra tuition to the students. However, the limitation was overcome by working hand-in-hand with the guidance and counseling teachers and the administration. The latter helped to convince the opposing and reluctant teachers to release the children to attend the therapy sessions.

The intervention was administered amidst many uncertainties resulting from the lockdowns imposed by the Government to contain the Covid-19 pandemic. Hence, there was an interlude between baseline and midline when schools closed for the short December holidays. This affected the continuity of the therapy sessions. However, when schools resumed in January, there was a session for a recap of the previous sessions, and therapy continued smoothly thereafter.

#### 1.12 Definitions of Terms

For the purpose of this study, the researcher defined and operationalized the following terms as follows:

**Heterotypic comorbidity:** Co-existence of ADs with emotional, conduct, hyperactivity, and peer-related problems.

**Homotypic comorbidity:** Co-occurrence of two or more ADs in one person.

**Gender symptomatology:** In this study, gender symptomatology refers to the gender differences in the combined symptoms of ADs in terms of the prevalence of ADs, comorbidities, and types of fears.

**Play therapy:** In this study, play therapy was directive incorporating the use of art, storytelling, and play-based activities and materials in therapy.

### 1.13 Summary

The chapter has presented in detail a backbone to this study, where all the variables under study have been introduced and discussed. In both the introduction and background to the study, the nature and course of ADs among children and adolescents and the gender differences in symptomatology have been discussed. In addition, the intervention under study, cognitive-behavioral play therapy, was introduced and discussed in terms of its origin and use in the treatment of anxiety disorders.

The introduction and background to the study thus framed the basis through which the study's problem statement, objectives, justification, and significance were developed and presented. The study's assumptions, scope, and thereafter the limitations and delimitations have been presented, followed by the operational definitions of the study's key terms. In the next chapter, the study discourses the theoretical and empirical literature based on previous research and thereafter presents the conceptual framework.

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction

This chapter discusses the theoretical framework guiding the study, followed by a review of literature as guided by the objectives of the study discussed in chapter one. To conclude the chapter, the main variables of the study are summarized in the conceptual framework, which is then followed by a summary of the chapter.

### 2.2 Theoretical Framework

The theories guiding this study were CBT by Aaron Beck and Cognitive-behavioral play therapy developed by Susan Knell. These theories were found relevant as they can explain how ADs develop and consequently offer effective and developmentally appropriate treatment strategies.

#### 2.2.1 Cognitive Behavior Theory

Cognitive behavior theory by Aaron Beck originates from behavior therapies, which generally focus on observable behavior, dwelling on the current behavior determinants and the corresponding learning experiences that promote change. Treatments are then personalized to clients with the inclusion of meticulous assessment and evaluation (González-Prendes, Hicks, Matthews, & Domke, 2018). Behaviorists usually limit themselves to the study of observable and measurable behaviors (Vinney, 2018).

Since its inception in the early 1900s, behavior therapy has undergone significant developmental changes, with the earliest form being classical conditioning developed by Ivan Pavlov and later expounded by John Watson. Thereafter, B. F Skinner developed the operant conditioning theory, affirming his predecessors' postulation that behavior is learned. Skinner also added that behavior is strengthened

or diminished through reinforcements (negative or positive) (Counseling Connection, 2016). Cognitive behavior theories developed from behavior theories, and they importantly recognized the role of cognitions in learning (American Addiction Centers, 2021).

Aaron Beck developed cognitive therapy or CBT in the 1960s, and it is currently the most extensively researched of all psychotherapies with several evidence-based treatment protocols (Chand, Kuckel, & Huecker, 2019). Beck presumed that people's beliefs and thoughts affect their actions, and hence dysfunctional behavior resulted from dysfunctional thinking shaped by beliefs. In formulating this theory, Beck combined Sigmund Freud's psychoanalysis with his own understanding and observations of schema (Rajeev, 2018).

Cognitive behavior therapy models presume that cognitive processes, in the form of meanings, judgments, appraisals, and assumptions related to specific life events, determine a person's feelings and actions in response to life events and may concomitantly either facilitate or hinder the process of adaptation (González-Prendes, Resko, & Cassady, 2019). The behavioral component in CBT refers to how people respond when distressed. Such responses include avoidance, reduced activity, and unhelpful behaviors, which maintain and further aggravate how the person feels. Therapy provides safety and gradually helps clients test out their assumptions and fears, consequently changing their behaviors. This may incorporate techniques such as exposing the person to feared or avoided situations to reduce anxiety and learn new behavioral skills to tackle problems (APA, 2021).

Since all CBT approaches hold that psychological distress originates from disturbances in cognitive processes, therapy focuses on changing cognitions to produce desired changes in effect and behavior. The therapeutic techniques are based

on a structured psychoeducational model, which emphasizes the role of homework and places the responsibility on the client to assume an active role during and outside therapy sessions (Radhakrishnan, 2021). CBT also emphasizes developing a strong therapeutic alliance and drawing from various cognitive and behavioral strategies to bring about change (Wilmots, Midgley, Thackeray, Reynolds, & Loades, 2020).

Other core principles in CBT are its brief and time-limited nature (16 weeks), which yields positive results in a relatively short period. CBT is also present-centered, focusing on what the client is experiencing in the here and now. By being thought-focused, the client is helped to recognize and understand personal thoughts that can lead to irrational fears and worries (Cully, Dawson, Hamer, & Tharp, 2020).

Beck (as cited in Fenn & Byrne, 2013) outlined three levels through which cognition is conceptualized. These are; core beliefs, dysfunctional assumptions, and negative automatic thoughts. Core beliefs, or schemas, are deeply held beliefs about self, others, and the world. Core beliefs originate from early childhood experiences and are seen as absolute. For example, a child who believes they are useless may view the world as unfair and interpret that nothing will ever work out for them. Dysfunctional assumptions, on the other hand, are rigid, conditional ‘rules for living’ that people adopt. They may be unrealistic and are hence maladaptive. This can happen, for example, if someone assumes that failure is bound to happen when they try anything, and hence it is better to avoid taking the risk.

Dysfunctional assumptions differ from negative automatic thoughts in that these negative thoughts are involuntary and only activated in certain situations. People with ADs may, therefore, have overestimations of risk and underestimations of their ability to cope. All these three negative cognitive models predispose individuals to process information with prejudice, directing all attention toward threats, and

approaching ambiguous stimuli with catastrophic misinterpretation (Kuru et al., 2018).

Beck, Rush, Shaw, and Emery (1979) and later Burns (as cited in Rnic, Dozois, & Martin, 2016) identified a number of negative automatic thoughts, also known as cognitive distortions that people have. These are; mind-reading (assuming what other people think) and fortune-telling (predicting a negative outcome without realistically considering the actual odds of that outcome) (CBT, Los Angeles, 2015). Additional distortions include catastrophizing, which constitutes believing that what has happened or if it happened it would be so awful and unbearable that one would not be able to stand it, and assigning negative labels to oneself (Casabianca, 2021).

Further distortions are over generalization (seeing a single negative event, as a never-ending pattern of defeat), mental filter (picking out a single negative detail and dwelling on it exclusively, blurring reality), and dichotomous thinking (viewing events, or people, in all-or-nothing terms) (Stanborough, 2019). People with distortions may as well use emotional reasoning (believing something to be true based on emotional responses rather than objective evidence). Additionally, they use personalization (assuming that one is the cause of a negative event), 'should' statements (thinking that things must or should be a certain way), and minimizing or disqualifying the positive (ignoring or dismissing positive things that have happened) (Rnic et al., 2016).

Cognitive behavior therapy works well with older children (above 8 years) since they can understand many abstract concepts when they are described in concrete language using metaphors and relevant examples from their day-to-day life. Children can as well perform tasks with "cognitive" content assigned to them during therapy without any difficulty. Furthermore, such children can distinguish emotions, thoughts,

and behaviors from each other in line with the basic mechanism of CBT. They are also capable of talking about their thoughts, capturing self-talks, and fulfilling the self-monitoring tasks (Tok, 2017).

On the positive side, the increasing level of emotional development during puberty, particularly emotion recognition and regulation skills, is essential for understanding and applying the cognitive model. The better-developed emotion regulation may also allow them to adopt the adaptive coping strategies learned in CBT (Davidson, Vanegas, & Hilvert, 2014). The CBT model suggests that emotions and accompanying behaviors result from the connection between a given situation, the belief system, and the thoughts about the event (positive and negative). CBT thus focuses on how children interpret their experiences and how these thoughts ultimately influence their emotional or behavioral functioning (Mennuti et al., 2012). These developmental milestones are crucial to the efficacy of CBT, but they may as well be disadvantageous when inappropriately utilized. For example, the strivings for autonomy can lead to resistance, detachment, or disengagement, impairing both the therapeutic alliance and the adoption and generalization of skills outside of treatment (Halder & Mahato, 2019).

The primary goals of CBT for child anxiety are, therefore, to change maladaptive learning and thought patterns. The therapist attempts to understand the roots of the presenting problem to enlighten them on how to intervene in the current situation. Thus, importance is given to addressing the factors sustaining the child's symptoms rather than understanding the disorder's origin. CBT's emphasis on building skills requires clinicians to be directive, making the sessions appear didactic (Okamoto, Dattilio, Dobson, & Kazantzis, 2019). Through a process of cognitive

reframing, therapists help clients to change their thinking patterns from negative to positive (Scott, 2018).

On the bright side, CBT for the treatment of ADs is a short-term therapy lasting for 12 weeks (Seligman & Ollendick, 2011). An added benefit is that, unlike other psychological counseling services, it can “fit” into the educational culture. This is because its structure and framework match other educational services, making it more easily accepted among educators (Mennuti et al., 2012). In school settings in the West, CBT manualized programs have been used effectively to treat children diagnosed with anxiety. Nevertheless, in Kenya, no CBT-based programs are in existence in the public day primary schools to the best knowledge of the researcher; hence, it is important that more studies be conducted to enlighten on the possibility of integrating mental health treatments within school settings.

Cognitive behavior therapy was found particularly relevant for this study as it addresses the etiology of ADs explaining how negative thoughts and beliefs originating from childhood become entrenched within the person’s thinking patterns, influencing both emotions and behaviors. In addition, it offers useful treatment techniques based on changing the negative thinking patterns through a process of cognitive restructuring.

Additionally, this study found this therapy suitable since CBT sessions are structured; hence, it can easily be applied within a school setting where time is limited. It also requires the client to have a deep sense of awareness and concentration, which effectively helps in treatment. One of the weaknesses, however, could be the strict protocols, which could mimic normal school programs, making the therapy unappealing to young people and complicated to younger children. Thus, play

therapy was included in the current study in cognizance of the age group 8-16 years to promote the therapeutic alliance.

### 2.2.2 Cognitive Behavioral Play Therapy (CBPT)

The CBPT, developed by Susan Knell, a clinical psychologist in the US, in the 1990s, incorporates CBT and age-appropriate play therapy activities (Fazio-Griffith & Ballard, 2014). Play communicates cognitive change indirectly and helps children develop more adaptive behaviors (Knell, 2011). Knell originally developed the therapy for children aged 2 to 6 years, and hence research among older children is scarce.

The CBPT incorporates play activities into the CBT protocols of psycho education, somatic management, cognitive restructuring, exposure, and relapse prevention (Fazio-Griffith & Ballard, 2014). The main difference between CBPT and traditional play therapy is that specific goals are established, and the therapist plays an active role in selecting materials and activities. The therapist as well uses play to educate the child and encourage positive behaviors (Free Online Research Papers, 2014). CBPT, therefore, employs the directive form of play therapy where the therapist assumes responsibility for guidance and interpretation. This is unlike the non-directive type of play, where the therapist leaves the responsibility and direction to the child (TheraNest Team, 2020).

Play therapy holds that children's language development trails the development of their cognitive abilities, which makes play an important way through which children can communicate their worldviews. To this end, the utilization of materials such as toys, play activities, or stories enables the children to transfer their anxieties, fears, fantasies, and guilt to objects rather than people (Brennan, 2021). According to Navidi (2016), this ensures that children are not overwhelmed since they

can distance themselves from traumatic events and experiences, considering that the act (play therapy) takes place in fantasy. Pietrangelo (2019) brought to the fore that the materials chosen in play should aid in the non-verbal expression of feelings, exploration of real-life experiences, testing of limits, and promotion of success without a prescribed structure. Play is thus extensive, encompassing different activities and materials, and therapists should understand the purpose of each of these toys and activities (Selva, 2021).

According to Gaidica (2012) and Peterson (2019), children use play to work through themes such as family relationships and nurturance, power and aggression, sexualized play, control and safety, and interaction. Hence, various activities and toys can be used to explore each theme and may include exploration and acting out toys, also known as aggressive or release toys, nurturing toys, creative or expressive toys, and self-esteem toys. The acting out toys are, for example, dart guns, darts, targets, and handcuffs, while the nurturing toys include dolls, nursing bottles, doctor's kits, or the doll family with a dollhouse. The creative or expressive toys could be play-doh, crayons and plain papers for drawing, a child's scissors, balloons, transparent tape, and a deck of playing cards.

Hutchinson (2013) added that tee play-doh is quite beneficial in creating rapport and helping children in expressing their feelings. Since it is purely sensory, the play-doh has various usages such as squishing, molding, and exploring with the hands, which can be a good way to help children talk and share difficult things with ease. Furthermore, it can help them build self-esteem more so when they use it to do various activities they love, such as creating pretend food, building structures, and creating creatures. Such activities give them a sense of pride in what they can make on their own. Additionally, the play-doh serves as a projective test, more like the

Draw-a-Person assessment technique, with similar interpretations. It can as well help teach skills such as anger management where for example, the therapist asks the child to mold a monster or person out of the play-doh and then smash it with their fist to release anger.

The artwork using crayons, pencils, and erasers helps to elicit the thoughts and feelings of children. Through drawings, the children express their innermost thoughts since both drawing and painting are symbolic representations of the child's worldviews. The last category of self-esteem toys consists of mastery of age-appropriate puzzles, successfully building something, or dressing up in different roles or characters (Gaidica, 2012).

Storytelling, according to CBPT (2020), is additionally used in play therapy, since stories can aid in gaining insight into a child's inner conflicts, frustrations, and defenses. Yorke (2011) discussed three types of stories, namely the suggestive-directive story, the mirror story, and the indirect-interpretive story. The suggestive-directive story helps in promoting varied thinking to help the child gain appropriate problem-solving skills and develop self-efficacy to overcome their problems. Such stories can communicate themes such as trust, assertiveness, persistence and promote social interactions with peers. In the mirror story, the therapist mirrors the child's story by reflecting it with only minor variations. The primary purpose is to validate the child's self-expression and strengths, with minor modifications on the outcome.

The indirect-interpretive story, on the other hand, focuses on a child's current problems and uses a story to teach important skills to enable the child to overcome the problem. An example of the indirect-interpretive story would be the use of a story with animal characters that have a similar problem to that of the child. Stories, therefore, serve as models, teaching values and skills, and can provide insight both

consciously and unconsciously. Knell (2015) added that bibliotherapy is another powerful therapeutic tool where children can read about other children who have gone through similar incidents. This helps the children to know that they are not alone, and that just like the characters in the stories, they too can overcome their problems.

Therefore, play therapy is varied and has different purposes requiring the materials and activities chosen to be developmentally appropriate. Therapeutic play scenarios should also parallel the child's real-life situations, such that children can take what they have learned in therapy and apply it to a variety of settings (Free online Research papers, 2014).

The CBPT, thus, incorporates developmentally appropriate play activities into each of the CBT protocols to achieve the desired goals. Each of the CBT protocols has specific goals achievable in one or more sessions, depending on the client's needs. For example, the psychoeducation phase involves giving information on the disorder symptoms, explaining the rationale for CBT, and teaching clients how they can help themselves (Beck Institute for CBT, 2016). It is also at this stage where clients are introduced to the mood-thermometer and thought log form. The mood thermometer helps them gauge their feelings daily. This monitoring increases their self-awareness, helping them manage their feelings (Coping Skills for Kids, 2016). The thought log form helps them record their thoughts and feelings daily, and through this, they learn to change their automatic reactions.

According to Beck, traumatic events in childhood lead to negative schemas (or cognitive distortions). Having negative self-schemas predisposes people to make errors in logical thinking and employ selective abstractions, which ignore equally relevant information (Cherry, 2020). The thought log form thus helps clients to record the negative automatic thoughts they experience and the circumstances under which

the thoughts occurred, such as where the client was and what they were doing at the time the thoughts occurred. They are also required to rate the emotion's strength or the feeling the situation evoked on a scale ranging from 0% (the weakest) to 100% (the strongest). Thought identification is then followed by noting the evidence for accuracy or inaccuracy of the thought (Ackerman, 2017). By using the mood thermometer and thought log form daily, the clients gain self-awareness of the interaction between their thoughts, feelings, and physiological reactions (Stephanie, 2019).

Concerning the somatic management phase, important skills, such as progressive muscle relaxation, deep breathing exercises, and mindfulness, among other relaxation techniques, are taught to help clients manage their physiological reactions to fear-evoking stimuli. Such reactions could be excessive sweating, rapid heartbeat, chest pain, and shaking, among others (Appukuttan, 2016; Michelle, Nur Hani, & Juergen, 2020). The breathing exercises involve deep breathing or diaphragmatic breathing, which requires a client to take conscious control of their breathing. By breathing slowly using their diaphragm, the body's relaxation response is initiated (Therapist Aid, 2019).

The exposure phase is where CBT combines both behavior and cognitive techniques in treatment to achieve its goals. Both classical and operant conditioning techniques are utilized from classical conditioning, where the main techniques are systematic desensitization and flooding. Systematic desensitization involves gradually exposing clients to anxiety-producing situations but giving emotional support and guidance, coupled with relaxation exercises to help them work through it (Hurtley, 2018). The client is first taught relaxation techniques, such as muscle relaxation, and, thereafter, a fear hierarchy is produced. The third step involves pairing the feared

stimuli with relaxation techniques, beginning with the least feared stimuli. Hence, the therapist's task is to help the client habituate to the fear-evoking stimuli progressively (Mc Kay & Tryon, 2017).

Flooding involves exposing the client to their uncomfortable recollections, situations or objects, to aid in integrating their suppressed emotions with their present awareness. Flooding could be either in-vivo (real-world confrontation of fear-evoking stimuli) or imaginal (Kaplan & Tolin, 2011). While flooding is faster, it is less efficient and more traumatic when compared with systematic desensitization. To use the in-vivo flooding method, a therapist demonstrates the irrationality of the fear, by predisposing the person to their fears at the worst possible level. Relaxation techniques are incorporated to allow the client to replace their fear with relaxation. Even though the experience can be traumatic, it is opined necessary in cases where the fear causes significant life disturbances. On the positive side, the patient gains awareness that their anxieties are not necessarily reasonable, which conditions them to the situation to the extent that the fear-provoking stimulus no longer evokes anxiety (Bouchard et al., 2017; Center for Treatment of Anxiety and Mood Disorders, 2021).

Imaginal exposure may comprise an imaginative reconstruction of the fear-provoking situation and how the client reacts to the situation. It may involve writing and reading short stories based on the individual's anxious thoughts. The stories are based on the sufferer's deepest, scariest thoughts, taken to the worst possible outcome or the worst-case scenario (OCD Center of Los Angeles, 2016).

Another technique for imaginal flooding, as described by Tompkins (2016), is reconstructing a fear-evoking situation in movie-like scenes. The client is asked to imagine and experience themselves in the movie scene, rather than observing the movie from outside. The process starts with the development of a fear hierarchy in

conjunction with the client. Thereafter, the movie scenes are constructed with the therapist guiding the client through to evoke anxiety and discomfort. The scenes include depictions of sensory elements, such as sound, smell, taste, and touch, as well as descriptions of the setting and the client's actions. In the final step, the therapist guides the client to relax in a comfortable chair, close their eyes and be in the anxiety-provoking scene, rather than observing it. The therapist then describes the elements of the scene while asking the client to describe what they can see, hear, touch, smell, feel emotionally and physiologically, as well as their thoughts. Tompkins also recommended recording on an audiotape for 2-5 minutes for the client to listen to as homework.

Operant conditioning techniques are as well applied to dissipate anxiety, and they involve the use of positive or negative reinforcements to enforce the required behavior (Jacofsky, Khemlani-Patel, & Neziroglu, 2021). Positive reinforcements encompass the use of token economies or praise to strengthen the required behavior, while negative reinforcements are punishments used to extinguish the undesired behavior, such as time out, ignoring the behavior, among other techniques (Evans, O'Brien, & Nizette, 2020; Jason, 2016). Modeling, on the other hand, is incorporated to demonstrate the required behavior, which the therapist models to the client (Fazio-Griffith & Ballard, 2014).

Other techniques used are contingency management, stimulus fading, and shaping. In contingency management, reinforcement is given for showing the desired behavior. For example, to treat selective mutism with contingency management, a child is positively reinforced for verbal behavior working from mumbling and indicating to speaking aloud. Shaping, on the other hand, is reinforcement provided for successive approximations towards the desired behavior (Hurtley, 2018). Stimulus

fading is aimed at increasing the level of acceptance of a particular stimulus to promote independence (Piazza & Shalev, 2015). An example of fading is decreasing the level of assistance needed to complete a task or activity such as homework (Zane, Lanner, & Myers, 2013).

In cognitive restructuring, both the therapist and the client examine how negative thoughts or cognitions contribute to anxiety (Renzi, 2017). This happens in a three-step process, which starts with identifying the negative thoughts, challenging them, and replacing them with positive thoughts. In the second step of challenging the negative thoughts, several techniques can be utilized. For example, a client may be asked to weigh the pros and cons of worrying or avoiding the feared object or situation.

Additionally, experiments may be used, or a client may be asked to determine the credible chances that what they are anxious about will happen. The therapist may also teach relaxation techniques involving the use of realistic, self-calming statements, which should be verbalized anytime the anxiety levels start rising (Smith, Segal, & Segal, 2018). As for relapse prevention, a plan to prevent a relapse is developed, which acts as a safety net since it identifies the support that one needs should symptoms arise (Hoskin, 2016). Emphasis on continuing to practice the learned skills is reiterated while important techniques on recognizing the onset of symptoms are taught (Anxiety Canada, 2018). Social skills training is also emphasized to help the children learn to reach out for social support from the right sources, either peers or adults. It also teaches them other vital skills, such as assertiveness, anger management, stress-relieving techniques, and ways of boosting their self-esteem (Jacofsky et al., 2021). In all these stages, many developmentally appropriate play activities are incorporated (Fazio-Griffith & Ballard, 2014).

The CBPT is in line with brain studies alluding to brain plasticity, which means that the brain structure and functioning are still capable of growth and refinement throughout life (Collerton, 2013). This is despite the fact that by middle childhood, a child's brain development and functioning have been profoundly shaped by the nature of earlier experiences (Nelson, Zeanah, & Fox, 2019). CBPT is, thus, a therapy designed in a child-friendly manner to help challenge the maladaptive thinking processes and replace them with healthier thought processes. Providing early and efficacious treatments is, therefore, crucial since ADs show chronicity, negatively influencing future outcomes (Bandelow & Michaelis, 2015).

Thus, CBPT was found useful to the current study due to its structured nature, which follows the well laid out CBT protocols of psychoeducation, somatic management, cognitive restructuring, exposure, relapse prevention, and termination. This ensures that play-based activities can be integrated into each of these steps, enhancing therapeutic alliance and promoting therapeutic outcomes.

### 2.3 Types of Anxiety Disorders

Anxiety disorders (ADs) are classified into 11 categories by APA (2013) based on the fear-evoking stimuli in the current DSM-5. ADs share features of excessive fear, anxiety, and related behavioral disturbances. Fear is further defined as an emotional response to a real or perceived imminent threat. Anxiety, on its part, is the anticipation of future threats. The first seven ADs are SEP, selective mutism (SM), SAD, specific phobias, PD, agoraphobia, and GAD. Other recent categorizations include substance/medication-induced anxiety disorder, AD due to another medical condition, other specified anxiety disorder, and unspecified anxiety disorder.

The emergence of ADs is typical during childhood, adolescence, or early adulthood, with a peak occurring in middle age and a subsequent decline in old age (Jalnapurkar et al., 2018). It is important to note that there are normative fears and pathological fears that lead to ADs. Normative fears are part of the usual developmental processes, but ADs are pathological in that they are persistent and excessive (Muris et al., 2014).

The general symptoms of ADs are panic, fear, uneasiness, sleep problems, inability to stay calm and still, sweating, numbness or tingling hands or feet, shortness of breath, heart palpitations, dry mouth, nausea, tense muscles, and dizziness (Bhandari, 2017). Additionally, people with ADs tend to get easily irritated and find it difficult to concentrate since they worry excessively. Fatigue, avoidance of social situations, and multiple irrational fears are also common (Julson, 2018).

In the DSM-5, the ADS are arranged according to the age of onset. The earliest ones are separation anxiety, SM, and specific phobias, with an age of onset below 12 years. The essential feature of SEP is excessive anxiety concerning the separation of a child from a home or major attachment figures (Hurley, 2019). Research from cross-sectional studies with children and adolescents aged 6-17 years suggests that SEP is the most prevalent AD among the younger children aged nine years and below, and the prevalence decreases with age (Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012; Orgilés, Méndez, Espada, Carballo, & Piqueras, 2012; Park, Bang, & Kim, 2014).

The anxiety is usually beyond the expected range for the individual's developmental level. It is persistent, lasting at least four weeks in children and adolescents and typically six months or more in adults. Children with the disorder exhibit social withdrawal, apathy, sadness, or difficulty concentrating on work or play

when separated from major attachment figures. A depressed mood is also frequently present, becoming more persistent over time, which may lead to an additional diagnosis of a dysthymic disorder or major depressive disorder (Bressert, 2018).

Separation anxiety can manifest through fear of animals, monsters, the dark, muggers, burglars, kidnappers, car accidents, plane travel, and other situations perceived as presenting a danger to the family or the individual. Additionally, such children usually report unusual perceptual experiences, such as seeing people peering into their room, frightening creatures reaching for them, or feeling eyes staring at them. The fears usually emanate from excessive anxiety regarding separation from home or major attachment figures (APA, 2013; Feriante & Bernstein, 2021). Later onset of SEP is also common, and the onset may as well occur across the lifespan where childhood adversity and lifetime trauma are important antecedents (Silove et al., 2015).

In SM, the children do not initiate speech or mutually respond when spoken to by others. They speak in their home in the presence of close family members but not close friends or extended families such as grandparents or cousins. They may also refuse to socialize with peers at school, limiting their interpersonal skills and possibly interfering with their academic functioning. In clinical settings, children with SM are always given an additional diagnosis of SAD (APA, 2013).

Selective mutism is quite incapacitating and distressing to the child, with the associated features of excessive shyness and fears being a source of social embarrassment. Children with SM who face social isolation are withdrawn, showing behavioral problems such as clinging, compulsive traits, and emotional proclivities towards negativism and temper tantrums. At home, they may exhibit controlling or

oppositional behavior, and in school, children with SM have to endure bullying from peers (Shipon-Blum, 2019).

These children may also struggle with situations requiring them to speak or work in large groups, which make them dread school (Hurtley, 2018). The main comorbidities are communication disorders, such as phonological disorder, expressive language disorder, or mixed receptive-expressive language disorder. Although SM usually sets in before the age of five years, it is hardly diagnosed before the child enters school (APA, 2013).

Specific phobias also have an early age of onset at below 10 years and entail excessive and uncontrollable fear triggered by an object or a situation (de Lijster, 2019). The feared object or situation is not normally dangerous, but the children with specific phobias, when confronted with the particular thing, usually experience terror, whether the encounter is direct or indirect (Child Mind Institute, 2019).

Besides the excessive, irrational fears of specific objects or situations, other symptoms include avoiding the object or situation or enduring it with great distress. Furthermore, physical symptoms of anxiety or a panic attack may manifest, such as a pounding heart, nausea or diarrhea, sweating, trembling or shaking, numbness or tingling, shortness of breath and dizziness, or a feeling of choking. Moreover, there is anticipatory anxiety, which involves becoming nervous ahead of time about being exposed to a phobic situation or object to the extent that normal activities are disrupted (Bhandari, 2018).

Several types of specific phobias exist, such as the animal type where children fear some animals; the natural environment type where children fear things in the natural environment, such as earthquakes; and the blood, injection, or injury type where children fear seeing blood, being injected, or hurting themselves. Specific

phobias are usually diagnosed after being persistent for more than six months. School phobia is not categorized in the DSM-5, but in the SCARED, where it is categorized as significant school avoidance. It is diagnosed if the children are usually scared to go to school and are preoccupied with worries about school. They may also display somatic complaints, such as stomachaches and headaches when at school. Fremont (as cited in Kawsar, Yilanli, & Marwaha, 2021) reported that approximately 1 to 5% of 5-11 years olds had school refusal, with the rate being similar between boys and girls.

School phobias may be triggered by parental displays of distress on being separated from the child and traumatic events such as accidents, family-related deaths, relocations, or divorce. Bullying at school or the fear of teachers could also trigger the school phobia where children may display the phobia by crying incessantly when it is time to go to school, practicing truancy, or increasing complaining about teachers or peers (Burch, 2018; Goddard, 2012). Additionally, there may be physical and psychological manifestations exhibited through dizziness, body aches, heart palpitations, nausea, diarrhea, shakiness, and vomiting. Children with school phobia present low moods, predisposing them to depression (Drugs.com, 2019).

Additional symptoms of school phobia include fearfulness, panic symptoms, crying episodes, temper tantrums, and threats of self-harm. The children may also have somatic symptoms that present in the morning and improve when the child is allowed to stay home (Hendron, 2011). However, the longer the child stays out of school, the more difficult it is to return. The onset of school refusal symptoms is usually gradual, where symptoms may begin after a holiday or illness, and some children have trouble going back to school after weekends or vacations (Goddard, 2012). School refusal is also associated with other anxiety disorders, such as

separation anxiety, specific phobias, social and generalized anxieties, and panic attacks (Prabhuswamy, 2018).

Social anxiety disorder (SAD), also called social phobia, is characterized by a strong persistent fear of being judged by others and by frequent feelings of embarrassment (Bennington-Castro & Keegan, 2018). SAD has a later age of onset - at either adolescence or early adulthood. Nevertheless, it can also occur at below age 10 years (APA, 2013). In pre-school children, SAD manifests through the fear of new things, irritability, crying or whining, freezing or clinging, and refusing to speak. Among school-age children and adolescents, excessive fears are provoked in situations involving speaking up in public, such as speaking in class, talking to peers and adults, being in front of the class, musical or sports performance activities, or attending social functions. The behavioral manifestations may include crossing the arms, avoiding eye contact, or nervous habits such as hair twirling and fidgetiness (Cuncic, 2019b).

Social anxiety disorder adversely affects the social relationships of children and adolescents to the extent that some refuse school or have comorbid conditions such as depression and even additional problems such as suicidal ideation and alcoholism (Koyuncu, İnce, Ertekin, & Tükel, 2019). In one study among 12-17 year old, a higher prevalence of SAD was found among children aged above 15 years (Achiko & Shikuro, 2019). Adolescence is specifically posited to be a developmentally sensitive period for the emergence of the condition since it is a time when the peer group becomes increasingly important (Leigh & Clark, 2018). Nevertheless, there are studies suggesting that the development of SAD may be prompted by a stressful or humiliating experience, such as being bullied and vomiting during a public speech, or it may be insidious, developing slowly (APA, 2013). In

support of an earlier age of onset, Campbell (1996) and Pearcey et al.'s (2021) studies opined that though worry about social threats does not increase with age, the content of the feared social outcomes remains relatively constant over the age span. This implies that young children are just as socially anxious as adolescents are.

Panic disorder is defined as recurrent panic attacks, and it has a late age of onset at early adulthood (20-24 years). However, a small number of children have also been diagnosed with PD, although it is more common in children who are either sexually or physically abused. MedlinePlus (2021) additionally opined that children can have PDs, though it is often not diagnosed until they are older. APA (2013) also concurred that PD is observable before 14 years of age, even though the prevalence is low, but the rates gradually increase throughout puberty and peak during adulthood. A panic attack occurs abruptly due to intense fear or intense discomfort, and the attack reaches a peak within minutes (Encyclopedia, 2016).

During the attack, four or more of the following physical and cognitive symptoms should occur: increased heartbeat, sweating, shaking, sensations of shortness of breath or smothering, feelings of choking, chest pain or discomfort, nausea or abdominal distress, feeling dizzy, chills or heat sensations, paresthesias (numbness or tingling sensations), derealisation (feelings of unreality) or depersonalization (being detached from oneself), fear of losing control or “going crazy” and fear of dying. For a PD to be diagnosed, the attacks must be preceded by one month of constant worry about having another attack or its consequences. In addition, panic attacks must be recurrent (APA, 2013). Common features of the disorder include avoidance behaviors to the locations of previous episodes and other places where help would not be available or escape would be difficult, such as

enclosed or crowded places (American Academy of Child and Adolescent Psychiatry, 2013).

Individuals with this disorder usually catastrophize where they may associate mild physical symptoms to life-threatening diseases. They may also have constant worries about their performance of daily tasks and handling daily stressors. Negative coping behaviors, such as severe restrictions of food intake or prescribed medications to avoid further panic attacks, are also common (The Anxiety and Stress Disorders Institute of Maryland, 2017). It is diagnosed if the child has suffered at least two unexpected panic or anxiety attacks and, after that, at least a month of constant worries over having another attack, losing control, or a feeling of going crazy (ADAA, 2015).

Agoraphobia, on the other hand, encompasses irrational fears about entering open or crowded places, leaving home, or being in places from which escape is difficult (Smith, 2019). People with agoraphobia are thus, afraid of situations such as using public transport, being in open or enclosed spaces, standing in line, or either being in a crowd or being outside of the home alone. Such situations are avoided because the victims believe that escape will be difficult in the event of a panic attack or that help will not be available (Psychology Today, 2019). Agoraphobia often co-occurs with PD, with panic attacks involving intense fear, disorientation, shortness of breath, rapid heartbeat, dizziness, or diarrhea. Having another anxiety disorder is a risk factor for developing agoraphobia (Dryden-Edwards & Stoppler, 2021).

Generalized anxiety disorder is characterized by excessive anxiety and worry about a variety of events or activities, such as work or school performance, that occur more days than not, for at least six months (National Institute of Mental Health, 2017). Children with GAD worry excessively about a myriad of issues such as past

conversations or actions, upcoming events, school, family health, own health, sports or academics, and world events, among other issues (APA, 2013). The constant fears and worries experienced in GAD also interfere with the child's ability to concentrate and pay attention to anything else. They may, thus, appear inattentive since their intense attention and worry are turned inward toward managing fears. Other children with GAD try to cope by being perfect at school, home, and sports. What is more, they may constantly worry about performance and require constant appraisal (ADAA, 2015).

Generalized anxiety disorder has a later age on onset at 30 years (Bhatt & Bienenfeld, 2019). Although it has been reported in both younger and older children, differences occur in the fear content. One study among children aged 7-13 years diagnosed with GAD found differences across age groups in the fear content. Older children with GAD generally reported similar levels of worry as younger children except for greater school-related worry, trouble paying attention, and getting upset easily. Younger children reported greater harm avoidance than older children. Furthermore, parent reports did not generally differ between groups except for greater perfectionism in younger children and greater school competence issues for older children (Jarrett, Black, Rapport, Grills-Taquechel, & Ollendick, 2015).

In concurrence of the differences in fear content, APA (2013) posited that children and adolescents tend to worry more about school and sporting performance even when others are not evaluating their performance. There may be excessive concerns about punctuality and worry about catastrophic events, such as earthquakes or nuclear war. Children with the disorder may also be overly conforming, perfectionist, and unsure of themselves and tend to redo tasks because of excessive dissatisfaction with less-than-perfect performance. They are typically overzealous in

seeking reassurance and approval and require excessive reassurance about their performance and other worries. In adults, the risk factors for GAD include being separated, divorced or widowed, single parenthood, or poverty (Roche, 2015). The possibility of chronicity and co-occurrence with depression is a possibility if GAD is not treated early (Boston Children's Hospital, 2018).

In summary, all anxiety disorders present with extensive anxiety, physiological, emotional, and psychological arousal symptoms. Their early treatment is, therefore, crucial to avoid their chronicity and comorbidity with other mental disorders.

#### 2.4 Prevalence of Anxiety Disorders

According to WHO (2020), anxiety is the ninth leading cause of illness for adolescents aged 15-19 years and the sixth for those aged 10-14 years. ADs are one of the most common disorders among children and adolescents, with a recent meta-analysis of 29 studies, including 80 879 youth globally, estimating the prevalence of child and adolescent anxiety at 20.5% (Racine et al., 2021).

In other prevalence estimates regarding the mean global coverage of prevalence of anxiety among children (5-17 years), ADs were estimated to have lower prevalence rates (3.2%). However, the findings relied on available national surveys data mostly from high-income countries (Erskine et al., 2017). Specific country data points to varying prevalence rates where for example, data from the U.S suggests that among 3–17-year-old, anxiety disorders approximate at 7.1% (Centers for Disease Control and Prevention, 2021). The results, nevertheless, differ from a previous national mental health survey among adolescents (15-19 years) in the same country, which showed that ADs were the most prevalent mental disorders at 31.9% (Merikangas et al., 2010).

In Western countries, varying prevalence rates have been reported based on national studies, such as 6.9% in Australia and 3.8% in Canada and British Columbia (Lawrence et al., 2015; Waddell, Shepherd, Schwartz, & Barican, 2014). Elsewhere in Eastern countries, a meta-analysis of community studies in Iran approximated a wide range of prevalence rates ranging from 6.8 to 85% in children and adolescents. These results depended on the geographical location of the study and the SES of the sample (Zarafshan et al., 2015). Among adult samples in China, Guo et al.'s (2016) study reported very high lifetime prevalence rates at 41.2%.

Al-Yateem et al.'s (2020) cross-sectional study to determine the prevalence of specific anxiety-related disorders in the United Arab Emirates among participants with a mean age of  $16 \pm 1.8$  years found that the overall prevalence of anxiety disorders was 28%. Yet another cross-sectional study among 563 students aged 13-18 years at selected schools (secondary and higher secondary) in Dhaka City, Bangladesh, found the prevalence rates of anxiety at 18.1%.

One of the studies reporting high prevalence rates was a meta-analytic study in different regions of Iran, which found varying prevalence rates ranging from 6% to 85% (Zarafshan et al., 2015). A meta-analytic study of 37 research studies in sub-Saharan African by Jörns-Presentati et al. (2021) reported varying prevalence rates where the median point prevalence of four general population studies ( $n=3\ 104$ ) was 29.8% (IQR 18.6-36.4), and in six at-risk studies ( $n=7\ 520$ ), the median point prevalence was 19.3%. The only study assessing lifetime prevalence reported a prevalence of 3.4% for a sample of 5 631 South African adolescents (aged 15-17). A different study by Abbo et al. (2013), which used a diagnostic measure (MINI Kid), found a prevalence of 27.6% for AD syndromes in a household sample of 897 adolescents aged 10-19 from rural Uganda.

Scattered old studies from Africa similarly confirm varying prevalence rates of ADs. A national household survey in South Africa by Stein et al. (2008), using adult samples, found that ADS had a 15.8% prevalence rate, while Nel et al. (2018), in a tertiary psychiatric facility, found similar overall prevalence rates (15.8%), where GAD was the most prevalent at 65.1%, followed by PD, and then SAD at 29.1%.

In West Africa, a study in Nigeria found a lower overall prevalence of ADs at 10.28%, with a sample consisting of children and adolescents (3-19 years) in an urban school setting. The prevalence of GAD was quite high at 32.79%, followed by separation anxiety at 26.38%, whereas school phobia had a lower prevalence at 8.79% (Frank-Briggs & Alikor, 2010). A high prevalence rate (26.6%) was reported in a study in Uganda among children and adolescents (3-19 years) living in a region that had experienced violence from cattle rustling (Abbo et al., 2013). The high prevalence rates indicated that the violence might have played a role in the development of ADs.

In Kenya, an old study in Nairobi with secondary school children (14-18 years) found very high prevalence rates ranging between 50-100% for the different syndromes of DSM-IV ADs. Of interest to note was that all the children (100%) had separation anxiety and school phobia. According to the researchers, the fact that the research followed the 2007 post-election violence could have explained the high prevalence rates (Ndetei et al., 2008b). Additionally, Ndetei et al. (2008a), using adult samples (21-45 years) from a psychiatric facility, Mathare Hospital in Nairobi, Kenya, found that ADs were highly prevalent where 29.8% had GAD, 29.7% had PDs, 11.7% had SAD, while 10% had specific phobias.

More recent studies within community settings in Kenya revealed high prevalence rates of ADs among children and adolescents. For example, Nyagwencha et al.'s (2018b) study among children and adolescents (13-18 years) living in

charitable children's institutions in Nairobi, Kenya, found very high prevalence rates of anxiety symptoms (84.1%). On the same note, high prevalence rates of ADs (80.8%) were reported in Mathenge et al.'s (2019) study among 224 children in classes 3 to 7 in two private schools in Nairobi County, Kenya. The different anxiety types were also highly prevalent as follows: SEP (81.7%), GAD (56.3%), PD (66.5%), SAD (61.2%), and significant school avoidance (30.4%).

Hence, the prevalence of ADs is influenced by several factors, such as geographical locations, social demographic factors, and methodology of the study, making it difficult to generalize on overall prevalence rates (de Lijster et al., 2017). While national studies are crucial towards formulating and implementing mental health policies and programs, community studies, such as this one, are more crucial as they can shed light on certain predisposing factors. It is also clear that more research on ADs is needed in Africa since the existing research is scanty and some of the documented studies are old. Nevertheless, community studies done in Nairobi, Kenya show very high prevalence rates of ADs among children and adolescents, and this requires attention through more research.

### 2.5 Gender Symptomatology of Anxiety Disorders

The APA (2018) defined symptomatology in two ways. First as the combined signs, markers, or indications of a disease or disorder, and, secondly as the scientific study of the markers and indications of a disease or disorder. Gender symptomatology of ADs thus encompasses the gender differences in terms of fear-evoking stimuli, clinical presentation of the ADs, prevalence of the different types of ADs, and comorbidities.

Childhood fears are prevalent and are posited to be part of the normal developmental process. Nevertheless, if the fears are persistent, they lead to the

development of ADs. Hence, children's fears, such as separation anxiety, specific phobias, and SAD, are predictors of ADs (Muris et al., 2014). Gender differences in the types of fears experienced by children are reported in several studies. Acharya, Vakar, and Avinash (2016) found that girls had more intense fears ranging from 31.4% for the lowest to 42.75% for the highest. Boys' fears were lower, ranging from 17.43% for the lowest to 31.49% for the highest. In the latter study, gender differences were observed in the fear content where boys had intense fears in 'being punished by my father' and fear of 'deep water or the ocean'. On the other hand, girls were afraid of 'getting burnt by fire'. Girls also expressed the fear of earthquakes, and both boys and girls expressed fears of snakes. However, the fear of snakes was endorsed by more girls (38.62%) than the boys at 18.76%. Oghii's (2015) study among preschool and primary school children between the ages of four and nine from Moldova and Turkey also found that girls reported significantly higher fear levels than boys.

One study in Kenyan urban settings by Ndeti et al. (2011) also found gender differences in children's fears, where girls had more fears than boys. The study found that the commonest fears expressed by the children in Nairobi (urban setting) mostly related to mugging, burglary, domestic violence, battery, death or receiving bad news, getting burnt by fire, not being able to breathe, and getting poor grades.

According to Christiansen (2015), such gender differences in children's fears are due to the gender socialization processes. This is such that from childhood, males are taught to confront feared objects, resulting in greater exposure and extinction of fear responses. For female children, nonetheless, avoidance and fearful behavior are less likely to be dissuaded.

Although some fear-evoking stimuli are common to both gender, studies have established that girls experience such fears more intensely. Some of these common fears as elicited in the FSSC-R are “being hit by a car or truck,” “not being able to breathe,” “falling from high places”, “bombing attacks - being invaded” and “a burglar breaking into our house,” These fears have also been found common cross-culturally among children and adolescents (Acharya et al., 2016; Lee-O’Loughlin, 2014).

Most population studies suggest that females are approximately 1.5 to 2 times more likely to develop most anxiety disorders than males. These gender differences are opined to begin as early as five years of age (Rapee, 2018). One recent study among adults reviewed the literature regarding gender differences in the prevalence, clinical presentation, and functioning of a SAD. The study as well sought the gender differences in the impairment, comorbidity, course, treatment-seeking, physiological arousal, and the oxytocin system. Gender differences were found in the impairment, physiological arousal, and help-seeking, where females had greater clinical severity and physiological arousal. The help-seeking behavior for males was, however, greater than for women, though no gender differences were found in the course of SAD. The findings regarding gender differences in functional impairment and comorbidity were nevertheless inconclusive, pointing to a need for further research (Asher & Aderka, 2018).

Other studies have also found gender differences in the symptom presentation of SAD, where females are more likely to fear social situations that require speaking up, such as interviews, meetings, public gatherings, or speaking to authority figures. Additionally, the fears may be displayed through the distress experienced when eating or drinking in public or taking important exams. Males, on the other hand, are more

likely to fear dating, hence, are more likely to be single, separated, or divorced (Altemus et al., 2014). As documented by APA (2013), males with SAD have Paruresis, or the fear or avoidance of urinating in public restrooms when other individuals are present, also known as "shy bladder syndrome." Some studies, however, have suggested that gender differences in SAD are minimal (Christiansen, 2015). A study by Hashempour, Mansor, Juhari, Arshat, and Saidu (2017) did not find any significant difference between males and females aged 9-12 years in social anxiety among Iranian immigrants' children in Kuala Lumpur, Malaysia.

Concerning separation anxiety and specific phobias, APA (2013) documented gender differences in the clinical features. In separation anxiety, girls manifest greater reluctance to attend school than boys do, whereas boys manifest the indirect expression of fear of separation by limited independent activity or reluctance to be away from home alone. In the specific phobias, the animal, natural environment, and situational specific phobias are predominant in females, while height phobias predominate in males. The blood-injection-injury phobias are experienced nearly equally by both genders.

Some practitioners in clinical settings in the West, such as Shikora (2019), have found gender differences in clinical presentations of PDs. This is where males, more than females, exhibit sweating and body pains, such as stomach and chest pains, while women experience more respiratory problems, such as shortness of breath, trembling, shaking, or heart pounding.

Avoidance behaviors are common in anxiety disorders where one form of avoidance is rumination where the person is overthinking to escape the uncomfortable feelings (Boyes, 2013). In one Meta analytic study, it was found that women scored higher than men did in rumination ( $d = .24, p < .01, SEd = .02$ ), brooding ( $d = .19, p <$

.01,  $SEd = .03$ ) and reflection ( $d = .17$ ,  $p < .01$ ,  $SEd = .03$ ) (Johnson & Whisman, 2013).

Gender differences in avoidance responses have also been shown in animal studies, where males show higher mobility and females reduced mobility (Yokota, Suzuki, Hamami, Harada, & Komai, 2017). The gender differences in avoidance behaviors importantly predict the gender differences in the comorbid conditions. For example, the higher levels of rumination in females result in females being diagnosed with mood and depressive disorders more than males (Graham, Denson, Barnett, Calderwood, & Grisham, 2018). Males, on the other hand, are more likely to engage in substance or alcohol abuse to avoid feelings of anxiety (Mc Lean, Asnaani, Litz, & Hofmann, 2011). Furthermore, males exhibit comorbidities with externalizing disorders that manifest through problems with attention, self-regulation, noncompliance, antisocial behavior, aggression, and other under-controlled behaviors (Dingfelder, 2011).

Avoidance is used as a safety behavior and may include avoiding eye contact, crossing the arms to hide shaking, drugs and alcohol abuse, daydreaming, or sitting in the back of a classroom. Escape behaviors, on the other hand, are used to avoid an anxiety-provoking situation, and they include leaving a gathering early, walking out in the middle of a speech, or hiding in the restroom during social functions (Cuncic, 2019a). Unfortunately, while the avoidance behaviors may reduce the psychophysical symptoms produced by anxiety and fear, they trigger a vicious circle where avoidance reinforces negative emotions (Moresi, 2015). Gender symptomatology is thus vital to investigate as it may highlight some of the propagating factors, which can minimize severity and chronicity if effectively addressed through proper interventions.

## 2.6 The Comorbidities with Anxiety Disorders

Anxiety disorders are highly comorbid, showing both homotypic and heterotypic comorbidities. In homotypic comorbidity, two or more types of ADs co-occur, while in heterotypic comorbidity, ADs co-occur with other mental disorders (Canals, Voltas, Hernández-Martínez, Cosi, & Arija, 2019; Mohammadi et al., 2020; Saha et al., 2021).

Olofsdotter, Vadlin, Sonnby, and Furmark's (2016) study in Sweden with 125 adolescents (57.6% girls) between the ages of 12 and 18 years revealed homotypic comorbidity at 43% and high heterotypic comorbidity at 91%. Furthermore, trauma, ache, and having difficulties making friends were more common among anxious adolescents as compared with psychiatrically referred adolescents without anxiety.

Jystad et al. (2021) found higher homotypic comorbidity at 72.8% (n=75) among 8,199 Norwegian adolescents aged 13-19 years who had been diagnosed with SAD. Regarding homotypic comorbidity, Bilge et al. (2021) posited that separation anxiety continues in adulthood and may be related to the severity of PDs in patients with agoraphobia. Mohammadi et al. (2020), a meta-analysis of 20 studies, also indicated that children with SEP were more likely to develop a PD later on (odds ratio=3.45; 95% CI=2.37-5.03). Five studies suggested that a childhood diagnosis of SEP increased the risk of future anxiety (odds ratio=2.19; 95% CI=1.40–3.42). Children with separation anxiety may have a panic attack when a parent leaves. Moreover, children who fear being trapped in places with no way to escape easily may have a panic attack when they are seated in the middle of a row in a crowded auditorium (Elia & Kimmel, 2021).

As for heterotypic comorbidity, high rates of comorbidities with personality disorders have also been documented: Cluster C personality disorders (avoidant,

dependent, and compulsive types) rate higher than cluster B (dramatic, borderline, and antisocial types) and cluster A (schizoid, schizotypal, and paranoid types) types, at 39% versus 19% and 13% respectively (Friborg, Martinussen, Kaiser, Overgard, & Rosenvinge, 2013). In the latter study, social phobia, currently known as SAD in DSM-5, had the highest comorbidity rates with personality disorders, where it occurred most frequently with the avoidant subtype (46%). Another 96% of patients with borderline personality disorder had comorbidity with anxiety disorders at a high of 88%.

Studies from Asian countries such as Iran also posited high comorbidity rates at 54% (Zarafshan et al., 2015). Nonetheless, a study in China among adults found lower comorbidity rates at 15.2% (Guo et al., 2016). The studies, however, did not specify the comorbid conditions. In South Africa, Nel et al.'s (2018) study in a tertiary psychiatric facility found that patients (14.6%) with agoraphobia displayed comorbidity with PD. Comorbidities with psychiatric disorders were also rampant at 98.1%, where 36.9% had multiple anxiety disorders.

In Kenya, Khasakhala et al.'s (2013) study among youth (13-22 years) attending Kenyatta National Hospital mental health clinic found evidence for comorbidity of anxiety disorders with other psychiatric disorders, such as conduct disorders, drug and alcohol use, and suicidal behavior. Nyagwencha et al. (2018b) also found comorbidities of anxiety with depression and post-traumatic stress disorder (PTSD) at 50.4% and 21.6%, respectively, among children from low social-economic backgrounds in Kenya.

Gender differences occur in comorbidities where higher homotypic and heterotypic comorbidity involving mood (emotional) disorders is attributed to females (Christiansen, 2015). Males are more likely to have co-morbid externalizing

disorders, such as conduct disorders and alcohol and substance abuse (Vesga-López et al., 2008). For example, in SAD, females show a greater number of social fears and comorbid depressive, bipolar, and anxiety disorders, whereas males more often display oppositional defiant disorder or conduct disorder and may abuse drugs and alcohol to alleviate symptoms of the disorder (APA, 2013).

On the same line, Mc Lean et al. (2011) found that compared to men, women with an AD were significantly more likely to be diagnosed with major depressive disorder over their lifetime. However, females were less likely to be diagnosed with a substance use disorder, attention deficit hyperactive disorder, or intermittent explosive disorder. Women (44.8%) were also more likely to have an additional anxiety disorder diagnosis than men (34.2%) were. Shikora (2019) also added that males, more than females, are opined to abuse drugs and alcohol in an attempt to self-medicate prior to seeking treatment.

Nevertheless, some studies have suggested that males report higher heterotypic comorbidities with emotional disorders. For example, in Emam's (2012) study among Egyptian children, using the SDQ, the boys' mean scores in all the scales: emotional, conduct, peer, and hyperactivity were higher than the girls' means. Bøe, Hysing, Skogen, and Breivik (2016) also used the same questionnaire among a sample of 16-18-year-olds and found that boys scored higher on emotional and conduct problems. However, Maurice-Stam et al. (2018), using the same questionnaire among 2–18-year-old selected from a large panel of a Dutch research agency, found that boys scored higher only on the hyperactivity scale.

Christiansen (2015) forwarded three important ways through which gender differences result. These are gender socialization processes, which lead to a desire for social desirability, gender differences in recall bias, and gender roles. Social

desirability may prompt males to under-report anxiety symptoms to conform to the masculine gender–role. Contrastingly, females are more likely to ruminate than males, which may cause them (females) to report more prior symptoms of anxiety. Conversely, adherence to strict gender roles overburdens females who are expected to combine their social-economic activities with domestic work, further predisposing them to ADs. Moreover, females more than males confront risk factors for ADs such as sexual abuse, domestic abuse, and relationship stressors. These gender differences in comorbidities, consequently, make it even more imperative to have gender-based assessments and treatments to expose underlying predisposing factors.

### 2.7 Biological and Social Demographic Predictors for Development of ADs Among 8-16-year-olds

According to the National Institutes of Health, puberty usually begins between 8 and 13 years of age for girls and between 9 and 14 years of age for boys. (Benjamin, 2020). The two physiological processes crucial to pubertal development are gonadarche and adrenarche. Gonadarche comprises the growth and maturation of gonads, breast development (thelarche), and menstruation processes (menarche) in females. For the males, gonadarche leads to spermatogenesis and testicular enlargement. Adrenarche precedes gonadarche and it is associated with increased secretion of adrenal androgens, leading to the appearance of sexual hair, also known as pubarche (Oncohematol, 2019).

The age at the onset of puberty is influenced by several factors, such as heredity, nutrition, the sex of the child, SES, and urbanization. In industrialized societies, puberty normally starts between 8-10 years of age. Children in impoverished backgrounds where they are either malnourished or undernourished show delayed onset beyond the normal limit. Urbanization, on the other hand, has the

effect of exposing children to nudity and obscenity mainly through the mass media, which stimulates the thought process and the pituitary glands, resulting in an early onset of adrenarche and gonadarche (United Nations Children's Fund [UNICEF], 2019). Children who experience early puberty have higher rates of anxiety compared to their peers. The effect is, however, more pronounced among females, though findings involving boys are less clear (Mendle et al., as cited in Fraser-Thill, 2020).

Aside from the biological changes, children within the age bracket 8-16 years also experience many other transitions emotionally, socially, and cognitively. Such developmental factors influence the development, maintenance, and presentation of ADs (de Lijster, 2019).

Research has also indicated that social-economic challenges are associated with having one or more anxiety diagnoses (Ayazi, Lien, Eide, Swartz, & Hauff, 2014). Studies conducted among children and adolescents in informal settings in the major cities in Kenya document the various types of adversities to which children are exposed. These include orphanhood, domestic violence, witnessing violence, sexual abuse, drugs and alcohol abuse, child neglect, and physical, sexual, and emotional abuse (Craig, 2012; Letanneux & Hennequin, 2014; Omboto, Ondiek, Odera, & Ayugi, 2012; Waithaka, Mutavi, Njeru, & Nyangaresi, 2013).

Children from low SES backgrounds may have more health problems and higher mortality rates than those from higher social-economic backgrounds. This is due to low access to health care, poor nutrition, and living in stressful homes and neighborhoods. Body mass dissatisfaction is also more pronounced at this age, and it can lead to low self-esteem alongside mental disorders (Sage Publications, 2019a).

Hantsoo and Epperson (2017) also posited that anxiety disorders among females often precipitate or worsen at times of hormonal fluctuation, including

puberty and premenstruum. During puberty (from 10 up to 17 years), females experience significant brain remodeling, where the menstrual cycle begins leading to monthly fluctuations in ovarian steroid hormones. Ovarian steroids, such as progesterone and their metabolites are neuroactive, affecting neurotransmission at several receptors in the central nervous system. Ferri, Bress, Eaton, and Proudfit (2014) also advanced that puberty is characterized by shifts in social and emotional behavior and increased vulnerability to ADs, such as SAD in females aged 8-15 years. Other risk factors are psychopathology within families, conflict in the family, and childhood adversity, which may include sexual abuse or other traumatic experiences (Blanco et al., 2014; Carcani-Mane, 2020; Lähdepuro et al., 2019).

Concerning family backgrounds, Perales, Johnson, Baxter, Lawrence, and Zubrick's (2017) study found that children living in one-parent or no-parent families had experienced a higher prevalence of mental disorders. Abbo et al.'s (2013) study also found that living without a parent is a significant predictor for ADs. Regarding those brought up in single-mother backgrounds, Daryanani, Hamilton, Abramson, and Alloy's (2016) study among a community sample of diverse adolescents (N = 385, 52 % female, 48 % Caucasian) and their mothers put forth that single mothers engaged in negative parenting practices more than cohabiting mothers. Such practices were overcontrolling and rejecting behaviors, and these led to mental disorders in the offspring. The study concluded that single mothers were not inherently inferior parents relative to cohabiting mothers, but their parenting practices were often compromised by a myriad of demands and stressors such as low socioeconomic status.

In agreement, Agnafors, Bladh, Svedin, and Sydsjö's (2018) study in Sweden among single mothers and their children found that being a single mother did not present a risk for developing mental disorders. However, when factors, such as

economic strain or the circumstances surrounding the single motherhood status were considered, there was an increased risk for anxiety. Factors, such as children experiencing the separation and divorce of their parents were additionally found to be risk factors for the development of mental disorders. Furthermore, maternal stress among single mothers was associated with the development of ADs in children. For the single mothers who were already cohabiting with other partners who were providing, there was less financial strain and maternal stress, and hence the risk of ADs for their children was reduced. For single mothers at birth, having adequate social support systems reduced stress and the development of ADs in the children.

Research as well posited that factors such as parental psychopathology, parenting styles, and marital distress may explain the development of ADs in children (Platt, Williams, & Ginsburg, 2016). Parent relationship difficulties, especially inter-parental conflict, over-involvement, and aversiveness, have shown a negative relationship with mental health in offspring (Suh et al., 2016).

Regarding the relationship between family size and the development of ADs, Abbo et al. (2013) found that family size in terms of the number of siblings was not a significant predictor for ADs. Rapee (2012) also deduced that there is little evidence that family size is strongly associated with anxiety, but SES was significant in that low SES was a predictor for ADs. Lundborg, Ralsmark, and Rooth (2012) opined that there is a significant negative correlation between the development of ADs and SES.

The various types of abuse are also risk factors for the development of ADs (APA, 2013; Dabkowska & Dabkowska, 2015). As established by Mumah, Kigen, Muga, Ruhigisha, and Munyana (2014), there are numerous forms of abuse among children and adolescents in informal urban settings. They include cases of verbal assault (68%), beatings (95%), inflicting of pain involving the child's sexual organ

(35%), excessive labor (33.5%), incest and sexual abuse (46%), and denial of food (22.5%). Others included abandonment (18%), confinement (13.5%), stigmatization, and discrimination (97%), where orphans and destitute children were the worst victims. Studies find that sexual and emotional abuse are more common among females, whereas physical abuse is more common among males (Kabiru, 2015; Kostelny et al., 2013; Nyagwencha et al., 2018a). Assessments that investigate the risk factors are thus, crucial as they may highlight hidden gender-specific propagating factors that may promote the development of ADs as well as hinder positive treatment outcomes.

## 2.8 Efficacy of CBPT

Both play therapy and CBT have distinctively been proven efficacious in treating various disorders. More recently, community studies have shown the efficacy of the combination of both therapies in CBPT. Efficacy studies found that between 55–60% of treated children with ADs improve significantly after receiving CBT (James, James, Cowdrey, Soler, & Choke, 2013). CBT in the treatment of ADS is found efficacious in efficacy trials, and benefits have been shown to persist post-intervention. Kodal et al.'s (2018) study among 139 youth (11-21 years) who had undergone CBT intervention for various DSM-5 ADs found that on average, 3.9 years post-treatment (range 2.2–5.9 years), there was significant reductions in all anxiety symptom measures.

Concerning the efficacy of play therapy, Davidson et al. (2017) tested the effectiveness of play therapy on anxiety among hospitalized children in Apollo Children's Hospital, Chennai, India. The findings of the study revealed that in the control group, there was no significant difference in the mean and standard deviation of the anxiety levels ( $M = 49.5, 48.4$  &  $SD = 8.30, 8.36$ ) before and after play therapy.

In the experimental group, a significant difference in the mean and standard deviation of anxiety level ( $M=49, 42.76$  &  $SD = 8.40, 8.29$ ) was noted before and after play therapy at  $p<0.01$ .

In yet another study in Isfahan, Iran, twenty elementary students who had been diagnosed with anxiety were selected through random sampling and divided into an experimental group and a control group. The experimental group participated in 10 sessions of non-directive play therapy, but the control did not receive any intervention. Post-intervention results showed that scores on the anxiety scale reduced significantly in the experimental group, as measured by the Spence Children's Anxiety Scale, proving the efficacy (Hateli, 2021).

However, a meta-analysis of 100 studies of outcomes of play therapy interventions suggested that play therapy was less effective than behavioral interventions. The study suggested that the play therapy only showed a moderate effect across all outcomes ( $d = 0.44$ ). Nonetheless, the overall study quality was poor since none of the studies met the criteria of randomized control trials. The researchers also lamented that the diagnostic criteria were not utilized in play therapy, which weakened the play interventions' empirical support. The Meta-analysis thus concluded that the efficacy of play therapy was half that of the behaviorally oriented treatments (Jensen et al., 2017).

Therefore, even though play therapy is efficacious for treating ADs in children, it has shortcomings in that interventions are not empirically supported. CBPT differs from traditional play therapy in that specific goals are established, and the therapist plays an active role in selecting materials and activities. The therapist as well uses play to educate the child, and praise is utilized to encourage positive behaviors (Free Online Research Papers, 2014). CBPT, therefore, employs the

directive form of play therapy, where the therapist assumes responsibility for guidance and interpretation. This is unlike the non-directive type of play, where the therapist leaves the responsibility and direction to the child (Himmelstein, 2019).

As for the Eastern countries, specifically Iran, prolific research on the efficacy of CBPT in treating variant problems among 8 to 12-year olds is emerging. One such study assessed the efficacy of CBPT on increasing the self-esteem of children with intellectual disabilities. Results indicated that after 12 sessions of CBPT administration, the self-esteem of the experimental group was significantly increased compared to the control group (Mirahmadi & Hemmati, 2016).

Another study, still in Iran, sought the effectiveness of CBPT on street and working girls aged 7-10 years in the city of Karaj, who had displayed externalizing behavior problems. Forty girls with scores of 63 or above in the teacher's report form (TRF) tool were chosen at random to participate in a CBPT program either in the control or intervention group. The intervention group had four groups of five girls, each to whom 12 one-hour sessions of CBPT at two sessions per week were administered. Post-intervention, the efficacy of CBPT was demonstrated since among the intervention group, the girls had a significant reduction in externalizing behaviors such as aggression and law-breaking, but the control group remained the same (Ghodousi, Sajedi, Mirzaie, & Rezasoltani, 2017). The studies utilizing CBPT are, however, few, calling for more research, especially in the treatment of ADs.

### 2.9 Gender Differences in the Efficacy of CBPT

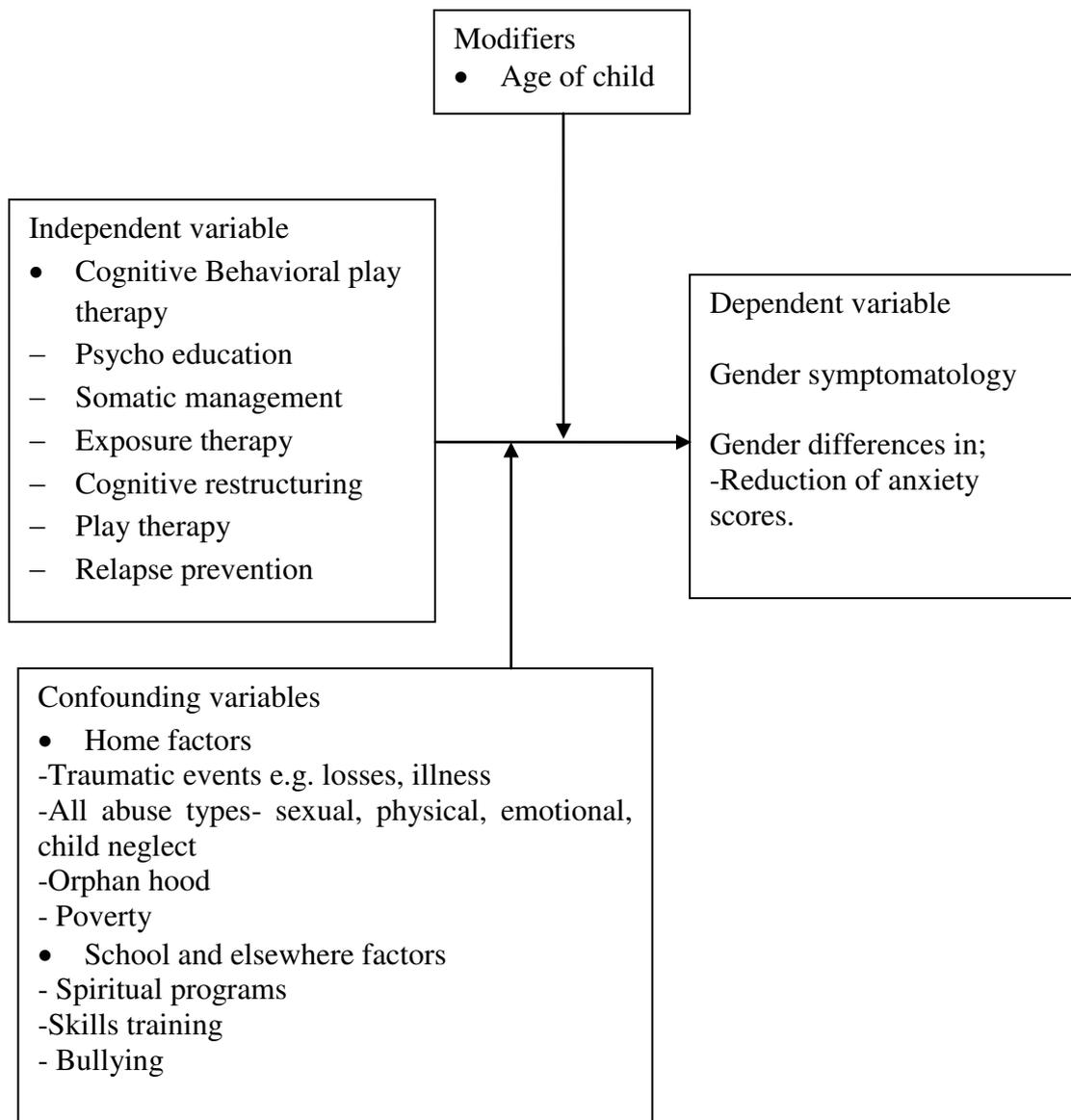
Several studies have demonstrated CBT, play therapy, or CBPT are efficacious in treating various mental disorders among the youth (Ghodousi et al., 2017; Mirahmadi & Hemmati, 2016). However, what is not clear is whether gender

influences treatment outcomes, given the numerous literature suggesting that females have the greater burden of illness in terms of prevalence and severity.

Previous research among adults suggests that females benefit more from psychotherapy compared to men. This is because they (females) attend more sessions of psychotherapy, complete more modules of therapy, express more commitment, and view psychotherapy as more helpful (Grubbs et al., 2015). However, some studies focusing on children suggest otherwise, such that boys show more improvement post-intervention. For example, Craig and Sprang's (2014) study on PTSD treatment observed that at post-treatment, girls reported higher symptom levels than boys, suggesting that their clinical presentation at discharge differed despite significant treatment gains. The study recommended the identification of gender-specific response patterns that are an important consideration in treatment. One study, however, among Dutch primary school children, comprising 141 children aged 7-13 with elevated levels of anxiety, found that gender was not a moderating effect. The study utilized a CBT manualized program for children (Van Starrenburg, Kuijpers, Kleinjan, Hutschemaekers, & Engels, 2017). Gender differences in treatment outcomes, therefore, have varied inclinations and further investigations are needed to help elucidate some gender-specific patterns that can influence treatment outcomes.

## 2.10 Conceptual Framework

Figure 2.1 presents the conceptual framework.



*Figure 2.1: Conceptual Framework*  
Source: Author (2021)

In this study, the independent variable was CBPT. The various components of CBPT are play interventions incorporated into the phases of CBT, namely psychoeducation, somatic management, relaxation techniques, exposure, cognitive restructuring, and relapse prevention. These techniques were administered to male and female children displaying ADs; hence the dependent variable was the gender symptomatology in ADs. CBPT administration was supposed to reduce the symptoms

of ADs in male and female children, and the gender differences in the treatment outcomes were compared.

The modifier was the age of the child, and from studies reviewed, it is clear that ADs vary developmentally. Age may as well affect symptom alleviation and treatment outcomes in that children's cognitive abilities vary developmentally. There were two types of confounders in the current study. First, the confounders in the form of risk factors for development of ADs. These emanated from both the home and school environment. From the home environment were factors such as the traumatic events in the child's life, various types of past or ongoing abuse, losses, or even sicknesses of loved ones, orphanhood, and abject poverty. Others from the school environment included various forms of abuse, academic pressures, and peer pressure. Such factors could either increase symptomatology or adversely influence the efficacy of CBPT. The second type of confounders, which could interfere with both symptomatology and treatment outcomes, were additional programs offered in school or church to boost the children's self-esteem. Such programs could result in symptom reduction, or they could compound treatment.

## 2.11 Summary

The chapter has well explicated the theoretical framework, dwelling on cognitive behavioral therapy by Beck and the CBPT by Knell. In the literature review, this chapter has discussed the types of ADs, the prevalence as well as the comorbidity rates of the disorders, and additionally, the risk factors for the development of the disorders. Moreover, the gender-specific risk factors prominent in informal urban settings in Kenya have been discussed. This was followed by a discourse on gender differences in symptomatology and the factors responsible for the gender differences. A detailed discourse on the efficacy of CBPT in the treatment of ADs and gender

differences in treatment outcomes has also been presented. To conclude the chapter, a conceptual framework linking the independent and the dependent variables has been demonstrated and discussed. The next chapter will discuss the study's methodology in terms of the research design, the target population, sample size and sampling techniques, data collection methods and instruments, data analysis methods, and finally, the ethical considerations.

## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.1 Introduction

This chapter discusses the research design, the target population, sample size, and sampling techniques. Later, the data collection instruments, data collection procedures, and data analysis methods are presented. A discussion on the ethical considerations concludes the chapter, followed by a summary of the chapter.

### 3.2 Research Design

The current study is both correlational and quasi-experimental. Correlational research is non-experimental research in which the researcher assesses the statistical relationship between two variables with little or no effort to control extraneous variables (Price, Jhangiani, & Chiang, 2015). The study aimed at establishing the gender differences in the symptomatology of ADs before and after CBPT administration.

On the other hand, quasi-experimental research resembles experimental research, though it is not a true experiment. Although the independent variable is manipulated, the participants are not randomly assigned to either the control or experimental group. Hence, there is a possibility of confounding variables that may interfere with the effect of the independent variable (Krishnan, 2019).

Quasi-experimental designs usually employ control groups with similar characteristics to the treatment group at baseline (pre-intervention). The control group depicts what would have been the outcomes if the treatment had not been implemented (White & Sabarwall, 2014). Many types of quasi-experiments have been documented, but this study followed the non-equivalent control group (baseline-end line type) (Price et al., 2015).

The non-equivalent control group refers to a situation where a control group is matched upon certain preexisting characteristics, similar to those observed in a treatment group (Sage Publications, 2019b). In this study, the design was nonequivalent. Even though the experimental and control group were from two different schools, the subjects had similar characteristics in terms of age, the school environment, and social-economic background. The study schools: Kabiria and Kawangware are government-sponsored day primary schools, with huge populations (n= 1500 to 2000) of boys and girls aged between 4 and 17 years. Secondly, the schools are located within a radius of 5 kilometers from the sprawling Kawangware slums in Dagoretti Constituency, Nairobi County, ensuring homogeneity in terms of the SES. The subjects from Kabiria, the experimental group, were administered treatment after the initial baseline assessments, but the control group from Kawangware did not receive any treatment. Results were collected again at midline (after six weeks) and end line (after 12 weeks) for both the control and the experimental group, and outcomes were compared.

Having a control group is important as it helps curb the threats to the internal validity of the results. As discussed by Bhattacharjee (2012), examples of such threats are the history and maturation threats. History threats occur when outcomes are due to extraneous or historical events rather than by the independent variable. For instance, children's anxiety scores' improvement post-treatment results from extraneous factors, such as their (children) spirituality, other school programs, or traumatic events in the child's life, rather than CBPT.

The maturation threat, on the other hand, refers to the possibility that observed effects emanate from the natural maturation of subjects, for example, an increase in age between baseline and end line, rather than the treatment. Furthermore, a control

group may as well help monitor the selection-regression threat. This is the possibility of the intervention and control groups retreating toward the mean between baseline and end line at different rates. Hence having a control group is crucial for validity purposes. For the treatment to be successful, subjects in the treatment group must rate more favorably on the outcome variables than the control group subjects (Lund & Lund, 2018).

### 3.3 Study Site

Though in Kenya, the informal urban settings are numerous, this research focused on children attending schools located within a radius of 5 kilometers from one of the slums in Nairobi County. This was crucial to ensure the homogeneity of the sample in terms of the SES. Nairobi is the capital city in Kenya, and it has the largest number of slum dwellers living in deplorable conditions. The County has approximately 200 slums, with a population of approximately 2.5 million people. This population represents 60% of the Nairobi inhabitants, and appallingly, they occupy just 6% of the land (African Population and Health Research Center, 2014). Even more abysmal is that seven of Nairobi's slum dwellings appear in the list of the top twenty worst slums in Africa. These include Mathare, Kibera, Korogocho, Kiambiu, Kawangware, Kangemi, and Mukuru Kwa Njenga (Africa Ranking, 2017).

Since proximity (radius of 5km) to a slum area was the prime consideration for the selection of the study site, Kawangware emerged from the list of the seven worst slums in Kenya through simple random sampling. Kawangware ranks seventh among Africa's worst slums (Africa Ranking, 2017). It is located in Dagoretti Sub-County, Kawangware Location, with the highest population estimated to be youths and children at 65%. Most inhabitants are poor, living on less than a dollar per day and unemployment is high (International Center for Research on Women, 2015).

Among teenagers, prostitution or crime to make money, early pregnancies, and suicides are common. Many children in the slum also do not attend school, which has resulted in an increase in the number of street children (Thunder foundation, 2019). Besides the Kawangware slums, Dagoretti Sub-County also has 26 other slum settlements located in seven out of the twelve sub-locations (Makau & Karanja, 2015).

There are approximately 19 public primary schools in Dagoretti Sub-County. From these 19 schools, purposive sampling helped in the selection of public-day primary schools within a distance of 5 kilometers from Kawangware Market. Five schools: Kawangware, Kabiria, Ndururu, Dagoretti Muslim, and Riruta Satellite primary schools, fitted this category.

From these five schools, two schools (Kawangware and Kabiria primary schools) became the control and experimental groups respectively through simple random sampling. The two schools are approximately 4.5 km apart, and both schools host children from urban slum areas. This is crucial towards ensuring sample homogeneity to control for confounding variables (Sage Publications, 2019b), and the distance between the two schools is necessary to ensure that there will be no sample contamination during the research process. The schools are also similar in that the male-to-female children ratio in each school is about 1:1. Additionally, they each have a high population of children, with Kawangware Primary School having approximately 1500 children from class 4 to class 8 and Kabiria Primary School having about 1400 children.

### 3.4 Target Population

The target population was school-going children aged 8 to 16 years attending public-day primary schools in Kenya. At this age, children experience growth spurts

(physically, emotionally, and mentally) showing great gains in their cognitive development (Morin, 2019). This is also a developmental stage where they are most prone to developmental and behavioral challenges, which, if not treated, would lead to a poor adjustment in both adolescence and adulthood (Office of Disease Prevention and Health Promotion, 2019).

Targeting treatment for these children was thus crucial to promote healthier life outcomes. Moreover, a focus on children from informal urban settings was critical since studies have shown that such children are predisposed to many of the risk factors for ADs. These risk factors include neglect, all forms of abuse, poverty, crime, and drug and alcohol abuse (Kostelny et al., 2013; Nyagwencha et al., 2018a).

### 3.5 Sample Size

In considering the sample size for any scientific study, it is imperative to be aware of potential threats to the validity and reliability of the study in form of some participants dropping out, that is, attrition rate. The latter is an estimate of likely dropouts from the original sample over a particular period (Galetto, 2015).

Any authentic study must, therefore, have an allowance in terms of extra respondents, which enhances the study credibility regardless of whether some participants have dropped out. A Kenyan study by Onyancha, Njoroge, and Mukolwe (2015) has shown that in low SES backgrounds, poverty increases the chances of missed school days, underpinning the need for inclusion of extra subjects since dropouts can influence both the balance of confounders between the groups and the statistical power of the study. The balance of confounders results when some members of one gender exit the group, leading to unequal numbers between males and females (Negida, 2017).

In this study, the Casagrande formula helped to calculate the sample size for treatment. The formula required using estimates of ADs' prevalence from previous studies with a similar sample and thereafter estimating a reduction in the prevalence rates post-treatment. Towards this end, this study used estimates from Ndetei et al.'s (2008b) study, which had postulated the prevalence of ADs to be between 50% - 100% using the SCARED-R tool. Therefore, the calculation used the lower limit of 50%, and the presumption was that a reduction in ADs from 50% to 10% would be clinically important to detect. This was in order to be 90% sure of being able to detect a reduction in ADs from 50% to 10% as significant at the 5% level. Applying this to the Casagrande formula yielded the sample size for each school as shown below:

$$N = \frac{\left( \frac{Z_{\alpha/2} \sqrt{2\bar{p}(1-\bar{p})} + Z_{\beta} \sqrt{P_A(1-P_A) + P_B(1-P_B)}}{2} \right)^2}{(P_A - P_B)^2}$$

Where;

$P_A = 0.5$  is the proportion of those with ADs at baseline.

$P_B = 0.1$  is the proportion of those with ADs at end line.

$\alpha = 0.05$  is the confidence level.

$1 - \beta = 0.90$  is the power of the test.

$\beta = 1.282$

$Z_{\alpha/2} = 1.96$

$\bar{p} = 0.3$  is the average of  $P_A$  and  $P_B$ .

From the calculation,  $N=25.4$ , approximately 26 children from each school, hence 52 children. According to Bankhead, Aronson, and Nunan (2017), a rule of thumb states that <5% attrition leads to little bias, while >20% poses serious threats to validity. Hence, to allow for attrition rates in this study, a decision was made to allow for an overall attrition rate of  $\leq 8\%$ , slightly above 5%. This rendered inclusion of four

more participants, which translated to an allowance of a 7.69% attrition rate. The overall sample was, thus, 56 subjects for both schools, 28 for the control, and 28 for the intervention.

### 3.6 Sampling Techniques

Purposive sampling was used to select the initial sample. In purposive sampling, participants are selected according to the needs of the study such that applicants who do not meet the profile are rejected (Glen, 2015a). The first selection criterion was age, where only those aged 8-16 years were allowed into the study. From those selected, all the subjects who could not read and write in English and those who were not willing to take part in the research were excluded. Additionally, those who had not signed informed consent from the parents or guardians were excluded.

At the second stage of the research process, purposive sampling was again employed to separate the children with ADs from those without. Furthermore, those with severe heterotypic comorbidities were identified and excluded from proceeding with the research process. From the remaining sample, through simple random sampling, 28 participants from Kabiria Primary School were assigned to the treatment group, and 28 from Kawangware Primary School were assigned as the control group. Both groups were then administered the CSDQ, and the treatment group after that received 12 sessions of CBPT. No treatment was offered to the control group. Assessments were taken again using the SCARED questionnaire only after six weeks (mid line assessment) and after 12 weeks (end line assessment) (See Figure 3.1).

The Sampling Technique

Figure 3.1 presents the sampling technique.

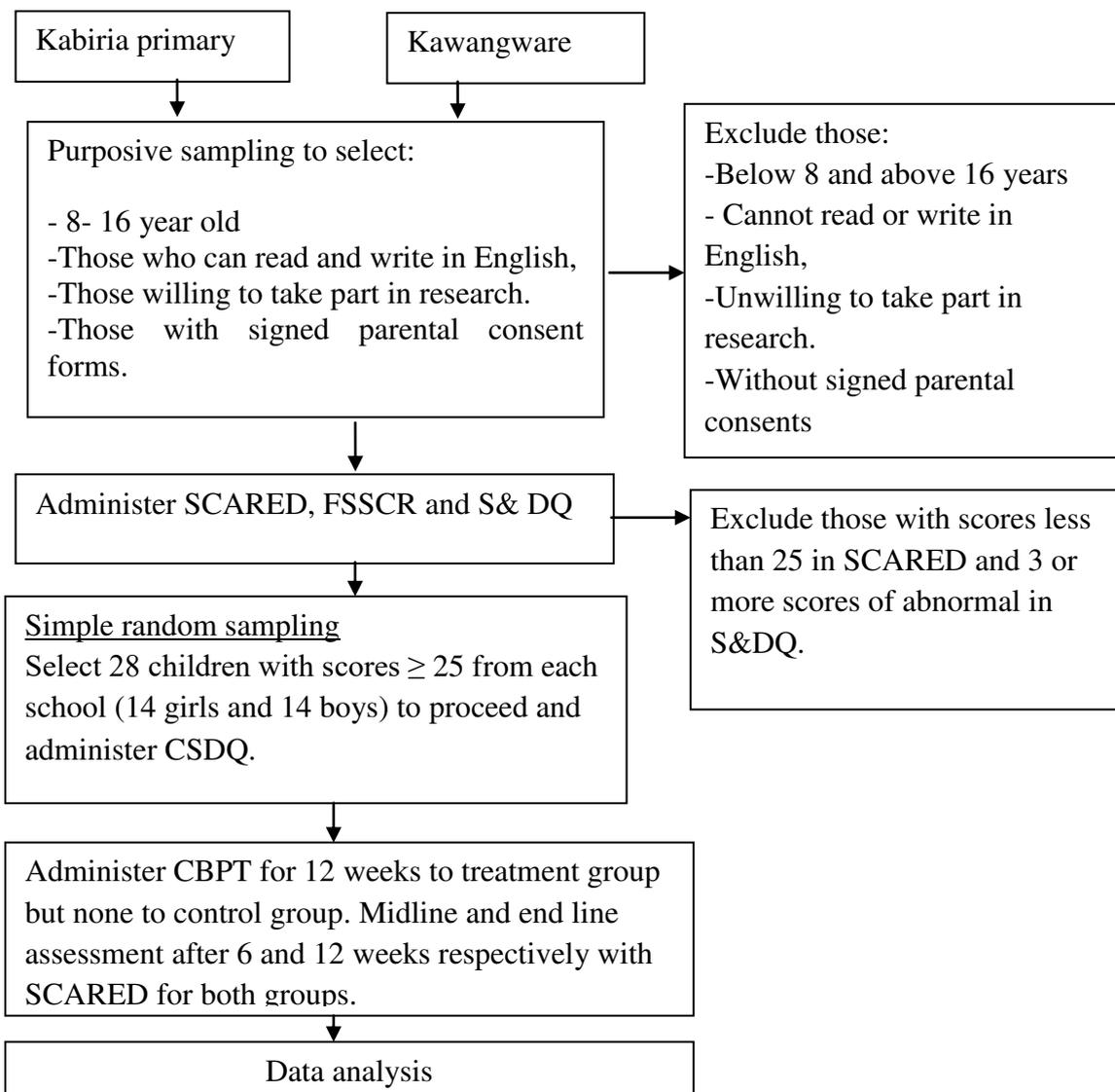


Figure 3.1: The sampling Technique  
Source: Author (2021)

3.7 Data Collection Instruments

The two main instruments that aided in the collection of data on the prevalence of ADs and types of fears were the screen for child anxiety related emotional disorders (SCARED) and the fear survey schedule for children-revised (FSSC-R). An additional tool, the strengths and difficulties questionnaire (SDQ), assessed for heterotypic comorbidities among those diagnosed with ADs. The child

social demographic questionnaire (CSDQ) enquired on the respondent's social demographic predictors for comorbid ADs.

### 3.7.1 The Screen for Child Anxiety Related Disorders (SCARED)

The SCARED consists of 41 items, each scored as a Likert-type scale of 0 to 2 'not true or hardly ever true' 'somewhat true or sometimes true', and 'very true or often true', for a total score ranging from 0 to 82. The recommended cut-off score for distinguishing between anxious and non-anxious cases is 25 (Tanios et al., 2009). The SCARED exists in both child-report and parent-report versions, both intended for children and adolescents aged from 8 to 18 years. It is available in several European languages, and its administration takes about 10 minutes. The test requires the administrator to explain all questions for children aged below 11 years or to sit with them in case the children have questions (California Evidence-Based Clearinghouse for Child Welfare, n.d.).

Studies have shown moderate cross-informant agreement between the child and parent version, with one study using the German version, informing that children report more anxiety-related symptoms at a higher severity than their parents (Weitkamp, Romer, Rosenthal, Wiegand-Grefe, & Daniels, 2010). Hence, the use of the child version was deemed sufficient in the current study since the FSSC-R was also used to further corroborate the fear-evoking stimuli. Although clinicians and psychiatrists administer the SCARED, no training is necessary but understanding the meaning of the scores is crucial. The scale constitutes five subscales, namely PD, GAD, SEP, SAD, and significant school avoidance (California Evidence-Based Clearinghouse for Child Welfare, n.d.).

The psychometric properties of the (SCARED) have been tested cross-culturally, and both reliability and validity confirmed. For example, in a Swedish

sample, the SCARED-R had acceptable sensitivity/specificity for child and parent reports in both the total score and the subscales. In the parent version, the sensitivity for GAD was 75%, while for the child version, it was 79%. Specificity, on the other hand, ranged from 60% for the child-rated GAD to 88% for the parent-rated social anxiety (Ivarsson et al., 2018).

Elsewhere in a large community sample of Chinese children, the SCARED was found to possess moderate to high internal consistency ( $\alpha = 0.43\text{--}0.89$ ) and test-retest reliability. This is where the intraclass correlation was 0.46 to 0.77 over two weeks and 0.24 to 0.67 over twelve weeks. The SCARED also had good discriminant validity between anxiety and non-anxiety disorders (Su, Kai, Fang, Yi, & Xueping, 2008).

In a similar vein, in a large community study in Saudi Arabia consisting of children and adolescents, the SCARED had moderate to high internal consistency and acceptable test-retest reliability over two weeks. The five-factor structure model of the SCARED also had a good model fit for the population in the study (Arab et al., 2016). Another study also found that the SCARED-R was reliable in terms of internal consistency, and it correlated significantly with the FSSC-R. It also distinguished well between anxiety disorders and disruptive disorders (Muris & Steerneman, 2010).

Muris et al. (2006), in a sample of South African youths, also found that the psychometric properties of the SCARED were satisfactory and acceptable in colored, black children and adolescents. It was found that the colored and black youths displayed higher SCARED scores than white youths. Ndetei et al. (2008c) also compared a number of instruments' efficacy in eliciting anxiety syndromes among Kenyan youths in public secondary schools. It was found that the instruments and the cut-off points for the various syndromes influenced the prevalence rates of ADs.

The instruments for anxiety were the Multidimensional Anxiety Scale for Children, which recorded 12.9%, the Ndeti-Othieno-Kathuku scale for depression and anxiety, which recorded 49.3% for moderate to severe anxiety, and the SCARED-R, which yielded high levels (50–100%) for the different syndromes with separation anxiety and school phobia at 100%. The study, therefore, proffered the SCARED as a sufficient tool for screening anxiety disorders among Kenyan youths.

Researchers, however, caution that prudence must be applied when interpreting the scores because an elevated score does not necessarily mean that the respondent has the disorder (Ivarsson et al., 2018; Rappaport, Pagliaccio, Pine, Klein, & Jarcho, 2017). It is more so imperative for researchers in non-clinical settings to be cautious (Rappaport et al., 2017) by utilizing multiple informants such as other tests and interview-based diagnoses (Ivarsson et al., 2018). To this end, therefore, and in line with what other studies have utilized, the FSSC-R was used in this study alongside the SCARED for assessment purposes.

### 3.7.2 Fear Survey Schedule for Children and Adolescents (FSSC-R)

Thomas Ollendick developed the FSSC-R in 1983, and it is a revision of Scherer and Nakamura's 1968 original fear survey schedule for children (Herbert, 2006). The FSSC-R contains 80 items, each rated on ordinal scales as 'none', 'some', or 'a lot'; hence one can assess the intensity of the fears. Children's fears have been correlated with anxiety disorders in a number of studies. Even though a majority of cases of children's fears are part of their normal development, research has shown that there are few cases where children's fears have met the criteria for an AD, including either a specific phobia, GAD, or SEP (Muris et al. as cited in Fisher, Schaefer, Watkins, Worrell, & Hall, 2006). The FSSC-R is intended to measure the construct of fear in children and adolescents (Ollendick, 1983). This is because part of

understanding normal and abnormal fears in children and adolescents is knowing how they acquire fears and how fears change across development (Fisher et al., 2006).

Ollendick (1983) designed the FSSC-R as an ipsative instrument to identify specific fear sensitivities in individual children and adolescents, as a normative instrument for selecting fearful children and adolescents for prevention and treatment trials, and as a pre-treatment and post-treatment measure in therapy outcome studies with youths. Therefore, the FSSC-R is useful in measuring specific feared situations or objects that lead to avoidance behaviors in youths with specific phobias and social phobias.

Scoring of the FSSC-R is done in various ways, including getting the total fearfulness scores, comparing the intensity of the fears across various social demographic factors, determining the prevalence of specific fears, and categorizing the fears into subscales on the content. Studies have demonstrated that the total fearfulness scores correlate with scores for the prevalence of ADs (Shore & Rapport, 1998). A consensus on determining the prevalence rates is yet to be reached, though some researchers, such as Acharya et al. (2016) and Ingman, Ollendick, and Akande (1999), have determined prevalence rates based on at least one question scored “A lot”, which yields high prevalence rates of the fears.

Concerning classifications of the fears based on the content, researchers have used a variety of categorizations based mainly on exploratory factor analysis. These classifications are found to differ based on the ethno culture of the sample to which the FSSC-R is administered. Ollendick (1983), for example, suggested a five-factor scale while using American samples. The scale has the following subscales, fear of minor injury and small animals, medical fear, fear of the unknown, fear of danger and death, and fear of failure and criticism (Herbert, 2006).

Fear of the unknown scale has questions such as the 'fear dark places', and the 'fear of ghosts or spooky things'. The fear of minor injury and small animals scale has questions such as the 'fear of snakes', or the 'fear of getting a cut or injury'. The fear of danger and death scale constitutes questions such as the fear of 'being hit by a car or truck', and the fear of 'not being able to breathe'. The medical fear scale has four questions related to the 'fear of doctors' or the 'fear of visiting hospitals'. Finally, the fear of failure and criticism scale constitutes questions regarding social anxiety, such as the fear of 'making mistakes' and the fear of 'being teased'.

According to Fisher et al.'s (2006) review of several studies, researchers from different countries who have used the five-factor scale have made various modifications to the Ollendick's (1983) scale by either rearranging the order of the scales or excluding questions deemed irrelevant for the sample, based on the language, environment, and customs of the respondents. There are, however, other researchers, such as Shore and Rapport (1998), who have deviated from the five-factor scale and adopted a seven-factor scale. The latter, in an ethno culturally diverse sample of 385 Hawaii school children aged 7 to 16 years, suggested that a seven-factor solution provided the best conceptual fit for the data. The seventh factor reflecting children's social conformity fears was similar to the Ollendick subscale of fear of criticism and failure, but it was split into three different factors that represented different aspects of social anxiety. These were anticipatory social anxiety, aversive social fears, and social conformity fears.

Muris and Ollendick (as cited in Fisher et al., 2006), however, pointed out that if researchers or clinicians were interested in the various aspects of a child's social fears and anxiety, a measure designed specifically to measure that construct would be more appropriate. Thus, a five-factor solution was a more parsimonious way to

identify fear sensitivities in children. In addition, they suggested that the five-factor solution was more comparable to the results of previous studies and, therefore, better suited to conducting cross-cultural research.

Concerning the items in the FSSC-R that do not seem to fit into any of the prescribed subscales, Fisher et al. (2006) examined the suitability of the American version of FSSC-R on a sample of children in Trinidad. It was found that 15 items in the FSSC-R American version did not load onto any factor in the Trinidadian model. Some of these questions were 'roller coaster or carnival rides', 'having to talk in front of my class', 'violence on television', 'being sent to the principal', and 'getting lost in a crowd'.

According to Geisinger (as cited in Fisher et al., 2006), there is a problem of both linguistic and functional equivalence in the FSSC-R. Linguistic equivalence refers to whether the language used on a test is equivalent in each context within which it is used. Functional equivalence, on the other hand, refers to whether the domain of behaviors sampled on a test has the same purpose and meaning in different cultures. This is such that the items may be encountered differently by people within the two different cultural contexts, that is, they may experience different frequencies of either direct or indirect exposure to the items.

Despite these shortcomings, Ollendick's (1983) review of several studies held that the factor structure of FSSC-R has been related meaningfully to different types of clinical phobia, including animal phobias, natural environment/situational phobias, social phobias, and injection/illness phobias. Specific fear items have also been associated with specific ADs, such as SEP and heightened levels of trait anxiety. To this end, Ollendick recommended FSSC-R for youth displaying specific phobias and social phobias as it could elicit the specific feared stimuli in these disorders.

Ollendick, however, cautioned that in efficacy studies using FSSC-R, having a control group was critical due to the decrease in sub-scale and total scores that have been observed with age and across longer time intervals. For this reason, a control group would help in asserting differential reductions in fear level, pre and post-treatment.

Cross-cultural similarities in the FSSC-R factor structure have also been reported with American and Australian youth. Eight of the ten most common fears were the same across the countries. The age and gender differences data were also similar, where females and younger respondents reported higher levels of fear (Burnham & Gullone, 1997). Age-related decreases in fears are hypothesized to reflect children's cognitive development, whereas gender differences have been attributed to socialization differences between males and females (Gullone & King, 1992).

Not all the scales, however, reflect age and gender differences. In Shore and Rapport's (1998) study, age and gender differences were not found for anticipatory social anxiety, social conformity fears, and fears concerning aversive social situations. The top 10 fears common to girls and boys with minimal differences in rank order were in the 'fear of danger and death' subscale. The scale consisted of items such as; "being killed or murdered," "family member dying," "myself dying," "being kidnapped," "being hit by a car or truck," "not being able to breathe," and "falling from high places." The remaining items endorsed by girls were "being raped" and "a burglar breaking into our house," whereas boys endorsed "nuclear war" and "bombing attacks or being invaded."

Warren, Ollendick, and Simmers (2008) also tested the psychometric properties of the FSSC-R for two normal samples and one clinical sample of children with school phobia. The FSSC-R was found to be internally consistent, with the test-

retest reliability being high and the stability over time was acceptable. Furthermore, it adequately discriminated between normal and clinical samples and had satisfactory convergent and discriminant validity and a meaningful factor structure. Given that excessive fearfulness during childhood may place children at risk of developing ADs in adolescence, as reviewed by Shore and Rapport (1998), the current study utilized both the SCARED and the FSSC-R to provide estimates of convergent and divergent validity.

### 3.7.3 The Strengths and Difficulties Questionnaire (SDQ)

The SDQ is a brief self-report questionnaire comprising 25 items. It has five equal subscales: conduct problems, hyperactivity, emotional symptoms, peer relationships, and prosocial behavior. There is also an additional ‘impact supplement’, which assesses the informant’s perception of the child’s difficulties. Each item is given an ordinal score ranging from 0 to 2, resulting in scores ranging from 0 to 10 for each subscale, and a total difficulties score ranging from 0 to 40, obtained as the sum of the first four subscales (Goodman, 2001). Depending on the total marks for each subscale, labels are assigned, which are “Normal”, “Borderline” or “Abnormal”, representing the severity of the particular subscale for the respondent.

The SDQ exists in both parent and teacher versions for children aged 4-10 years, while for the 11 to 17-year-olds, only a self-report version is available. The reliability and validity of the SDQ teacher version are deemed acceptable with a high internal consistency with Cronbach’s alpha coefficients ranging from .70 (Peer Problems) to .88 (Hyperactivity/Inattention) (Goodman, 2001).

Henefer and Rodgers (2013) found that the teacher version of the tool was useful for assessing emotional, social, behavioral, and attention deficit hyperactivity difficulties at pretest. However, at post-test, the teacher version was not reliable since

the teacher post-test results differed greatly from the children's post-test self-reports. In the teachers' reports, no significant differences were found at pretest and posttest. The children's self-ratings, however, indicated significant reductions in each of the previously experienced difficulties.

In this study, therefore, the SDQ teacher version was used at baseline for the 8-10-year-olds, while the SCARED was only used at both midline and end line to assess for symptom alleviation. The SDQ was deemed crucial for this study due to its ability to assess for the different domains, which may aid in the inclusion-exclusion selection criteria for the treatment group.

#### 3.7.4 Child Social Demographic Questionnaire

This was a researcher-generated questionnaire that enquired on the child's social demographic characteristics such as type of family, family size in terms of the number of siblings, and types of abuses experienced by respondents.

#### 3.8 Data Collection Procedures

Prior to the study commencement, two research assistants with at least a master's level degree in counseling psychology were recruited and trained on the use of the data collection tools. The training focused on familiarizing the research assistants with the data collection procedures and the treatment administration. After obtaining all the necessary requirements from both the Ministry of Education and the school authorities to conduct the study, the researcher paid a visit to each of the two headteachers and requested them to distribute letters of parental informed consent to children aged 8-16 years. It was important for the parents to read and understand the purposes and procedures of the research and thereafter allow their children to take part in the research process.

The researcher provided her phone number in the parental informed consent so that parents could contact her if they had any questions or suggestions. Any questions raised were addressed, and the parents who agreed to have their children participate in the research signed the informed consent forms and sent the children to return the forms to the guidance and counseling teacher, who handed the forms to the researcher. The children whose parents signed the informed consent forms were also required to sign the minor assent to therapy forms. The class teachers assisted in excluding all those who could not read or write in English.

Those selected to continue were divided into two groups according to their classes (class 4 and class 8), and the SCARED, FSSC-R, and SDQ questionnaires were administered to them. Each group had a research assistant in charge who explained all the questions and emphasized the need for the children to respond to all the questions truthfully. The subjects were allowed as much time as they needed to ensure that they had answered all the questions. It took the children approximately 30 minutes to complete the SCARED, while FSSC-R took about 45 minutes. The children were then given a 15 minutes break, after which the SDQ was administered. It took the children about 30 minutes to complete the SDQ.

The research assistants then collected all the questionnaires and handed them over to the researcher for safekeeping and analysis. The children and class teachers were also thanked for their cooperation and were reminded that the research was still ongoing and that their cooperation would be required in the future.

After the initial analysis of the questionnaires, all those who had scored less than 25 in the SCARED were excluded from proceeding in the study. The next selection criterion was based upon the S& DQ questionnaire such that three or more subscales scored as 'Abnormal' meant exclusion. The remaining sample was

subjected to simple random sampling to select the intervention group and control group of 56 children, 28 from each school. These 28 children for the treatment administration were divided according to their classes (class 8 and class 4). There were eight participants from class 4 and twenty from class 8.

The class 4 participants were assigned to one group, while the class 8 participants were divided into two groups using simple random sampling where each group had 10 participants. Each of the three groups had a mixed-gender format, and a therapist was assigned through simple random sampling to each group. According to Cherry (2018), group therapy sessions often involve around seven to twelve or slightly more participants; hence having 8 or 10 participants per group was sufficient. The therapists explained to the participants that each group would meet once a week for an hour for twelve consecutive weeks and emphasized the need to attend all the sessions.

To commence the treatment, the CSDQ was administered to each of the 56 children. The treatment comprised 12 sessions, structured according to the CBT protocols of psychoeducation, somatic management, exposure, cognitive restructuring, relapse prevention, and termination. Into each of the 12 sessions, appropriate play activities adapted from Lowenstein (2011) and others suggested by Davis and Mellenthin (2020) were incorporated (See Appendix M).

The first two sessions were on psychoeducation, where session one dwelt on rapport building and establishing group rules and norms. In session 2, the children were psycho-educated on the relationship between their thoughts, feelings, and behaviors, the mood thermometer, and thoughts. The moods records were introduced. Session 3 and 4 were on somatic management, where the children were coached on

how to recognize and manage their fears by incorporating breathing and relaxation techniques.

The subsequent two sessions focused on cognitive restructuring, where children were taught about cognitive distortions, negative and positive thoughts, and how to restructure their thoughts. Thereafter, a midline assessment using the SCARED (child version) was administered in both schools, and the results were analyzed. Session 7 then followed, which involved exposing the children to their worst fears through visualization.

Appropriate relaxation techniques were incorporated to help dissipate the fears. Relapse prevention and preparation for termination commenced from session 8 and proceeded up to session 11. These sessions focused on teaching helpful coping skills, which included anger management, assertiveness, social skills, and boosting self-esteem. Session 12 was the termination where children reflected on the lessons learned as well as moving forward. This was followed by the administration of the SCARED to both the experimental and the control group.

### 3.8.1 Inclusion Exclusion Criteria

One of the inclusion-exclusion criterion was the age, such that only those aged between 8 to 16 years were selected for the study. Research posits that at eight years, children experience a growth spurt, physically, emotionally, and mentally, showing great gains in their cognitive development (Morin, 2019). Unfortunately, it is also at this stage that children are most prone to developmental and behavioral disorders, child maltreatment, asthma, and other chronic conditions among other non-fatal physical ailments, which may affect their cognitive development (Office of Disease Prevention and Health Promotion, 2019).

Hence, it is possible that even though the study questionnaires are deemed appropriate for the age group 8-16 years, there are children who may not comprehend the questions written in the English language. Such failures to learn to read adequately in English are also opined to be more pronounced among non-native speakers of English from low SES, according to the National Research Council (1998), such as the current study site. Therefore, all the children with challenges in either reading or writing in English were excluded from the study.

Middle childhood is also marked by developmental milestones, such as being unable to focus on a task for an hour or more and not understanding more about their place in the world. It is also at this stage when their thinking begins to be affected by their emotions (Morin, 2019). Since CBPT therapy requires concentration; play activities; and working at sometimes difficult, emotional, and thought processes, it was crucial to ensure that the children adhered to the treatment protocols. Hence, the children with severe mood, conduct, and behavioral comorbidities were excluded from the research process. Having the parents agree to sign the informed consent forms and the children the minor consent forms was an additional criterion for inclusion and exclusion to the study. Hence, only those children whose both forms had been signed took part in the study.

### 3.9 Pretesting

A pretest study aims at identifying unanticipated problems in the questionnaires, such as vague inclusion or exclusion criteria or misinterpretations of items (Viechtbauer et al., 2015). Pretesting, thus, identifies the questions that are ambiguous to the participants or problems with the questionnaire likely to generate prejudiced answers. Thus, a group of 5-10 people from the target group is sufficient to pretest questionnaires (Bullen, 2014).

In this study, a pretest study was carried out among ten children (8-16 years) from Kivuli Center, attending Riruta Satellite primary school in Dagoretti South Constituency in Nairobi County. The school was chosen because of its homogeneity to the study site in terms of SES. It is a government-sponsored primary day school, located 2 kilometers from Kawangware Market, and with a mixed population of male and female children. The goal of the pretest study was to find out the suitability of the data collection tools. The questionnaire was administered to five children chosen at random, and the data collected ascertained the suitability of the tools in assessing the prevalence rates of the disorders and the fears.

Results from the pretest established that respondents understood the questions in the SCARED questionnaire. However, the younger respondents needed someone to explain to them some of the questions, and this took some time. Hence the SCARED was scored in 30 minutes. The total scores could be used to determine the presence of ADs, and the individual scales could as well determine the presence of the specific ADs. The FSSC-R had 80 questions, and scoring it took 40 minutes. While the younger children (8-11 years) needed someone to clarify to them most of the questions, the older children (12-16 years) only needed a few clarifications.

The SDQ took about 20 minutes, as most of the respondents understood the questions. The CSDQ was also well-understood and needed little explanation. However, the section enquiring on child labor was found irrelevant as it was not easy to establish whether the kind of work the children did after school qualified for the normal domestic chores or it was a form of child labor. Thus, this part of the questionnaire was struck out as it was deemed irrelevant to the current study. The rest of the questions were retained as through them, the study was able to obtain the required information. For those children diagnosed with ADs in this school, the

guardians were informed and provided with a list of qualified child therapists and referral centers where the children could be taken for treatment.

### 3.9.1 Validity and Reliability of the Study Questionnaires

The FSSC-R has 80 questions, and in this study, the questions were classified into five scales based on item content. These scales were the Fear of Criticism, Failure and Punishment (FC), the Fear of Death and Danger (DD), the Fear of the Unknown (U), the Fear of Animals (A), and Medical and School-related fears (M&S). This kind of classification established the face validity of the scales since all the items that seemed to be related were grouped into specific scales. Face validity is established when the researcher reviewing the questionnaire concludes that it measures the characteristic or trait of interest. This means that they evaluate whether each of the measuring items matches any given conceptual domain of the concept (Bolarinwa, 2015).

These five FSSCR scales were further tested for internal consistency reliability using the Cronbach's Alpha ( $\alpha$ ). The internal consistency reliability test measures whether several items that propose to measure the same general construct produce similar scores. Cronbach's Alpha is the most commonly used measure of internal consistency when a scale has multiple Likert questions. It assumes the questions are only measuring one variable or dimension; a concept known as unidimensionality (Glen, n.d.).

Even though the SCARED has standardized scales, it was also deemed necessary to ascertain the internal consistency reliability of the scales for this particular sample since the reliability of a tool can be affected by variations such as age, language, and the SES of the sample (Ursachi, Zait, & Horodnic, 2015). A generally accepted rule is that a Cronbach's Alpha of 0.6-0.7 indicates an acceptable

level of reliability, and 0.8 or greater is a very good level (Goforth, 2015). Hence, a reliability test was run for the FSSC-R and the SCARED, and the results are presented in Table 3.1.

*Table 3.1: Reliability of the FSSC-R and the SCARED Questionnaires*

	Scale	Number of items	Cronbach's Alpha
FSSC-R	Fear of Criticism, Failure, and Punishment (FC)	14	0.647
	Fear of Death and Danger (DD)	31	0.647
	Fear of Animals (A)	9	0.753
	Fear of the Unknown (U)	12	0.756
	Medical and school-related fears (M&S)	14	0.675
SCARED	Panic Disorder (PD)	13	0.762
	Social Anxiety Disorder (SAD)	7	0.668
	Separation Anxiety Disorder (SEP)	8	0.646
	Generalized Anxiety Disorder (GAD)	9	0.664
	Significant School Avoidance(SSA)	4	0.596≈0.6

Table 3.1 presents the reliability analysis for the FSSC-R and SCARED questionnaires. The Table shows that the Cronbach's Alpha in the FSSC-R scales was FC (0.647), DD (0.647), A (0.753), U (0.756), and M&S (0.675). Overall, these results suggested that the Cronbach Alpha in all the scales in the FSSC-R was acceptable at  $\alpha \geq 0.6$ . Hence, the items in each scale could assess for the specific types of fears. The table also shows that the Cronbach's Alpha in the SCARED scales was; PD (0.762), SAD (0.668), SEP (0.646), GAD (0.664), and SSA (0.596). These results also pointed to the Cronbach Alpha in all the scales in the SCARED being acceptable at  $\alpha \geq 0.6$ . Hence, the items in each scale could assess for the specific types of ADs.

Concurrent validity of the FSSC-R and the SCARED was also tested in order to determine if the fear scores in the FSSC-R were associated with the anxiety scores in the SCARED. Concurrent validity indicates the amount of agreement between two different assessments (Frey, 2018). Results for the correlation test are presented in Table 3.2.

*Table 3.2: Correlation Test for the Total Scores in SCARED and FSSC-R*

		SCARED scores	FSSC-R scores
SCARED scores	Pearson Correlation	1	.483*
	Sig. (2-tailed)		.000
	N	163	163
FSSC-R scores	Pearson Correlation	.483*	1
	Sig. (2-tailed)	.000	
	N	163	163

\*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.2 presents the correlation test between the total scores in the SCARED and the total scores in the FSSC-R. The results suggest a weak but positive correlation ( $r=0.483$ ;  $p=0.000$ ). This means that there was a statistically significant relationship between the FSSC-R scores and the SCARED scores. Hence, both instruments had concurrent validity and could be used to assess for symptomatology of anxiety disorders and fears. These results thus ascertained the reliability and validity of the FSSC-R and SCARED in collecting data on fears and ADs for the current study sample. In addition, since the SACRED and FSSC-R had concurrent validity, only the SCARED was used to collect data on symptom alleviation at midline and end line.

### 3.10 Data Analysis Plan

Data analysis constitutes ordering and organizing the raw data so that useful information can be highlighted. The raw data is thus, processed and worked on in order to derive meaning, leading to understanding information. This makes it easier to observe connections, derive explanations, and test hypotheses (Kabir, 2016).

To make sense of the data obtained through the questionnaires, a simple grid is prepared to collate the data. This is followed by designing a simple coding system, which is guided by the question-and-answer format. For closed questions, such as those in the current study, the process of coding is straightforward since the answers are ranked according to a numerical scale, which can be used as the code. The data is then entered onto the grid and the proportion of respondents answering for each

category of each question is calculated. In cases where quantitative analysis is required, care must be taken to construct a code to describe the missing data and the unanswered or ambiguous answers. An example is when some respondents select more than one category (The Economics Network, 2018).

In this study, quantitative methods were used for data analysis. In quantitative analysis, objectives are tested by examining the relationship among variables (Polit & Hunger, 2013). The first step is to identify the levels or scales of measurement as ratio, ordinal, nominal, or interval. Secondly, descriptive statistics involving means, median, mode, or frequencies and percentages are used to summarize or describe the data. The results are then presented as numbers, which gives meaning to the data. However, if inferences or predictions are required, then inferential statistics are employed. These allow for hypotheses testing and generalizing the results to a population. Some of the commonly used inferential statistics are correlations, regressions, and analysis of variance (ANOVA) (Centre for Innovation in Research and Teaching, n.d.). All analysis was done per age group (8-10 years, 11-13 years, and 14-16 years) and gender (male and female). Following is a discussion of how each of the objectives and hypotheses was analyzed.

#### Objective One: Establish the Prevalence of Anxiety Disorders in Primary School Children According to Age

To determine the prevalence of ADs, the total scores in the SCARED were tallied, and all those with scores of 25 and above were labeled, as 'Has AD' while those with scores less than 25 were labeled as 'Has no AD'. Descriptive statistics of frequencies, means, standard deviations, and percentages were used, and the results tabulated.

The SCARED questionnaire as well has five different scales: PD, GAD, SEP, SAD, and significant school avoidance (SSA). Each scale has a specified cut-off scale

to indicate the presence of a disorder. These cut-off scores were utilized to determine those with the disorders from those without. Total scores for each of these scales were tallied, and those having scores greater than or equal to the cutoff score were classified as having the specific disorder. Descriptive statistics of means, frequencies, percentages, and standard deviations were then used to determine prevalence rates for each of the disorders, and the results were tabulated.

The 80 questions in the FSSC-R were classified based on their content into five researcher-generated scales. The scales were partly adapted from Ollendick (1983), but there were modifications in some scales. In the fear of criticism scale, the name was changed to fear of criticism, failure, and punishment since it contained questions on fear of punishment by parents. In addition, all the questions enquiring on medical and school-related fears were categorized in a new scale called 'medical and school-related fears'. The fear of animals and minor injuries were split into two such that all fears regarding minor injuries were shifted to the death and danger scale, and there was an additional scale for fear of animals. The resulting five scales were thus; 'Fear of Criticism Failure and Punishment (FC)', 'Fear of the Unknown (U)', 'Medical fears & School related fears (M&S)', 'Animal fears (A)' and 'Fear of Death and Danger (DD)'. The total scores for all the fears were tallied, and the means for each of the scales were obtained. The fear intensities were obtained by dividing the overall mean for each scale by the total number of items in each scale.

Additionally, ANOVA was done to determine age and gender differences in the fear intensities. ANOVA uses the F-test to determine whether the between-group means' variability is larger than the within-group variability. If the ratio is statistically large, the conclusion is that the means are not equal, hence rejecting the null hypothesis (Minitab, 2016).

Objective Two: Assess the Gender Differences in Symptomatology of Anxiety Disorders and Fears among Children in the Selected Schools

Cross tabulations to give frequencies and percentages were used, and the ANOVA to determine any significant differences in the prevalence rates of the ADs, types of ADs, and the means of the types of fears in the FSSC-R scales.

Objective Three: Determine the Comorbid Conditions, Present among the Children Diagnosed with ADs in Primary School Children According to Gender

To assess homotypic comorbidity, the total number of ADs each respondent had were tallied, and frequencies, percentages, and means were used to tabulate results. The Chi-square test of difference was also used to compare gender differences in the mean number of comorbidities. In a chi-square test, a p-value less than or equal to a .05 significance level indicates that the observed values are different from the expected values (Frimodig, 2020). For the heterotypic comorbidity, the S&DQ items were assigned labels depending on the response as stated in the questionnaire: '0' for normal, '1' for borderline, and '2' for abnormal for the emotional, conduct, hyperactivity, and peer problems scales.

Frequencies and percentages were then obtained for each of the normal, borderline, and abnormal categories. All those scoring in the borderline and abnormal scales were categorized as having heterotypic comorbidity in the specific scales. Cross tabulations and chi-square were used to give frequencies and percentages and determine any significant gender differences in the comorbidities.

Objective Four: Investigate the Social Demographic Predictors for Homotypic Comorbidity among Those Diagnosed with ADs.

The social demographic predictors were classified as 'Family type' 'Number of siblings' and 'Type of abuse'. Type of abuse had three categories of sexual, physical, and verbal abuse. Family type was classified into single mother, single

father, 'father & mother' 'siblings only' and 'others'. The number of siblings ranging from zero to eight was categorized as 0-1, 2-3, and 4-8. Descriptive statistics of frequencies and percentages were obtained for each category. Gender comparisons were done using cross-tabulations to obtain frequencies and percentages.

Objective Five: Assess the Efficacy of CBPT in the Treatment of Anxiety Disorders  
According to Gender

Separate paired t-test for boys and girls in the intervention group were conducted to determine how each group fared from baseline to midline to end line. The paired samples t-test is a parametric test that compares measurements from the same individual to assess whether there is a statistical difference between the means. It is commonly used to test the difference between two-time points (Kent State University, 2021). An example in this study would be comparing the difference in means from baseline to mid line or midline to end line or baseline to end line. After that, the independent samples t-test was applied to assess if there were any significant gender differences between boys' and girls' scores at baseline, midline, and end line.

The independent t-test is applied when data is collected from two different and independent samples (such as male and female) where the sample size may be equal or unequal. The assumption is that the dependent variable (AD symptomatology) is normally distributed, and the standard deviation is the same for both samples (male and female) (Emelda, 2011). The test statistic is shown below (Statistical Tools for High-throughput Data Analysis, n.d.).

$$t = \frac{m_A - m_B}{\sqrt{\frac{S^2}{n_A} + \frac{S^2}{n_B}}}$$

Where;

$m_A$  is the mean symptomatology of ADs for females.

$m_B$  is the mean symptomatology of ADs for males.

$n_A$  is the number of females.

$n_B$  is the number of males.

$s^2$  is an estimator of the pooled variance of the males and females; calculated as follows;

$$s^2 = \frac{\sum (x - m_A)^2 + \sum (x - m_B)^2}{n_A + n_B - 2}$$

With degrees of freedom (df) being calculated as;  $df = n_A + n_B - 2$ .

The data was fed into the SPSS, and a 95% confidence interval was applied. The p-value obtained was used to interpret the results, where a p-value less than 0.05 implies that there is a statistically significant difference in the means of the two sample populations tested (males and females) (Perdue, 2017).

Hypothesis: CBPT is not efficacious for treating ADs among boys and girls aged 8-16 years.

The analysis involved comparing the treatment and control groups at baseline, midline, and end line using the paired t-test. Secondly, ANOVA was used to compare the results in the treatment and control groups at baseline, midline, and end line. The p-value was used to interpret the results where  $p \leq 0.05$  indicated that the differences were statistically significant, thus rejecting the null hypothesis that there were no gender differences.

### 3.11 Ethical Considerations

Permissions to conduct the research were obtained from the Daystar University Ethics Review Board (DU-ERB), the National Commission for Science, Technology and Innovation (NACOSTI), the Ministry of Education, Science and Technology, and the Sub-County Director of Education, Dagoretti Sub-County.

Permissions were also sought from the authorities of both schools, the parents, and the participants. The parents were required to sign the informed consent form for both psychological assessment and therapy, while participants in the treatment sample signed the minor consent forms for therapy. The informed consent provided necessary information and reassurances about taking part in the research to allow participants to understand what their involvement implied. This helped them make fully informed decisions concerning participation without feeling coerced. Participation in the study was also voluntary, such that participants were not obligated to remain in the study if they felt a need to withdraw.

Prior to signing the informed consent, the participants and their parents or guardians and teachers were given adequate information concerning the purpose of the research and all the foreseeable risks and discomforts anticipated. Adequate information on the procedures involved and the benefits of the research to society and possibly to the participants was also provided. Additionally, information on the duration of the research and contact information was provided. This was in case the participants had any questions or in the event of a grievance or any emergency during the research process.

Furthermore, the confidentiality and obscurity of the respondents were of paramount importance. The participants were assured of discretion in the entire process. The research assistants were also required to adhere to strict rules of confidentiality during the research period. They were not allowed to divulge any information the participants shared in the therapy sessions without their (participants) written permission. Moreover, in the questionnaire, codes were used in place of the participants' real names. This was done to enhance confidentiality.

There was no use of abusive, prejudiced, or undesirable language in both assessment and treatment procedures. Furthermore, the research took caution to acknowledge works by other authors using the APA referencing system to avoid cases of plagiarism. Besides, high levels of objectivity in the discussions and analyses were observed throughout the research process.

The participants' right to not be deceived concerning the purpose of the research was upheld while also ensuring that participants were not distressed because of the research. The research thus ensured that participants were protected from all forms of harm, be it physical or psychological, in order to provide safety and avoid embarrassment, fear, or intimidation.

To minimize harm, the researchers made sure that the children's participation was brief (one hour, once a week), as children tire easily and their attention span is limited (McLeod, 2015). There was also a debriefing post-study to address any arising concerns among the participants. The study results were disseminated through publications to enlighten stakeholders on the assessment and treatment of anxiety disorders.

### 3.12 Summary

This chapter has presented the study's research design, target population, and sampling techniques. In addition, the instruments used to collect data, the procedures adhered to in the data collection process, the pretesting of the research instruments, the validity and reliability measures, the plan used for data analysis, and the ethical aspects put into consideration have been described. Following in the next chapter is a presentation of the findings from the study, their analysis, and interpretations of the results.

## CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

### 4.1 Introduction

This chapter contains the presentation, analysis, and interpretation of the data collected. The frequency tables show the findings as derived from the responses by research participants to the various questions contained in the questionnaires. The findings were organized according to the themes and sub-themes derived from the objectives and hypothesis presented in chapter one.

The five research objectives set up in chapter one were as follows: establish the prevalence of anxiety disorders in primary school children according to age, assess the gender differences in symptomatology of ADs, determine the comorbid conditions present among the children diagnosed with ADs according to gender, investigate the social demographic predictors for homotypic comorbidity among the children diagnosed with ADs, and assess the gender differences in the effect of CBPT on anxiety disorders according to gender. The null hypothesis was that CBPT is not efficacious for the treatment of ADs among children.

The questionnaires were coded from T1 to T92, T representing the treatment group and C1 to C88, C representing the control group. There were 17 spoilt questionnaires with incomplete information, which were discarded, hence a response rate of 163 from the initial 180. The response rate of 163 (90.55%) was considered excellent, as per the guidelines and standards for survey research recommended in Babbie et al. (as cited in Klagge, 2019).

Presentation of findings utilizes tables and charts with respect to each of the objectives and the hypothesis of the study, and interpretation of the results

subsequently follows. The sample characteristics at baseline in terms of gender and age are presented first.

## 4.2 Analysis and Interpretation

### 4.2.1 Sample Characteristics at Baseline

The sample characteristics in terms of age and gender are as shown in Table 4.1.

*Table 4.1: Sample Characteristics at Baseline*

		Frequency	Percent
Intervention	Gender		
	Girls	47	52.2
	Boys	43	47.8
	Total	90	100.0
	Age in years		
	8-10	36	40.0
	11-13	26	28.9
14-16	28	31.1	
Total		90	100.0
Control	Gender		
	Girls	47	64.4
	Boys	26	35.6
	Total	73	100.0
	Age in years		
	8-10	7	9.6
	11-13	14	19.2
14-16	52	71.2	
Total		73	100.0
Total	Gender		
	Girls	94	57.7
	Boys	69	42.3
	Total	163	100.0
	Age in years		
	8-10	43	26.4
	Valid	40	24.5
14-16	80	49.1	
Total		163	100.0

Table 4.1 presents the sample characteristics in terms of gender, age, and sample type (control or intervention). There were 90 respondents (47 females and 43 males) from the intervention school and 73 (47 females and 26 males) from the control school. The total female respondents were 94 (57.7%), and the males were 69

(42.3%). The 8-10-year-olds were 43 (26.4%), the 11-13-year-olds 40 (24.54%) and the 14-16-year-olds were 80(49.1%).

All the age groups were thus, represented although the 14-16-year-olds were more than the 8-10-year-olds and the 11-13-year-olds. Females were also slightly more than the males. According to Grace-Martin (2020), unequally sized groups are common in research and may result from simple randomization, planned differences in the group size, or study dropouts. Glen (2015b) additionally posited that despite the fact that unequal sample sizes have the potential to introduce bias; the statistical package for social sciences (SPSS) software automatically uses both non-parametric and parametric post hoc tests in the analysis to adjust for the differences if the unequal sample sizes have equal variance. Hence, the validity of the test is not affected.

#### 4.2.2 Prevalence of the Different Types of Anxiety Disorders According to Age

The first objective sought to find out the prevalence of anxiety disorders among the selected sample from both schools according to age. The types of ADs and types of fears for each age group as well as for the entire sample were obtained.

##### Prevalence of ADs as Per the SCARED (Child) Questionnaire

Analysis of the SCARED involved tallying the total scores in order to get all those who had total scores  $\geq 25$ , which is the cutoff score for determining the presence of an AD. Secondly, the 41 questions in the SCARED were classified according to the standardized scales recommended by the developers of the questionnaire to determine types of ADS. These were PD, which has 13 items with a cut-off score of 7, GAD, 9 items with a cutoff score of 9, and SEP, which has 8 items with a cutoff score of 5. The last two scales are SAD, which has 7 items with a cutoff score of 8, and

significant school avoidance (SSA) which has 4 items with a cutoff score of 3. Results for those who met the criteria for diagnosis of the different ADs are presented in Table 4.2.

*Table 4.2: Prevalence of the Different Types of Anxiety Disorders*

Age group	Scale and cut-off score	Total sample	Has AD (N)	%	Mean M	Standard Deviation (S.D)
8-16	Total (25)	163	129	79.1	33.67	12.87
	SAD (8)	163	83	50.9	7.45	3.22
	PD(7)	163	118	72.4	10.06	4.92
	GAD(9)	163	58	35.6	6.96	3.51
	SEP(5)	163	128	78.5	7.36	3.48
	SSA(3)	163	48	29.4	1.85	1.81
8-10	SAD (8)	43	27	62.8	7.83	3.59
	PD(7)	43	35	81.4	11.34	5.52
	GAD(9)	43	19	44.2	7.58	3.72
	SEP(5)	43	36	83.7	8.33	3.48
	SSA(3)	43	17	39.5	2.37	1.79
	Total (25)	43	36	83.7	37.47	14.49
11-13	SAD (8)	40	24	60.0	8.28	2.72
	PD(7)	40	29	72.5	10.43	4.47
	GAD(9)	40	17	42.5	7.68	3.35
	SEP(5)	40	29	72.5	7.35	3.91
	SSA(3)	40	16	40.0	2.08	2.04
	Total (25)	40	35	87.5	35.80	11.85
14-16	SAD (8)	80	32	40.0	6.84	3.15
	PD(7)	80	54	67.5	9.18	4.68
	GAD(9)	80	22	27.5	6.28	3.39
	SEP(5)	80	63	78.8	6.84	3.17
	SSA(3)	80	15	18.8	1.45	1.62
	Total (25)	80	58	72.5	30.58	11.78

*Mean range for total anxiety scores 0-82; cut-off score  $\geq 25$*

Table 4.2 presents the descriptive statistics for the overall prevalence of anxiety disorders and the various types of ADs in terms of frequencies, percentages, means, and standard deviations according to the respondents' age groups, which were 8-10, 11-13, and 14-16 years. The overall prevalence for the ADs (total scores  $\geq 25$ ) was  $n=129$ , 79.1%,  $M=33.67$ ,  $S.D = 12.87$ .

The prevalence for the different types of ADs were also obtained at PD (72.4%;  $M=10.06$ ), SAD (50.9%;  $M = 7.45$ ), GAD (35.6%;  $M = 6.96$ ), SEP (78.5%;

M = 7.36) and SSA (29.4%; M = 1.85). Thus, SEP had the highest prevalence, followed by PD, then SAD, GAD, and SSA.

Age comparisons were also made where the means for the 8-10-year-olds were highest (M = 37.47), followed by the 11-13-year-olds (M = 35.80), and the 14-16-year-olds had the least means (M = 30.58). However, the prevalence rates for the 11-13-year-olds were the highest (87.5%), followed by the 8-10-year-olds (83.7%) and then the 14-16-year-olds (72.5%). Overall, all the age groups showed mean scores indicative of PD ( $\geq 7$ ) and SEP ( $\geq 5$ ). Only the 11-13-year-olds attained the cutoff score for SAD ( $\geq 8$ ), although the 8-10-year-old scores were almost at the threshold. None of the age groups attained the cutoff score for either GAD or SSA.

Overall, the results indicate that SEP, PD, and SAD were highly prevalent at 78.5%, 72.4%, and 50.9%, respectively, and both GAD and SSA had lower prevalence rates at 35.6% and 29.4%, respectively. Age comparisons of the means for the total scores revealed that ADs were more severe among the 8-10-year-olds, and the severity decreased at the age group 11-13 and further decreased among the 14-16-year-olds.

The prevalence rates show that more of the 11-13-year-olds had ADs compared to the 8-10-year-olds, probably indicating the development of some ADs from 11 years. The percentage, however, reduced to 72.5% among the 14-16-year-olds, suggesting that some ADs dissipate with an increase in age. Also, at the age group 11-13, the means for SAD and GAD peaked, suggesting the development of these ADs at the 11-13 age group. None of the age groups, however, met the criteria for GAD or SSA in terms of means.

### Assessment of the Fear Evoking Stimuli

The FSSC-R questionnaire was used to assess the prevalence and intensities of fears among the research participants. For purposes of assessment, the types of fears were classified into five subscales, namely the Fear of Failure, Criticism, and Punishment (FC), Fear of the Unknown (U), Fear of Death and Danger (DD), Medical and School-related fears (M & S), and the Fear of Animals (A). The overall means for each of the scales and corresponding fear intensities were obtained, and results are presented in Table 4.3.

*Table 4.3: Means for Different Types of Fears per Age*

Age Group	Scales	N	Mean	Std. Deviation	Fear Intensity
8-10 years	Total scores	43	81.40	25.00	
	DD	43	35.67	11.05	0.58
	FC	43	13.72	4.96	0.49
	U	43	13.19	4.43	0.55
	A	43	7.95	3.69	0.44
	M&S	43	10.86	4.83	0.39
11-13 years	Total scores	40	74.33	25.96	
	DD	40	33.03	11.67	0.53
	FC	40	12.90	5.13	0.46
	U	40	10.93	4.82	0.46
	A	40	7.08	4.39	0.39
	M&S	40	10.95	4.28	0.39
14-16 years	Total scores	80	72.73	26.01	
	DD	80	32.00	13.14	0.52
	FC	80	12.21	4.47	0.44
	U	80	10.54	4.88	0.44
	A	80	6.73	4.30	0.37
	M&S	80	11.25	4.72	0.40
8-16 years	Total scores	163	75.40	25.84	
	DD	163	33.22	12.29	0.54
	FC	163	12.78	4.78	0.46
	U	163	11.33	4.85	0.47
	A	161	11.07	4.60	0.40
	M&S	163	7.14	4.18	0.40

*Mean range for total fear scores (0-160) and Fear intensity range (0-1)*

The results in Table 4.3 presents the means, standard deviations, and fear intensities for the total scores for the five scales as per the age groups 8-10, 11-13, and 14-16. The means for the total fear scores were highest among the 8-10-year-olds (M= 81.67), followed by the 11-13-year-olds (M= 74.33), and the 14-16-year-olds had the

least means ( $M= 72.73$ ). The fear intensities for the different scales (FC, DD, U, and A) followed a similar trend where fears were more intense for the 8-10-year-olds. However, in the M&S scale, there was a different trend since the 14-16-year-olds had the highest fear intensities (0.40).

Overall, the most intense fears among the study sample were fears regarding Death and Danger (0.54), followed by Fear of the Unknown (0.47), then Fear of Criticism, Failure and Punishment (0.46), and finally the Fear of Animals and Medical and school-related fears where the fear intensity was 0.40 for each. These results suggest that younger children have more intense fears than older children do, such that there is a negative relationship between children's fears and age. The exceptions, however, were the 14-16-year-olds who self-reported intense fears in the Medical and School-related fears. These 14-16-year-olds were in class eight and just about to sit for their end of primary school national exams. This may explain the heightened fear levels in the M&S scale for this age group. It also seems that the most intense fears for the entire sample are fears related to Death and Danger, followed by the Fear of the Unknown, then Fear of criticism, Failure and Punishment, Animal fears, and Medical and School-related fears.

#### 4.2.3 Gender Differences in Symptomatology

The second objective aimed at assessing the gender differences in symptomatology of the ADs. Male and female prevalence rates for the different ADs and the total scores are presented in Table 4.4.

Table 4.4: Prevalence of Anxiety Disorders per Gender

		Frequency	Percent	Mean	Standard deviation	F	Sig.
Total ADs	Girls	80	85.1	36.13	12.46	8.44	0.004
	Boys	49	71.0	30.33	12.74		
SAD	Girls	37	53.6	7.76	3.28	1.96	0.164
	Boys	31	44.9	7.04	3.11		
PD	Girls	72	76.6	10.93	4.98	7.20	0.008
	Boys	46	66.7	8.87	4.62		
GAD	Girls	36	38.3	7.45	3.43	4.30	0.040
	Boys	22	31.9	6.30	3.55		
SEP	Girls	77	81.9	8.05	3.55	9.39	0.003
	Boys	51	73.9	6.41	3.16		
SSA	Girls	31	33.0	1.95	1.95	0.68	0.411
	Boys	17	24.6	1.71	1.61		

Table 4.4 presents the descriptive statistics for gender differences in the symptomatology of anxiety disorders. The prevalence for ADs among girls were 85.1%, 71.0% for the boys, and the gender differences in the means were statistically significant ( $M_{females} = 36.13$ ;  $M_{males} = 30.33$ ,  $p = 0.004$ ). In all the disorders, girls had higher prevalence rates than the boys as shown in the percentages for girls and boys respectively SEP (81.9%, 73.9%), PD (76.6%, 66.7%), GAD (38.3%, 31.9%), SAD (53.6%, 44.9%) SSA (33.0%, 24.6%) and the gender differences in the means were statistically significant ( $p \leq 0.05$ ) apart from SAD ( $M_{females} = 7.76$ ;  $M_{males} = 7.04$ ,  $p = 0.164$ ) and SSA ( $M_{females} = 1.95$ ;  $M_{males} = 1.71$ ,  $p = 0.411$ ).

The statistically significant gender differences in the means of the overall anxiety scores ( $p = 0.004$ ), SEP ( $p = 0.003$ ), PD ( $p = 0.008$ ), and GAD ( $p = 0.040$ ) pointed to the girls having more severe symptoms in these scales and the overall ADs. However, the gender differences in the means for SAD and SSA were not statistically significant, indicating that boys and girls experienced these disorders at similar intensities.

## Gender Differences in Types of Fears in FSSC-R

Cross tabulations to obtain means for boys and girls in the five fear scales were also done, and the results are presented in Table 4.5.

*Table 4.5: Gender Differences in the Fears*

		N	Mean	Std. Deviation	95% Confidence Interval for Mean		F	Sig.
					Lower Bound	Upper Bound		
FC	Girls	94	13.30	4.53	12.37	14.23	2.644	.106
	Boys	69	12.07	5.05	10.86	13.29		
	Total	163	12.78	4.78	12.04	13.52		
DD	Girls	94	34.50	12.90	31.86	37.14	2.427	.121
	Boys	69	31.48	11.26	28.77	34.18		
	Total	163	33.22	12.29	31.32	35.12		
A	Girls	94	8.14	4.32	7.25	9.02	13.802	.000
	Boys	69	5.77	3.58	4.91	6.63		
	Total	163	7.14	4.18	6.49	7.78		
U	Girls	94	12.55	4.65	11.60	13.51	15.319	.000
	Boys	69	9.67	4.65	8.55	10.78		
	Total	163	11.33	4.85	10.58	12.08		
M&S	Girls	93	11.65	4.73	10.67	12.62	3.445	0.065
	Boys	68	10.29	4.33	9.25	11.34		
	Total	161	11.07	4.60	10.36	11.79		
Total Scores	Girls	94	80.01	26.11	74.66	85.36	7.333	0.008
	Boys	69	69.13	24.27	63.30	74.96		
	Total	163	75.40	25.84	71.41	79.40		

Table 4.5 represents gender differences in the means of the five fear scales. As seen from the results (Table 4.5), the girls had higher means compared to the boys in all the scales. The gender differences were statistically significant in the total scores, the Animal and Fear of Unknown scales ( $p \leq 0.05$ ) but not in the FC, M&S, and DD scales ( $p > 0.05$ ). The results, therefore, indicated that gender differences in total fearfulness, the 'fear of unknown' and 'fear of animals' were statistically significant such that girls had more intense fears than the boys did. Moreover, even though girls showed more fearfulness in the FC, DD, and M&S scales, the gender differences were

not statistically significant such that these fears were equally experienced by both genders.

#### Gender Differences in Endorsement of ‘Most Intense Fears’

The gender differences in endorsement of the most intense fears were sought by elucidating the fears items with the highest number of “A lot” scores. The top ten intense fears within each gender are presented in Table 4.6.

*Table 4.6: Top Ten Intense Fears for Girls and Boys*

Girls		Boys	
Question	Frequency	Question	Frequency
Terrorists	67 (72.8%)	Being hit by a car or truck	47(69.1%)
Being hit by a car or truck	66 (71.7%)	Not being able to breathe	46(67.6%)
Fire – getting burned	64 (69.6%)	Bombing attacks – being invaded	44(64.7%)
Falling from high places	63 (68.5%)	Falling from high places	43(63.2%)
A burglar breaking into our house	62(67.4%)	Earthquakes	40(58.8%)
Not being able to breathe	59 (64.1%)	Terrorists	40 (58.8%)
Snakes	59 (64.1%)	Deep water or the ocean	39 (57.4%)
Nightmares.	59 (64.1%)	Guns	39 (57.4%)
Guns	58(63.0%)	A burglar breaking into our house	37 (54.4%)
Bombing attacks - being invaded	58 (63.0%)	Getting punished by my father	37 (54.4%)

The findings (Table 4.6) show the top ten intense fears (scored “A lot”) per gender. The fear item endorsed as most intense by most girls was the fear of “Terrorists” (72.8%), and for boys, it was “being hit by a car or truck” (69.1%). More girls than boys expressed intense fears, based on the percentages ranging from 63% (least fear) to 72.8% (topmost fear) for the girls and 54.4% (least fear) to 69.1% (topmost fear) for the boys.

There were also gender differences where some fears were reported by one gender and not the other. Girls reported fears in “fire-getting burned”, “snakes” and “nightmares”. The boys reported fears of “earthquakes”, “deep water or the ocean”, and “getting punished by my father.” The results thus indicate some commonalities

and some gender differences in the fear-evoking stimuli, which could point to gender socialization processes.

#### 4.2.4 Comorbid Conditions Present among Those Diagnosed with ADs

The third objective sought to find out the comorbidities. First, there was homotypic comorbidity (comorbidities with other ADs) such that there were those with two or more ADs as assessed using the SCARED questionnaire. Secondly, there was heterotypic comorbidity (comorbidities with emotional problems, conduct problems, hyperactivity problems, and peer problems), as assessed in the SDQ.

#### Homotypic Comorbidity per Age and Gender

The comorbidities, with other ADs per age and gender as well as the mean number of comorbid ADs per respondent, are presented in Table 4.7.

*Table 4.7: Homotypic Comorbidity per Age and Gender*

		Count	Mean no. of ADs	Pearson Chi- square	df	p-value
Age	8-10	35(26.7%)	3.57	3.13	2	.209
	11-13	36(27.5%)	3.25			
	14-16	60(45.8%)	2.98			
Gender	Girls	78(59.5%)	3.25	1.68	1	.194
	Boys	53(40.5%)	3.17			
Total		131(80.4%)	3.22			

Table 4.7 presents the mean number of comorbidities, frequencies, and percentages of respondents who had comorbid ADs and the Pearson chi-square test of difference in the mean number of comorbidities per age and gender. The results (Table 4.7) show that overall comorbidity with other ADs was 80.4% (n=131) and among those with comorbidities, 26.7% (n=35) were 8-10-year-olds, 27.5% (n=36) were 11-13-year-olds and 45.8% (n=60) were 14-16-year-olds. The age differences in the mean number of comorbidities were, however, not statistically significant (p=0.209). The mean number of comorbidities for the entire sample was 3.22, while the

mean number of ADs per age group was 3.57, 3.25, and 2.98 for the age groups 8-10, 11-13, and 14-16 years, respectively.

Overall, the results suggested that homotypic comorbidity was quite high with most respondents having more than three ADs. Concerning age, the number of participants with homotypic comorbidity increased with an increase in age, suggesting the development of new ADs among 11-13-year-olds and 14-16-year-olds. However, the number of comorbid ADs decreased among the 11-13-year-olds and further decreased among the 14-16-year-olds. This suggested that an increase in age moderated some of the anxiety disorders experienced in childhood. However, given the higher percentages among the older children, it is clear that new ADs develop as age progresses, findings that are consistent with existing research.

Concerning gender, 59.5% (n=78) of the sample with comorbidities were girls whereas 40.5% (n= 53) were boys. The girls also had slightly higher means for the number of ADs at 3.25, as compared to the boys' mean of 3.17, but the gender differences were not statistically significant ( $p= 0.194$ ). These findings show that gender had no association with homotypic comorbidity.

#### Heterotypic per Gender

The second type of comorbidities assessed were those with emotional problems, conduct problems, hyperactivity problems, and peer problems as per the SDQ. From the 129 questionnaires of those who had ADs, 66 SDQ questionnaires were analyzed, and the rest of the SDQ questionnaires had incomplete information or double entries; hence they were discarded. The scores in the scales were classified as either 'Normal', 'Borderline', or 'Abnormal.' The findings are presented in Table 4.8.

*Table 4.8: Heterotypic Comorbidity per Gender*

Scale	Status	Girls		Boys		Total	
		N	%	N	%	N	%
Emotional	Normal	57	86.4	48	96.0		
	Borderline & Abnormal	9	13.6	2	4.0	11	9.4
Conduct	Normal	56	84.8	34	68.0		
	Borderline & Abnormal	10	15.2	16	32.0	26	22.2
Hyperactivity	Normal	54	81.8	40	80.0		
	Borderline & Abnormal	12	18.2	10	20.0	22	18.8
Peer	Normal	40	60.6	26	52.0		
	Borderline & Abnormal	26	39.3	24	48.0	50	42.7

Table 4.8 presents the frequencies and percentages per gender of those who were in the ‘Normal’ and ‘Borderline & Abnormal’ categories as per the SDQ questionnaire. In this study, the combined scores of borderline and abnormal represented those with the specified comorbidities. Overall, the highest comorbidities were in the peer problems scale (Total, 42.7%; Girls, 39.3%; Boys, 48.0%), followed by the conduct scale (Total; 22.2%, Girls, 15.2%; Boys, 32.0%), then the hyperactivity scale (Total 18.8%, Girls, 18.2%; Boys, 20.0%), and finally the emotional scale (Total, 9.4%; Girls, 13.6%; Boys, 4.0%).

The results thus suggest that most of the respondents had comorbidities with peer problems. Girls had more emotional comorbid conditions, whereas boys exhibited higher comorbidities with conduct, hyperactivity, and peer problems more than the girls, and this concurs with previous research.

#### 4.2.5 The Social Demographic Predictors for Homotypic Comorbidity among Those Diagnosed with ADs

Objective four was to investigate the social demographic predictors for homotypic comorbidity (HC) among those diagnosed with ADs. Table 4.9 shows the social demographic predictors for HC among the respondents.

*Table 4.9: Social Demographic Predictors for Homotypic Comorbidity among Those Diagnosed with ADs.*

Social demographic factors		Count	Frequency of those with HC
Family type	Single mother	13(23.6%)	13 (100%)
	Father & mother	33(60%)	31(93.9%)
	Single father	4(7.3%)	4(100%)
	Siblings only	3(5.5%)	3(100%)
	Others	2(3.6%)	2(100%)
No. of siblings	0-1	12(21.9%)	12(100%)
	2-3	30(54.6%)	29(96.7%)
	4-8	13(23.6%)	12(92.3%)
Sexual abuse	Girls	4(7.3%)	
	Boys	6(10.9%)	
	Total	10(18.2%)	10(100%)
Physical abuse	Girls	8(14.5%)	
	Boys	13(23.6%)	
	Total	21(38.2%)	20(95.2%)
Verbal abuse	Girls	26(47.3%)	
	Boys	16(29.1%)	
	Total	42(76.4%)	41(97.6%)

Table 4.9 presents the frequencies and percentages of the research participants' social demographic factors, which were the type of family of origin, number of siblings, and the types of abuses they had experienced. The frequencies of those with homotypic comorbidities within each social demographic category are also presented.

Concerning the social demographic characteristics, respondents from the 'father & mother' family origins were the most (60%), followed by those from the 'single mother' (23.6%) then the 'single father' followed (7.3%). The least number of respondents were from the 'siblings only' and 'others' family origins at 5.5% and 3.6%, respectively. The 'others' category included respondents who indicated they lived with relatives such as grandparents, aunties, or uncles. The 'single father' category included respondents who indicated they lived with their father, but their father had another wife, who had children from a previous relationship.

As for the number of siblings, a majority of the respondents (n=30; 54.6%) had two or three siblings, followed by those with more than four siblings (n=13; 23.6%), and then those with either none or one sibling (n=12; 21.9%).

Types of abuses that had been experienced by the participants were verbal abuse (Total, 76.4%; Boys, 29.1%; Girls, 47.3%), physical abuse (Total, 38.2%; Boys, 23.6%, Girls, 14.5%), and sexual abuse (Total, 18.2%; Boys, 10.9%; Girls; 7.3%).

The results reveal that all the family types were represented among the sample, but respondents originating from the 'father & mother' categories were the majority, followed by those from 'single mother' categories. In addition, findings indicated that, on average, a majority of the respondents had two or three siblings. As regards the experience of abuse, respondents had experienced all the types of abuses where verbal abuse was leading followed by physical abuse and then sexual abuse. Girls had experienced more verbal abuse compared to boys. Boys, on the other hand, had experienced more physical abuse and surprisingly even more sexual abuse, contrary to expectations.

Cross tabulations were done to determine if homotypic comorbidity was associated with each of the social demographic factors. All the respondents (100%) from the 'single mother', 'single father' or 'siblings only' and 'others' family origins had homotypic comorbidity, and in the 'father & mother' family origins, 93.9% had homotypic comorbidity.

As for the number of siblings, 100% homotypic comorbidity was among respondents with none or one sibling. For the respondents with two or three siblings, homotypic comorbidity was at 96.7%, and for respondents with four to eight siblings; homotypic comorbidity was at 92.3%. Concerning the types of abuse, 100%

homotypic comorbidity was noted among those who had experienced sexual abuse, 95.2% for those who had experienced physical abuse, and 97.6% for those who had experienced verbal abuse.

Hence, homotypic comorbidity was elevated among the respondents originating from the one parent (Single mother, single father) or no parent (siblings only and others) families. Nevertheless, it is important to note that even though the HC was reduced among those originating from the 'father & mother' backgrounds, the number of respondents with HC was still high, indicating possible factors within these families that predisposed children to HC. Among the types of abuses with high levels of HC, sexual abuse ranked highest, followed by verbal abuse, and then physical abuse. Findings also indicated that HC was elevated among respondents with none or one sibling.

#### 4.2.6 Efficacy of CBPT

The null hypothesis of the study was; CBPT is not efficacious in the treatment of ADs among boys and girls aged 8-16 years. To ascertain the efficacy of CBPT, there was a treatment and a control group. The treatment group from Kabiria primary school was administered CBPT intervention for 12 weeks, and primary data was collected at baseline, midline (after six weeks), and end line (after 12 weeks). The intervention was a 12-week program where sessions were held every week for a period of one hour. In the control group, no intervention was administered, but the respondents were assessed for symptom alleviation after six weeks (midline) and after 12 weeks (end line).

In total, 56 participants completed the research process up to the end line, which comprised 28 from the experimental group (14 girls and 14 boys) and 28 from the control group (20 girls and 8 boys). However, to cater for attrition rates, more

respondents had been recruited in the control group making 34. Six participants from the control group did not complete up to end line, but this dropout did not affect the sample size as there was an equal number of respondents who completed the research process in both arms.

The efficacy of CBPT was established in three ways where first, the means for both groups were compared from baseline to midline to end line. Then the ANOVA was run to establish if there were any statistically significant differences between the two groups, and finally, the paired samples t-test was run to ascertain the effect of the intervention from baseline to midline, midline to end line, and baseline to end line. Results for the comparison of means are presented in Table 4.10.

*Table 4.10: Comparison of Means for the Intervention and Control Groups*

Age group	Sample		N	Minimum	Maximum	Mean	Std. Deviation
8-16	Treatment	Baseline	90	.00	59.00	36.08	13.28
		Mid line	28	19.00	46.00	32.11	7.33
		End line	28	8.00	43.00	25.40	8.42
	Control	Baseline	73	5.00	58.00	31.25	12.49
		Mid line	34	18.00	56.00	35.88	9.40
		End line	28	12.00	61.00	34.75	12.49
8-10	Treatment	Baseline	36	.00	59.00	40.33	13.18
		Mid line	5	23.00	34.00	29.20	4.09
		End line	5	22.00	43.00	29.40	8.02
	Control	Baseline	6	7.00	54.00	24.00	18.90
		Mid line	2	31.00	43.00	37.00	8.49
		End line	0				
11-13	Treatment	Baseline	27	9.00	57.00	35.41	11.53
		Mid line	14	19.00	46.00	32.64	8.23
		End line	14	8.00	37.00	24.36	8.96
	Control	Baseline	14	8.00	52.00	36.14	13.21
		Mid line	9	31.00	56.00	40.22	7.45
		End line	7	17.00	61.00	36.71	15.33
14-16	Treatment	Baseline	27	.00	54.00	31.07	13.61
		Mid line	9	23.00	45.00	32.89	7.51
		End line	9	12.00	37.00	24.78	8.01
	Control	Baseline	53	5.00	58.00	30.77	11.19
		Mid line	23	18.00	54.00	34.09	9.89
		End line	21	12.00	60.00	34.10	11.76

Table 4.10 presents the results for the control and experimental group in terms of comparison of means from baseline to end line. Overall results for all respondents

show a decline in the means from baseline (36.08) to midline (32.10) to end line (25.40) in the treatment group but not in the control group baseline (31.25), midline (35.88), and end line (34.75).

In the treatment group the baseline to mid line to end line means for the different age groups were; 8-10-year-olds (36.08, 32.11, 25.40), 11-13-year-olds (35.41, 32.64, 24.36), and (31.07, 32.89, 24.78) for the 14-16-year-olds. All the age groups thus showed a decline in severity of ADs from baseline to mid line to end line. In the control group, the baseline to mid line to end line means did not show a systematic decline in means as they were; 8-10-year-olds (29.40, 24.00, 37.00), 11-13-year-olds (36.14, 40.22, 36.71), and (30.77, 34.09, 34.10) for the 14-16-year-olds. The results thus suggested that the intervention was efficacious in alleviating symptoms of ADs in the treatment group for all the age groups.

The differences observed between the control and treatment groups were subjected to both ANOVA and the paired samples t-test to ascertain if there were statistically significant differences. Results are shown in Table 4.11.

*Table 4.11: ANOVA and Paired Samples t-test for the Intervention and Control Groups*

		ANOVA Table				
		Sum of Squares	df	Mean Square	F	Sig.
Base line	Between Groups (Combined)	22.173	1	22.173	.316	.576
	Within Groups	4214.811	60	70.247		
	Total	4236.984	61			
Mid line	Between Groups (Combined)	218.840	1	218.840	3.009	.088
	Within Groups	4364.208	60	72.737		
	Total	4583.048	61			
End line	Between Groups (Combined)	1225.786	1	1225.786	10.812	.002
	Within Groups	6121.929	54	113.369		
	Total	7347.714	55			
Paired Samples Test						
Treatment			Control			
	Pair 1 Baseline to Mid line	Pair 2 Midline to end line	Pair 3 Baseline to end line	Pair 1 Baseline to midline	Pair 2 Midline to end line	Pair 3 Baseline to end line
t	1.778	4.306	5.969	.428	.544	.061
df	27	27	27	33	27	27
p-value	.087	.000	.000	.671	.591	.952

Table 4.11 presents the results for the ANOVA and the paired samples t-tests for both arms. As shown in the ANOVA, the differences between the control and treatment groups in the means were not statistically significant at either baseline ( $F=.316$ ;  $p=.576$ ) or midline ( $F=3.009$ ;  $p=.088$ ). Nevertheless, at end line, there was a statistically significant difference in the means between both arms ( $F=10.812$ ;  $p=.002$ ).

In the treatment group, the paired samples t-test revealed that the baseline to midline pair was not statistically significant ( $t = 0.316$ ;  $p=.576$ ) but the other pairs midline to baseline ( $t = 4.306$ ;  $p=.000$ ) and baseline to end line ( $t = 5.969$ ;  $p=.000$ ) were statistically significant in symptom alleviation of ADs at  $p \leq .05$ . In the control group, none of the three pairs was statistically significant for alleviation of ADs ( $p > .05$ ).

As confirmed by both the ANOVA and paired samples t-test, results ascertained the efficacy of CBPT in the treatment of ADs where the greatest treatment gains occurred from mid line to end line. The baseline to mid line to end line trends in the raw scores for both arms are further depicted in the area plots in Figures 4.1 and 4.2. The area plot for the baseline, midline, and end line scores in the treatment group is illustrated in Figure 4.1.

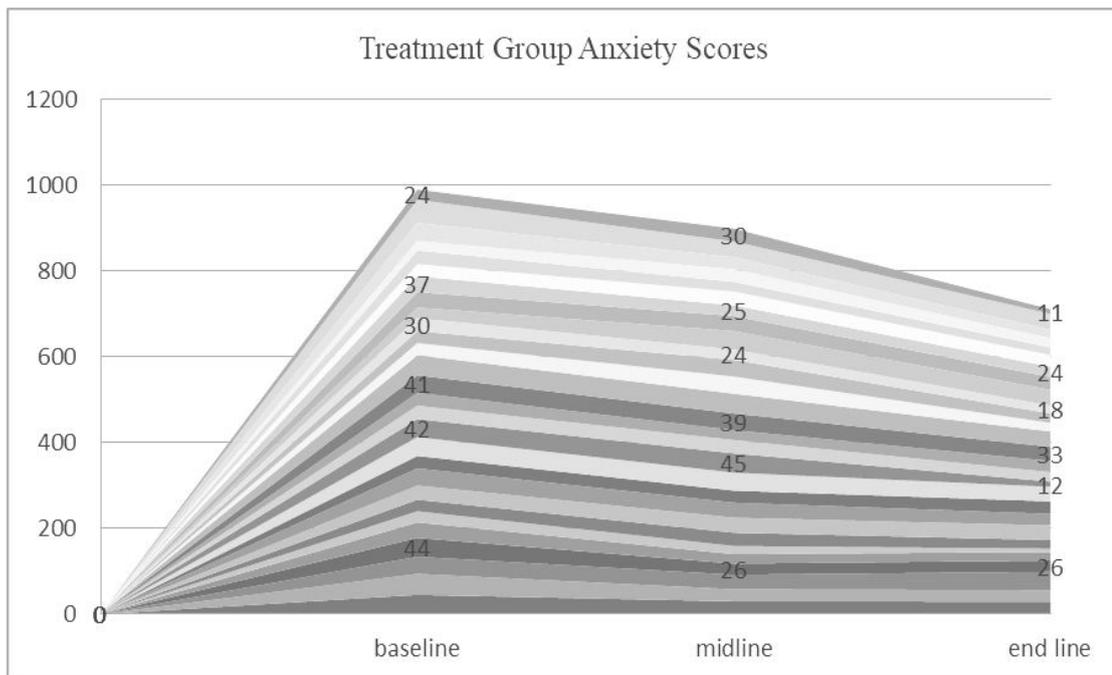


Figure 4.1: Area Plot for the Baseline, Midline & End Line Scores - Treatment Group

Figure 4.1 represents the area plot for the raw data collected from the treatment group in terms of the total scores of ADs. The small lines within Figure 4.1 represent the individual respondent's scores. Six samples were selected at random to show how respondents scored from baseline to midline and end line, respectively. The scores are, 24-30-11: 37-25-24: 30-24-24: 41-39-33: 42-45-12: 44-26-26. In all the scores, there was a marked decline in symptomatology from baseline to end line. The overall movement of all the respondents' scores from baseline to midline to end line is shown by the sharp decline in the curve depicting the efficacy of CBPT in symptom alleviation. For the control group, Figure 4.2 shows the trend from baseline to midline to end line.

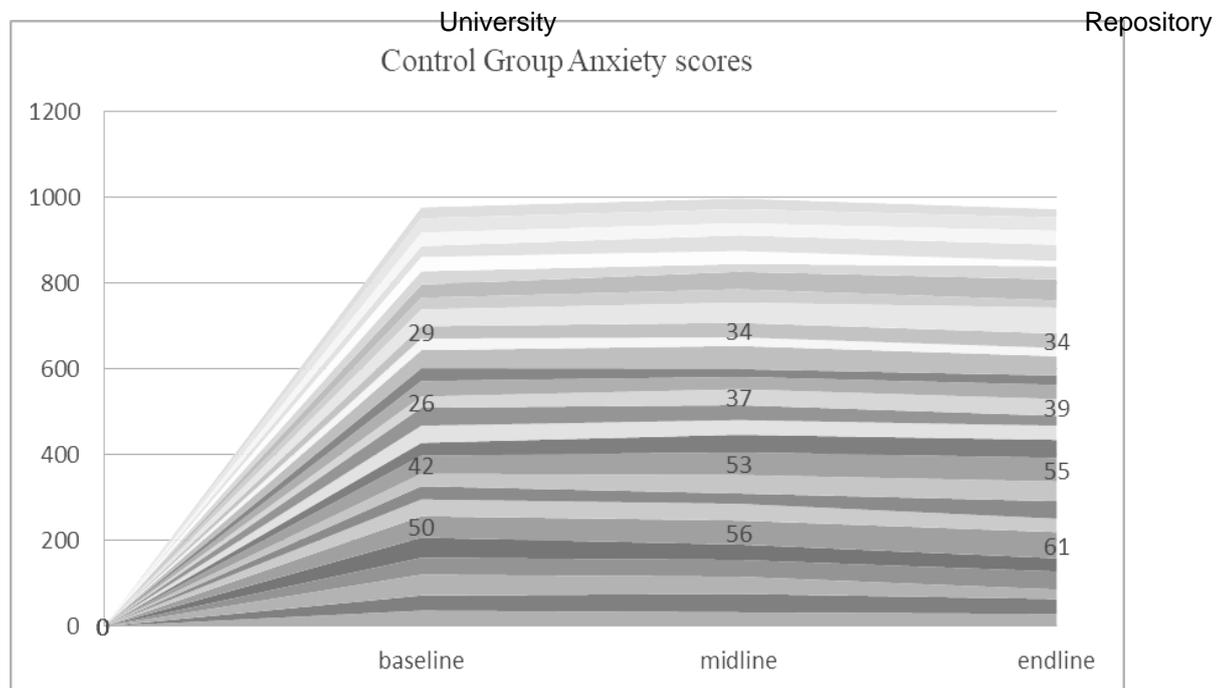


Figure 4.2: Area Plot for the Baseline, Midline & End Line Scores - Control Group

Figure 4.2 shows the raw scores for all the respondents in the control group and how the scores changed from baseline to mid line to end line. The slope remains relatively flat but at midline, there is a slight increase. Four samples were selected at random to show how respondents scored from baseline to midline then end line respectively. The scores are, 29-34-34: 26-37-39: 42-53-55: 50-56-61. The scores show that there was no decline in symptomatology from baseline to end line. This implies that for the control group, symptomatology largely remained the same from baseline to end line but in the treatment group, symptom alleviation at end line was significant.

#### 4.2.7 Gender Differences in the Effect of CBPT on ADs

The fifth objective of the study sought to assess the gender differences in the effect of CBPT on anxiety disorders. Table 4.12 below presents the Paired samples t-tests for boys and girls, from baseline to mid line to end line.

*Table 4.12: Paired Samples t-test for CBPT Efficacy for Boys and Girls from Baseline to Midline to End line in the Treatment Group*

		Mean	N	Std. Deviation	95% C.I.		t	df	Sg.(2- tailed)
					Lower	Upper			
Girls	Pair 1:Base	37.21	14	8.06	1.20	11.37	2.67	13	0.019
	line- Mid line	30.93	14	6.99					
	Pair 2: Mid	30.93	14	6.99	0.75	12.54		13	0.030
	line- End line	24.29	14	9.80					
	Pair 3: Base	37.21	14	8.06	7.41	18.44	5.07	13	0.000
	line- End line	24.29	14	9.80					
Boys	Pair 1:Base	33.50	14	8.79	-5.47	5.89	.081	13	0.936
	line- Mid line	33.29	14	7.72					
	Pair 2:Mid	33.29	14	7.72	3.27	10.30	4.17	13	0.001
	line- End line	26.50	14	6.96					
	Pair 3:Base	33.50	14	8.79	2.84	11.16	3.63	13	0.003
	line- End line	26.50	14	6.96					

The results in Table 4.12 show how the boys' and girls' means in AD scores moved from baseline to midline to end line. In addition, the paired samples t-test showing gender differences in the effect of the intervention from baseline to midline, midline to end line, and base line to end line are presented. As shown by the means, both boys and girls had a decrease in symptomatology from baseline to mid line and mid line to end line.

For the girls, baseline to midline means were 37.21 to 30.93 ( $p=0.019$ ), as compared to the boys' means of baseline to midline at 33.5 to 33.29 ( $p=0.936$ ). The midline to end line means for girls were 30.93 to 24.29 ( $p=0.030$ ) and for boys 33.29 to 26.50 ( $p=0.001$ ). The results suggest that even though girls started at a higher level of severity as compared to the boys, they made greater strides in recovery right from baseline such that at end line, the girls' means suggested no ADs (AD scores < 25). The boys did not show a statistically significant decline in mean symptomatology from baseline to midline. However, from midline towards end line, they made great

strides but at end line, their mean symptomatology was still indicative of ADs (AD scores > 25). Hence, girls recovered faster than boys did, maintaining symptom alleviation right from the baseline.

The independent samples t-test was as well used to compare the boys' and girls' scores at baseline, midline, and end line in the treatment group as shown in Table 4.13.

*Table 4.13: Independent Samples Test for Gender Differences in CBPT Efficacy*

		Baseline	Midline	End line
		Equal variances assumed	Equal variances assumed	Equal variances assumed
Levene's Test for Equality of Variances	F	.004	0.79	1.29
	Sig.	.948	0.38	.267
t-test for Equality of Means	t	1.17	-0.85	-.69
	df	26	26	26
	Sig. (2-tailed)	0.26	0.41	.497
	Mean Difference	3.71	-2.36	-2.21
	Std. Error Difference	3.19	2.79	3.21
	95% C. I.			
	Lower	-2.84	-8.08	-8.82
	Upper	10.27	3.37	4.39

Table 4.13 presents results for the independent samples t-test that compared the efficacy of CBPT among boys and girls in the intervention group. The results showed that there were no statistically significant differences between boys and girls in symptomatology at baseline ( $p=0.948$ ), midline ( $p=0.381$ ), and end line ( $p=0.267$ ). Thus, CBPT was efficacious for both boys and girls, as they all equally benefited from the intervention.

#### 4.3 Summary of Key Findings

1. The overall prevalence for the ADs was high at 79.1%, where SEP had the highest prevalence. It was followed by PD, SAD, generalized anxiety, and lastly, significant school avoidance. Overall prevalence was highest among the 11-13-year-olds followed by the 8-10-year-olds and lastly the 14-16-year-

olds. Severity in terms of means was, however, highest among the 8-10-year-olds and it decreased with increase in age.

2. The general trend in the severity of the disorders was a decrease in severity as age increased. However, for SAD and GAD, the 11-13-year-olds had more severe symptoms. Similarly, for significant school avoidance, the prevalence was highest among the 11-13-year-olds.
3. All the age group means met the criteria for SEP and PD. Only the 11-13-year-olds means met the criteria for SAD, and none of the age groups met the criteria for SSA or GAD.
4. Concerning the fears, a similar trend in terms of age was established where fear intensities decreased with an increase in age. However, in the medical and school-related fears, the 14-16-year-olds had the highest fear intensities, followed by the 8-10-year-olds and then the 11-13-year-olds.
5. Overall, the most intense fears among the study sample were fears regarding Death and Danger, followed by the Fear of the Unknown and then Fears of Criticism, Failure, and Punishment.
7. Statistically, significant gender differences were found in the prevalence and severity of the anxiety disorders, where girls had higher prevalence rates and more severe symptoms in all the anxiety disorders. The gender differences in the SAD and SSA scale were, however not statistically significant, showing that these anxieties were equally experienced by both genders.
8. On a similar note, statistically significant gender differences were observed in the total fearfulness scores, the 'fear of the unknown' and the 'fear of animals', where girls had more intense fears compared to the boys. The gender

differences were, however, not statistically significant in the FC, M&S, and DD scales implying that boys and girls experienced these fears almost equally.

9. The highest prevalence for girls was for the fear of “Terrorists” and for boys, it was “being hit by a car or truck”. More girls than boys endorsed the most intense fears. There were also gender differences where some fears were reported by one gender and not the other. Girls reported intense fears in “fire-getting burned”, “snakes”, and “nightmares”. The boys reported intense fears in “earthquakes”, “deep water or the ocean”, and “getting punished by my father.”
10. Overall, HC was high at 80.4% and increased with age such that the 14-16-year-olds had the highest comorbidity rates. The age differences in comorbidities were, however, not statistically significant ( $p= 0.209$ ). The mean number of comorbidities decreased with age, showing that an increase in age dissipated some of the anxiety symptoms.
11. Concerning gender, girls had higher comorbidity rates as compared to the boys but the gender differences were not statistically significant.
12. As for HC, the highest prevalence rates were in the peer problems scale, followed by the conduct scale, then the hyperactivity scale, and finally the emotional scale. Boys had a higher prevalence on the peer problems, hyperactivity, and conduct scales, while girls had higher prevalence rates on the emotional scale.
13. Concerning the family background, most of the respondents were from the ‘father & mother’, followed by the ‘single mother’, then the ‘single father’ the ‘siblings only’, and ‘others’ family backgrounds.

14. Regarding the number of siblings, a majority of the respondents had two or three siblings. Some had more than four, and a few had less than two siblings.
15. The most prevalent form of abuse was verbal abuse, followed by physical abuse and then sexual abuse. Girls had experienced more of verbal abuse, while boys had experienced more of physical and sexual abuse.
16. All the respondents from the 'single mother', 'single father', or 'siblings only' and 'others' family backgrounds had homotypic comorbidity. In the 'father & mother' families, 93.9% had homotypic comorbidity, and this was still high.
17. As for the number of siblings, 100% homotypic comorbidity was in the families with none or one sibling, and HC reduced as the number of siblings increased.
18. Concerning the types of abuse, 100% homotypic comorbidity was noted among all those who had experienced sexual abuse. It was followed by verbal abuse (97.6%) and then physical abuse (95.2%).
19. The intervention CBPT was efficacious for the treatment of ADs for all the age groups since in the treatment group, the means decreased from baseline to end line for all age groups. In the control group, there was no decline in means from baseline to end line for any of the age groups. Furthermore, the ANOVA test showed statistically significant differences between both arms at end line, ( $F=10.812$ ;  $p=.002$ ), implying that the treatment group benefited from the intervention.
20. Further efficacy of CBPT was shown by the paired samples t-test, which revealed statistically significant symptom alleviation from baseline to end line ( $p \leq .05$ ) in the treatment group. In the control group, the baseline to end line results were not statistically significant for alleviation of ADs ( $p > .05$ ).

21. Both boys and girls showed a decrease in symptomatology from baseline to mid line, mid line to end line, and base line to end line. Girls recovered faster than boys did right from baseline. The boys' recovery was slower as it only became evident from mid line to end line. At end line, boys' means were still indicative of ADs ( $M > 25$ ), while the girls' means showed total recovery ( $M < 25$ ).
22. The independent t-test showed that CBPT was efficacious for both boys and girls as they all benefited from the intervention.

The findings thus point to high prevalence rates of the ADs and fears where being female, young (8-10-year-old), and the pubertal age group (11-13) was indicative of higher prevalence rates for the ADs. The mean symptomatology for all the age groups revealed a presence of SEP and PD, but only the mean symptomatology for the 11-13-year-olds was symptomatic for SAD. Furthermore, comorbidity rates of ADs were found to be high, especially the homotypic comorbidity, where a majority of the respondents had three ADs. The number of comorbidities, however, decreased with an increase in age.

Gender differences in heterotypic comorbidities were noted where females predominated in emotional problems and males showed higher comorbidities with conduct, hyperactivity, and peer problems. The greatest predictors for homotypic comorbidity were having no parents, being from a single-parent family, having none or only one sibling, and experiencing sexual abuse. There was also evidence that CBPT was efficacious for the treatment of ADs in both genders, with girls recovering faster than the boys did.

#### 4.4 Summary

This chapter has presented the results of the data collected from the participants. A comprehensive presentation, analysis, and interpretation of the data have also been done. The next chapter focuses on the major findings in comparison to the already reviewed literature. It also presents the study's conclusions, the recommendations based on the results, the limitations of the study, and areas for further research.

## CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

### 5.1 Introduction

This chapter deals with the findings of the data presented in Chapter four. It also elaborates the interpretation of the findings in relation to previous studies. The study examined the gender differences in the symptomatology of ADs and the gender differences in the efficacy of CBPT on the reduction of AD symptoms among children attending selected primary schools in Dagoretti Constituency Nairobi County, Kenya. The discussions in this chapter are in line with the objectives of this study, which were the prevalence of ADs according to age, gender differences in prevalence, comorbidities of ADs, sociodemographic predictive factors for comorbid ADs, and the efficacy of CBPT according to gender. Finally, the conclusions, recommendations, limitations, and suggestions for further studies are provided.

### 5.2 Discussions of Key Findings

The main objective of this study was to verify the gender differences in symptomatology and treatment outcomes of ADs using CBPT. Gender differences in the symptomatology of ADs have been reported in both the clinical presentation of the disorders, the prevalence, and comorbidities (APA, 2013; Asher & Aderka, 2018). At the onset of the study, 129 out of 163 children from the selected schools met the diagnostic criteria for ADs, using the SCARED questionnaire, and both gender and age differences were noted in the prevalence, types, and intensity of the fears.

#### 5.2.1 Prevalence of ADs

The prevalence of ADs among the 163 respondents was very high (n=129; 79.1%), consistent with previous studies done within Nairobi County among children and adolescents aged from nine to 18 years. In one study, Ndeti et al. (2008b) found

high prevalence rates of ADs ranging between 50-100% for the different syndromes of DSM-IV ADs among secondary school children (14-18 years) while using the SCARED questionnaire. Nyagwencha et al. (2018b), among adolescents (13-18 years) in a children's home in Nairobi, also found very high prevalence rates of anxiety symptoms at 84.1% using a different tool, the Beck Anxiety Inventory. Mathenge et al. (2019) used SCARED and found the prevalence of anxiety disorders was extremely high at 80.8% (n=224) with a sample drawn from classes 3 to 7 at two private schools within Nairobi County.

Global studies, however, report varying prevalence rates depending on the study site, sample characteristics, and data collection tools. One of the studies reporting high prevalence rates was a meta-analytic study in different regions of Iran, which found varying prevalence rates ranging from 6% to 85% (Zarafshan et al., 2015). Other studies report much lower prevalence rates and even means. The global coverage of prevalence data for anxiety among children aged 5-17 years, mostly based on data from the high-income countries, is low at 3.2% (Erskine et al., 2017). Data from the U.S suggests that among 3-17-year-olds, anxiety disorders approximate at 7.1% (Centers for Disease Control and Prevention, 2021).

Elsewhere, Al-Yateem et al.'s (2020) cross-sectional study to determine the prevalence of specific anxiety-related disorders in the United Arab Emirates among participants with a mean age of  $16 \pm 1.8$  years found the overall prevalence of anxiety disorders was 28%. Yet another cross-sectional study among 563 students aged 13-18 years at selected schools (secondary and higher secondary) in Dhaka City, Bangladesh, found the prevalence rates of anxiety at 18.1%.

Jörns-Presentati et al.'s (2021) meta-analytic study of 37 research studies in sub-Saharan African reported varying prevalence rates where the median point

prevalence of four general population studies (n =3 104) was 29.8% (IQR 18.6-36.4) and in six at-risk studies (n=7 520) the median point prevalence was 19.3%. The only study assessing lifetime prevalence reported a prevalence of 3.4% for a sample of 5,631 South African adolescents (aged 15-17).

A different study by Abbo et al. (2013), which used a diagnostic measure (MINI Kid), found a prevalence of 27.6% for anxiety disorder syndromes in a household sample of 897 adolescents aged 10-19 from rural Uganda. Compared to the reviewed studies, the prevalence rates in this study, (79.1%), was quite high. Nevertheless, as Jörns-Presentati et al. (2021) deduced, comparisons are hard to make since studies differ in terms of assessment tools used and the type of prevalence assessed.

Among the types of ADs, the highest prevalence was for separation anxiety (78.5%), then PD (72.4%), SAD (50.9%), GAD (35.6%), and then significant school avoidance (29.4%). The means indicated that respondents within all the age groups had SEP and PD, but severity decreased as age increased. Concurrently, Mathenge et al.'s (2019) study among children and adolescents in two private schools in Nairobi found the same trend where SEP (81.7%) was leading, then PD (66.5%), SAD (61.2%), GAD (56.3%), and significant school avoidance (30.4%). Several other studies, as reviewed by Feriante and Bernstein (2021) and de Lijster et al. (2017), also pointed to SEP as one of the most common childhood anxiety disorders with an early age of onset of approximately seven years (Kessler et al., 2012).

Some studies, however, report lower prevalence rates where the lifetime prevalence of SEP is between 4.1% and 7.7% in the general population, although prevalence rates in clinical settings are higher at 49% among children (Krajniak, Anderson, & Eisen, 2016). The higher prevalence of SEP, PD, and SSA among

younger children concurs with studies forwarding that 75% of children with separation anxiety exhibit school avoidance (Fremont as cited in Kawsar et al., 2021). Furthermore, the co-occurrence of separation anxiety with panic attacks is common, as reported in several studies (Mohammadi et al., 2020). Additionally, in concurrence with the current study, separation anxiety studies indicate that the lifetime prevalence rate of separation anxiety decreases with age. The lifetime prevalence is approximated at 6.5% for those under 14 years and 2.9% for those between 14-16 years (Krajniak et al., 2016).

A unique finding is that, although the means of the 14-16-year-olds were lower than those of the 11-13-year-olds in SEP, more of the 14-16-year-olds (78.8%) had the disorder compared to the 11-13-year-olds (72.5%). Krajniak et al. (2016) continued to explain that older children may also have the disorder, although the nature of the anxiety changes. In younger children, SEP manifests through anxiety regarding separation from significant others, but in older children, there is more anticipatory anxiety. The 14-16-year-olds in this study were in class 8 and just about to sit for their end of primary school exams. After the exams, they would be required to leave primary school and transition into high school. This could probably explain why more of them showed separation anxiety compared to the 11-13-year-olds.

Regarding PD, the finding for higher prevalence rates among the 8-10-year-olds is unique. This is because the literature suggests a later age of onset for PD at 14 years (APA, 2013). However, MedlinePlus (2021) maintained that children can have PDs, though it is often not diagnosed until they are older. The Center for Treatment of Anxiety and Mood Disorders (2021) also concurred that PD is observable before 14 years of age even though the prevalence is low, but the rates gradually increase throughout puberty and peak during adulthood. The higher prevalence of the disorder

among the younger children in the current study could possibly be explained by the comorbidity of SEP with panic attacks. To this end, research suggests that PDs are highly comorbid with SEP, where, for example, children with separation anxiety may have a panic attack when a parent leaves (Elia & Kimmel, 2021).

Further, unique age differences were noted in the overall prevalence rates of ADs and in the significant school avoidance where the 11-13-year-olds had higher percentages for each (overall ADs, 87.5%; SSA, 40.0%). Regarding SAD, the mean symptomatology for the 11-13-year-olds was indicative of SAD ( $M \geq 8$ ). The ages 11 through 14 years are often referred to as early adolescence, where adolescents feel the urge to be more independent from their families and friends replace parents as a source of advice (HealthwiseStaff, 2019). Thus, adolescence is posited to be a significant age where most ADs develop as children's focus is on forming relationships with other peers and their anxieties center on situations involving peer rejection or acceptance (Achiko & Shikuro, 2019; Dalrymple & Zimmerman, 2011; Leigh & Clark, 2018; de Lijster et al., 2017).

Social anxiety disorder was also highly prevalent among the 8-10 age group (78.5%), which could be explained by research suggesting that SAD may be prompted by a stressful or humiliating experience such as being bullied, or it may be insidious, developing slowly (APA, 2013). A study by Campbell (1996) similarly reasoned that worry about social threat does not increase with age, but the content of the feared social outcomes remains relatively constant over the age span. In concurrence, Pearcey et al.'s (2021) review as well indicated that adults with SAD report having always felt socially anxious since childhood.

Even though most of the 11-13-year-olds had SSA ( $M = 2.0750$ ; 40%), the younger children (8-10 age group) had higher means in symptomatology ( $M =$

2.3571; 38.1%), showing that although some of the 11-13-year-olds could have developed SSA, severity, as depicted in the means, was more for the 8-10 age group. Concurrently, studies suggest that SSA is common among children up to eleven years, especially at times of transition, to either a new class or transitions such as divorce (ADAA, 2021). The emergence of some ADs at adolescence could also prompt SSA since, as Prabhuswamy (2018) surmised, chronic school refusal is associated with other anxiety disorders such as specific phobias, social anxiety, generalized anxiety, and panic attacks.

Generalized anxiety disorder had a lower prevalence at 35.6%, and none of the age group means met the criteria for GAD. This may be explained by research suggesting a later age onset for GAD at 30 years (Bhatt & Bienenfeld, 2019). Nevertheless, GAD has been reported in both younger and older children, although differences occur in the fear content. One study among children aged 7-13 years diagnosed with GAD found that older children generally reported GAD, but the anxieties centered on school-related worry, trouble paying attention and getting upset easily. Younger children reported greater harm avoidance than older children. Parent reports did not generally differ between groups with the exception of greater perfectionism in younger children and greater school competence issues for older children (Jarrett et al., 2015). As posited by APA (2013), children and adolescents can have GAD regarding school and sporting performance, concerns about punctuality, and worry about catastrophic events such as earthquakes or nuclear war. Children with the disorder may also be overly conforming, perfectionist, and unsure of themselves and tend to redo tasks because of excessive dissatisfaction with less-than-perfect performance.

Overall, results suggested that ADs were highly prevalent but more severe among younger children. Commencement of adolescence (11-13 age-group) was also found to be a risk factor for the development of some ADs such as SAD. The older children (14-16-year-olds) exhibited SEP at a higher prevalence than the 11-13-year-olds, which could point to anticipatory anxiety regarding transition into high school.

### 5.2.2 Assessment of the Fears

Ollendick (1983) recommended the FSSC-R as a useful instrument in the detection of specific fears among children that could predispose them to ADs, such as separation anxiety, social anxiety, and other ADs. The FSSC-R questionnaire adequately diagnosed children's fears, elucidating the most intense fears, and age comparisons were done. Younger children had greater fears overall (M= 81.40, 74.33, and 72.73 respectively for the 8-10, 11-13, and 14-16 age groups). The findings for more intense fears among younger children concur with several other cross-cultural studies utilizing the FSSC-R (Lee-O'Loughlin, 2014; Muris et al., 2014).

As for the fear scales, the fear intensities were highest for 'DD' (0.54), followed by 'U' (0.47), then the 'FC' scale (0.46), and the 'A' scale and M&S scale tied at 0.40. Regarding age, the fear intensities decreased with an increase in age (0.88, 0.79, and 0.74 respectively for the 8-10, 11-13, and 14-16 age groups). The DD scale has items such as fear of 'bombing attacks', 'terrorists', being hit by a car or truck', 'getting burnt by fire', and 'getting an electric shock'. Studies from other countries as well-found items in the DD scale to be some of the topmost fears among children and adolescents (Kalar et al., 2013; Lee-O' Loughlin, 2014)

The 'U' scale consisted of fears related to the dark and being in unfamiliar places. The fear intensities decreased with an increase in age (0.55, 0.46, and 0.44 respectively for the 8-10, 11-13, and 14-16 age groups). As pointed out in

BetterHealth (2012), greater fears among younger children signify cognitive growth such that as the child learns more about the world, the list of feared items increases. Some fears are real, and some are imaginary. Common fears include fear of the dark, burglary, war, death, separation or divorce of their parents, and supernatural beings (such as ghosts and monsters). Many children are afraid of the dark and unfamiliar things that they do not understand or cannot control. They have active imaginations and an inability to always distinguish between reality and fantasy. However, the fears dissipate as the cognitive abilities also develop, hence reduction in fears as age progresses (National Scientific Council on the Developing Child, 2010).

The FC scale comprised items regarding the fear of being criticized, fear of failure, or fear of being punished by parents. Some items in the scale correspond to the DSM-5 diagnostic criteria for SAD, which revolves around the fear of negative evaluation and social acceptability. Elevated fears in this scale can be explained by the respondents' age group, which coincides with adolescence. This is a period where peer friendships start to become very important towards social and emotional development. Thus, children become sensitive to what others think of them and adult approval. They also become critical of their performance and begin to evaluate themselves. Furthermore, as their number of friends increases, social conflicts arise (kidcentral tn, n.d.).

The 'A' scale had items regarding the fear of insects, small animals, and large animals like bears and wolves. Additionally, APA (2013) pointed out that the fear of animals signifies SEPs. Top on the list of feared animals was 'snakes'. Similar findings where children expressed intense fears in 'snakes' and 'wild animals' are reported in Acharya et al.'s (2016) and Kalar et al.'s (2013) studies.

The scale of 'M & S' required respondents to rate their medical and school-related fears. The overall fear intensity was 0.40, where the 14-16-year-olds had the highest fear intensity (0.40), contrary to the earlier trend where means decreased with age. The M & S scale has items such as the fear of failing exams. In concurrence, Acharya et al.'s (2016) study among adolescents aged 11-19 years from an urban setting also found that among those aged 14-19 years, the greatest fears were in failing a test. Research suggests that the fear of failing exams can occur before or during an exam, which is normal. However, if the fear is excessive and persistent, it can negatively affect the person's physical, cognitive, and behavioral, and emotional functioning (bartleby research, n.d.). In conclusion, the study found that items in the DD scale and the U scale evoked the highest fear intensities. The fear intensities decreased with an increase in age, although the 14-16-year-olds had the highest fear intensities in the M&S scale.

### 5.2.3 Gender Differences in the Prevalence of ADs

Gender differences were noted in the means, and prevalence rates for ADs (Girls: 85.1%, M= 36.13; Boys: 71.0%, M=30.33), and these gender differences were statistically significant ( $p=0.004$ ). In all the disorders, girls had higher prevalence rates than the boys, as shown in the percentages for girls and boys respectively; SEP (81.9%, 73.9%), PD (76.6%, 66.7%), GAD (38.3%, 31.9%), SAD (53.6%, 44.9%). The gender differences in the means were statistically significant apart from SAD and SSA, showing that females had statistically higher mean symptomatology than males. These findings for higher prevalence rates among females are consistent with many global studies that consistently point to the female gender as a risk factor for ADs (Abbo et al., 2013; Al-Yateem et al., 2020; Guo et al., 2016; Jörns-Presentati et al., 2021; Merikangas et al., 2010; Ndetei et al., 2011).

Across gender, the SAD scale did not show statistically significant gender differences. Consistently, Christiansen (2015) and Mc Lean et al. (2011) conjectured that gender differences are less pronounced for SAD and Hashempour et al.'s (2017) study also found that there were no significant differences between males and females aged 9-12 years in social anxiety among Iranian immigrants' children in Kuala Lumpur, Malaysia. Additionally, APA (2013) forwarded that gender rates in SAD are equivalent or slightly higher for males in clinical samples.

Hantsoo and Epperson (2017) explained that the higher prevalence and severity of anxiety disorders observed among females were due to the hormonal fluctuation during puberty and premenstruum. During puberty (from 10 up to 17 years), females experience significant brain remodeling where the menstrual cycle begins leading to hormonal fluctuations. Ferri et al. (2014) also postulated that puberty is characterized by shifts in social and emotional behavior and increased vulnerability to anxiety disorders such as SAD in females aged 8-15 years. Ram et al. (2014) also demonstrated additional factors that could influence gender differences in mental health, which were adherence to gender stereotypic roles, family violence, and restrictions.

In the FSSC-R, the girls' means in all the fear scales were also higher compared to the boys'. These results are consistent with studies done in other countries attributing higher fear sensitivities to females (Abdekhodaie, Arghabaei, & Bahrami, 2016; Lee-O'Loughlin, 2014). However, the FSSCR scale of fear of criticism, failure, and punishment did not show any statistically significant gender differences in the means. Concurring, Shore and Rapport's (1998) study did not find age and gender differences for the corresponding FSSC-R scale. In Shore & Rappaport's (1998) study, the scale of "fear of criticism, failure, and punishment" had

been divided into three scales, namely anticipatory social anxiety, social conformity fears, and fears concerning aversive social situations. However, both Acharya et al. (2016) and Huijun and Prevatt (2008) found significant gender differences in fear of criticism, failure, and punishment, where females had higher prevalence rates among Indian and Chinese respondents, respectively.

Comparing the top ten intense fears for both boys and girls in the FSSC-R, it was found that the common intense fears for both genders were “being hit by a car or truck”, “not being able to breathe”, “bombing attacks - being invaded”, “falling from high places”, “terrorists”, “guns”, and “a burglar breaking into our house”. Some of these top 10 fears common to girls and boys such as “being hit by a car or truck,” “not being able to breathe,” “falling from high places”, “bombing attacks - being invaded”, and “a burglar breaking into our house” have also been found common cross-culturally among children and adolescents globally (Acharya et al., 2016; Lee-O’Loughlin, 2014; Muris et al., 2014).

The boys’ endorsement of most intense fears ranged from 54.4% to 69.1% while the girls’ ranged from 63.0% to 72.8%. Hence, more of the girls endorsed intense fears compared to the boys. Gender differences were also observed in some types of intense fears where boys reported intense fears in “earthquakes”, “deep water or the ocean”, and “getting punished by my father”. Girls, on the other hand, had intense fears in 'fire - getting burned', 'Snakes', and 'nightmares'. Similarly, Acharya et al. (2016) found that more girls endorsed intense fears, ranging from 31.4% for the lowest to 42.75% for the highest, and boys’ fears were lower, ranging from 17.43% for the lowest to 31.49% for the highest. In the Acharya et al. (2016) study, gender differences were also observed in the fear content where boys had an intense fear of 'being punished by my father' and fear of 'deep water or the ocean'. Girls had the fear

of 'getting burnt by fire'. Contrary to the current study, girls expressed the fear of earthquakes, and both boys and girls expressed the fear of snakes. However, the fear of snakes was endorsed by more girls (38.62%) compared to boys (18.76%).

Thus, the study found gender differences in the fear content and fear intensities, which are in line with previous studies from other countries. However, a few cross-cultural variations were also noted in the types of fears per gender.

#### 5.2.4 The Comorbidities

Overall, homotypic comorbidity was quite high at 80.4% (n=131), where 26.7% were aged 8-10 years, 27.5% were in the 11-13 age group, and 45.8% were 14-16-year-olds. The age differences in the mean number of comorbidities were, however, not statistically significant ( $p=0.209$ ). Prevalence of homotypic comorbidity thus increased with age, consistent with Ghandour et al.'s (2019) analysis of data from the US's 2016 national survey of children's health. The survey conducted among children aged 3-17 years found that the diagnosis of anxiety was more common with increased age.

The high comorbidity rates in this study are consistent with research submitting that in anxiety disorders, comorbidity is the rule rather than the exception (Kessler et al., 2012; Seligman & Ollendick, 2011). However, compared to other studies, the comorbidity rates are on the higher side. In one longitudinal Spanish study conducted among 1514 subjects (720 boys; mean age = 10.2), the homotypic comorbidity was 35.6% (Canals et al., 2019). A study by Jystad et al. (2021) found higher homotypic comorbidity at 72.8% (n= 75) among 8,199 Norwegian adolescents aged 13-19 years who had been diagnosed with SAD.

Concerning the high homotypic comorbidity tendencies in ADs, Bilge et al. (2021) explained that separation anxiety continues in adulthood, and it might be

related to the severity of PDs in patients with agoraphobia. Mohammadi et al. (2020), in a meta-analysis of 20 studies, also indicated that children with SEP were more likely to develop PDs later on (odds ratio=3.45; 95% CI=2.37–5.03). Furthermore, 5 of the studies from the Mohammadi et al. (2020) meta-analysis indicated that a childhood diagnosis of SEP increased the risk of future anxiety (odds ratio=2.19; 95% CI=1.40–3.42).

However, the mean number of comorbidities decreased with an increase in age. This is in line with studies showing that the ADs predominant at below age 10 years are separation anxiety-specific phobias, but they usually dissipate with an increase in age (de Lijster, 2019). Gender differences were observed in the comorbid conditions where girls had high comorbidity rates at 83.9 % (n=79) as compared to the boys' comorbidity rates of 75.7 % (n= 52). Nevertheless, the gender differences in the mean number of comorbidities were not statistically significant, showing that gender had no association with the number of comorbid ADs. Consistently, previous studies found higher HC prevalence rates among females compared to males (Christiansen, 2015; Vesga-López et al., 2008). However, research comparing the number of comorbid conditions per gender was not found by the current research.

Heterotypic comorbidity was also present at varying prevalence rates comprising comorbidities with emotional, conduct, hyperactivity, and peer problems. The highest comorbidities were in the peer problems scale (42.7%), followed by the conduct scale (22.2%), then the hyperactivity scale (18.8%), and finally, the emotional scale (9.4%). Towards this end, De Vries, Davids, Mathews, and Aarø's (2018) meta-analytic study found that cross-country differences exist in the prevalence of the comorbidities. The study showed that South African adolescent boys and girls had the highest mean scores on emotional symptoms and conduct

problems compared to UK, Australian, and Chinese children. In contrast, South African boys and girls had the lowest mean scores for hyperactivity/inattention, and the UK boys and girls had the highest mean scores for hyperactivity/inattention, while the Chinese boys had the highest peer problem mean scores.

In this study, boys were leading on the peer, conduct, and hyperactivity scales while girls were leading on the emotional scale. Similarly, a plethora of studies reviewed by Ortuño-Sierra, Fonseca-Pedrero, Inchausti, and Riba (2016) indicated that a majority of the studies using the SDQ internationally found that females earn higher mean scores than males on the emotional scale. On the other hand, males tend to earn higher mean scores than females in conduct, hyperactivity, and peer problems. Maurice-Stam et al.'s (2018) study, conducted among 2-18-year-olds selected from a large panel of a Dutch research agency, similarly found that boys scored higher on the hyperactivity scale. There are also some exceptions, such as Bøe et al.'s (2016) study, using a sample of 16-18-year-olds, which found that boys scored higher on emotional and conduct problems. Thus, studies reviewed suggested that gender does not have a clear-cut relationship with heterotypic comorbidity. However, more studies have suggested that females have a preponderance to emotional problems, while males' predispositions lean towards conduct, hyperactivity, and peer problems.

#### 5.2.5 The Social Demographic Predictors of Comorbidity with Other ADs

All the children from 'single mother', 'single father', 'sibling only', and 'others' categories had multiple ADs at 100%. In the 'father and mother' families, 93.9% of the respondents had multiple ADs. Hence, 'one-parent' or 'no-parents' family origins were predictive for multiple ADs among the respondents. In concurrence, Perales et al.'s (2017) study compared children living in original families with children in one-parent, blended, and stepfamilies. The latter were found

to have experienced a higher prevalence of mental disorders. The finding for multiple ADs among children living with no parents (siblings only and other categories) also concurs with Abbo et al.'s (2013) study, which found that living without a parent is a significant predictor for ADs.

Concerning the high prevalence of HC among children from one-parent families to ADs, researchers explained that the social and contextual factors associated with exposure to single parenthood could explain these associations. This is such that single parenthood is a marker for an underlying series of social, educational, and familial disadvantages. When these disadvantages are taken into account, single parenthood is not a predictor of outcomes. Rather, low socioeconomic status and negative parenting behaviors interplay, resulting in anxiety disorders in the offspring (Daryanani et al., 2016).

In agreement, Agnafors et al.'s (2018) study in Sweden among single mothers and their children found that being a single mother did not present a risk for the development of mental disorders. However, when factors, such as economic strain or the circumstances surrounding the single motherhood status were considered, there was an increased risk for anxiety. Other risk factors in single-parent families are children experiencing the separation and divorce of their parents, maternal stress, and lack of adequate social support systems.

Among the father and mother families, comorbid ADs were still rampant at 93.9%. Research posited that factors such as parental psychopathology, parenting styles, and marital distress may explain the development of ADs in children (Gorostiaga, Aliri, Balluerka, & Lameirinhas, 2019; Lawrence, Murayama, & Creswell, 2018). A meta-analysis by Öztürk, Özyurt, and Akay (2018) also showed

that the parental factors that gave rise to increased risk of anxiety included less warmth, more inter-parental conflict, over-involvement, and aversiveness.

The current study also investigated the impact of the number of siblings on homotypic comorbidity. It was found that all the children who had either no sibling or only one sibling had 100% HC. Lower prevalence rates of HC were noted among those who had two or more siblings. Other researchers, however, found no association between the number of siblings and ADs. Abbo et al. (2013) found that family size, in terms of the number of siblings, was not a significant predictor for ADs. Rapee (2012) also posited that there was little evidence that family size was strongly associated with anxiety, but SES was significant in that low SES was a predictor for ADs. Although it seems like having more siblings was protective against homotypic comorbidity, results are not conclusive and further investigations are required.

The types of abuses experienced were also assessed, where verbal abuse was leading at 76.4%, followed by physical abuse (38.2%), and then sexual abuse (18.2%). Gender differences in the types of abuse were also noted, where boys had experienced more physical and sexual abuse while girls had experienced more verbal abuse. The finding for males as having higher rates of sexual abuse among the sample displaying ADs was contrary to expectations since literature suggests that being female is a risk factor for sexual abuse among general populations (Kostelny et al., 2013; Kabiru, 2015; Nyagwencha et al., 2018a). The findings, however, need not be dismissed but should call for further investigations to ascertain sexual-related abuses among boys presenting with ADs. A report by UNICEF noted that many children who are sexually abused usually do not report it (UNICEF, 2012). A study in Mukuru Kwa Njenga slums in Nairobi, Kenya, also found a high prevalence of sexual violence among boys at 75.3% (mean age 12.31). The majority of the boy child sexual abuse

perpetrators were strangers (58.2%) and peers (27.6%). The crime occurred mainly in the neighborhood in the absence of parents (Odoro, 2016). Additionally, Ng'enhoh (2015) reported that in Kenya, several young boys are abused at home by disgruntled house helps without the parents' knowledge.

The findings for heightened physical abuse among boys and heightened verbal abuse among girls were in tandem with previous findings from community studies (Kostelny et al., 2013; Nyagwencha et al., 2018a). All those who had experienced sexual and physical abuse had comorbid ADs, which concurs with literature pointing out the various types of abuses as risk factors for AD development of ADs (APA, 2013; Carcani-Mane, 2020; Dabkowska & Dabkowska, 2015; Maniglio, 2012).

The predictors for comorbid ADs elucidated in this study were thus sexual abuse and being from either a 'one-parent' or 'no-parent' family background and having none or only one sibling. Respondents from the father and mother families also had high HC, which requires further investigation. The relationship between the number of siblings and HC suggested that having more siblings was protective of HC, but the results are not conclusive, requiring further research.

#### 5.2.6 Efficacy of CBPT

Cognitive behavioral play therapy was efficacious in alleviating symptoms of ADs, with the greatest effects being realized from baseline to end line ( $p=0.002$ ), as shown by the ANOVA test. Studies utilizing CBPT for the treatment of varied issues also found the intervention to be efficacious post-intervention. One study by Mirahmadi and Hemmati (2016) among 8-12-year olds found that, after 12 sessions of CBPT administration, the self-esteem of the experimental group was significantly increased compared to the control group. Ghodousi et al. (2017) also found that CBPT was effective on street and working girls aged 7-10 years in the city of Karaj, who had

displayed externalizing behavior problems. Other studies using CBPT among 8-14-year-olds exhibiting internalizing disorders such as anxiety and depression also ascertain its efficacy (Nekah, Mohsen, Fariba, & Fatemeh, 2015; Razak, Johari, Mahmud, Zubir, & Johan, 2014).

### 5.2.7 Gender Differences in Efficacy of CBPT

Both boys and girls showed a decline in the means for overall symptomatology from baseline to midline to end line. The independent t-test also showed no gender differences in symptomatology at baseline, midline, and end line ( $p \geq 0.05$ ), suggesting that both boys and girls benefited from the treatment. However, girls' recovery maintained symptom alleviation from baseline to mid line and up to end line. The mean symptomatology for girls showed that they had recovered from ADs at end line (AD scores  $< 25$ ). Boys, on their part, responded slower than girls did at baseline to mid line ( $p=0.936$ ). Although their recovery trend increased from midline to end line ( $p=0.001$ ), their means still indicated ADs (AD scores  $> 25$ ).

In a similar vein, research with adults suggests that females benefit more from psychotherapy than men because they (females) attend more psychotherapy sessions, complete more modules, express more commitment, and view it as more helpful (Grubbs et al., 2015). However, a few studies with children suggest otherwise, forwarding that boys show more improvement post-intervention. Craig and Sprang's (2014) study for the treatment of PTSD observed that girls reported higher symptom levels than boys at posttreatment, suggesting that their clinical presentation at discharge differed despite significant treatment gains. The study recommended the identification of gender-specific response patterns that are important considerations in treatment. Similarly, Yin et al. (2021) revealed more significant improvements in boys than girls who were being treated for anxiety. Thus, different studies report

varying gender differences in treatment outcomes. In light of this, gender sensitivity is crucial in offering treatments to help elucidate the unique predispositions within each gender that may either hinder or promote treatment outcomes.

### 5.3 Conclusion

Anxiety disorders were highly prevalent where the risk was elevated among the younger respondents aged 8-10 years, showing early age of onset. Furthermore, some disorders such as SAD seemed to have their onset at adolescence (11-13 years), which is in line with reviewed literature. All the respondents met the criteria for separation anxiety and PDs, indicating high comorbidity of separation anxiety with panic attacks. Contrary to expectations, the 14-16-year-olds had elevated prevalence rates of separation anxiety than the 11-13-year-olds, which could point to anticipatory anxiety regarding joining high school.

Gender symptomatology of anxiety disorders was established for this sample, where female respondents had higher prevalence and severity for each type of anxiety disorder consistent with existing research. Females also had more fears at a greater intensity compared to the males. The top ten fears for both genders were similar to those found in studies done in other countries, and they included fears of 'bombing attacks', 'terrorists', 'falling from high places,' and 'getting hit by a car or truck'. There were gender differences in some of the top ten fears where more females than males endorsed intense fears in 'getting burnt by fire', 'nightmares', and 'snakes'. Some of the male respondents' intense fears were in 'getting punished by their fathers', 'fear of deep water and the ocean', and 'fear of earthquakes'. The cross-cultural similarities observed in the intense fears validated the commonality of children's fears cross-culturally. The few differences noted call for cultural sensitivity

in assessments and a need to investigate the socio-cultural predispositions towards certain fears.

Homotypic comorbidity was high, in line with studies proffering that comorbidity is the rule rather than the exception in ADs, and females had higher prevalence rates. However, there were no statistically significant gender differences in the mean number of comorbidities, showing that the presence of an AD was a risk factor for homotypic comorbidity regardless of gender. The number of comorbidities decreased with an increase in age, but the prevalence rates for comorbidity increased with an increase in age. This suggested that although some ADs dissipated with increased age, the higher prevalence rates point to the development of new ADs as age increases. This could also point to the chronicity of ADs, underpinning the need for early detection and intervention.

As for heterotypic comorbidity, boys had a preponderance to the peer, conduct, and hyperactivity comorbidities while girls leaned towards the emotional comorbidities, which is in line with findings from other studies. However, using tools that can diagnose specific DSM-5 mental disorders was recommended.

The major predictors for homotypic comorbidity comprised being from a one-parent or no-parent family, experiencing sexual abuse, and having none or only one sibling. Being from father and mother families also had heightened levels of homotypic comorbidity. Nevertheless, further investigations are required to ascertain specific factors within such families that predispose offspring to multiple ADs. Although the results suggest that having more than two siblings was protective of homotypic comorbidity, the findings are inconclusive and require further research.

Gender differences were observed in the experience of different types of abuses where girls had experienced more verbal abuse. This is consistent with

previous studies in informal urban settings in Kenya. Boys, on the other hand had experienced more physical abuse, which also concurs with previous research. However, contrary to several studies, more boys than girls had experienced sexual abuse, and further investigations were recommended.

Cognitive behavioral play therapy was found efficacious in alleviating symptoms of ADs with gender differences noted in its efficacy. Although both girls and boys benefited from the intervention, girls made greater strides towards recovery than boys, despite showing greater severity at baseline. Further investigations on gender treatment outcomes in psychotherapy are crucial.

In conclusion, the study established gender symptomatology of ADs in prevalence, severity, fear content, comorbidities, and intensity of the fears. CBPT was found efficacious on gender symptomatology of ADs, though there were gender-specific factors that influenced treatment outcomes. While these gender-specific factors require in-depth investigations, the findings of this study underscored the necessity of gender sensitivity in the assessment of ADs and in interventions.

#### 5.4 Recommendations

The researcher would like to make the following recommendations:

1. The prevalence of ADs among the respondents was very high (79.1%). There is a need for a nationwide survey on the prevalence of ADs and other mental health disorders among children and adolescents. Such a survey can inform on predisposing factors and promote the formulation and implementation of mental health policies in the country.
2. Younger children, 8-10-year-olds, had more severe symptomatology as compared to the older children. Age-appropriate CBPT programs need to be

offered as early as possible since the disorders seem to have an early age of onset for this sample.

3. Although younger children had higher means for ADs, middle adolescence (11-13 age group) was observed as critical since more of the 11-13-year-olds had overall ADs, SSA, and GAD compared to the younger children (8-10 years). The 11-13 age group's mean symptomatology was also indicative of SAD. Proactive CBPT based programs may be offered to children approaching adolescence (11-13 years) to arrest the development of Ads.
4. Separation anxiety disorder and PD were highly prevalent in the entire sample. Psychoeducation for parents and teachers is crucial to help them know how to recognize symptoms and help children with these conditions.
5. The means for SEP decreased with age, but more of the 14-16-year-olds, as compared to the 11-13-year-olds, had separation anxiety. The 14-16-year-olds in class 8 may have been experiencing anticipatory anxiety regarding the upcoming exams and joining high schools. It is vital to have mental health programs specifically tailored to address these concerns and have programs tailored towards helping the children transition to high schools.
6. The highest fears among the entire sample were in the death and danger scale. Hence, it is essential for teachers and parents to be aware of these fears and teach the children how to dissipate them.
7. The boys had intense fears of being punished by their fathers. There is a need for parenting classes to psycho-educate parents on behavior modification techniques rather than the use of caning or other punitive methods.
8. No statistically significant gender differences were observed in SAD and FC. This could imply that both boys and girls have social fears, fears of being

criticized, failing, and being punished. On the same line, the highest scores in heterotypic comorbidity for both genders were in the peer problem scale. This requires intensifying mental health programs that can help promote social skills, teach assertiveness skills and expose children to positive role models.

9. Gender differences in the prevalence of ADs and fears were noted where females rated higher in the prevalence rates, the severity of ADs, and fear intensities. Gender differences were also noted in the fear content. Research points to both biological and gender socialization processes that make females vulnerable. There is a need for gender-specific programs that can help psycho-educate girls on pubertal developments, which may ease their anxieties. Gender socialization processes that promote ADs also need further investigation.
10. Girls showed a higher prevalence on the emotional scale, while boys had a higher prevalence on the conduct, hyperactivity, and peer problems scales. It is crucial to employ a multi-informant approach in assessments in order to point out the specific internalizing and externalizing disorders.
11. Gender-specific programs to address gender-specific fears and anxieties are essential.
12. Given the high homotypic comorbidity rates for anxiety disorders (80.4%) established by this study, there is a need for mental health workers to conduct thorough assessments towards identifying the primary disorders before administering treatments. A combined approach using detailed clinical interviews and age-appropriate diagnostic tools is recommended.
13. The high comorbidity rates also call for early intervention to prevent chronicity and co-occurrence of the disorders.

14. More boys than girls displayed heterotypic comorbidities in the peer, conduct, and hyperactivity scales, while more girls had emotional problems. Mental health assessments must be gender-specific to screen for the specific co-occurring mental disorders in order to offer efficacious interventions.
15. Children and adolescents in this study had experienced various forms of abuse, and a majority of these abuse survivors had multiple ADs. Interestingly, more boys than girls had experienced sexual abuse. Consequently, there is a need to empower the children and adolescents to help them identify various forms of abuse, whether physical, emotional, or sexual, at home and school. Such awareness is key to combating fear, shame, and the gender norms that hinder help-seeking behavior.
16. Although the study could not assess causality, findings highlighted the strength of the association between family structure and children's mental health. There is a need for community-based programs to support children, parents, and families in single parents and no-parent families to reduce the prevalence of comorbid ADs.
17. Both boys and girls benefited from CBPT treatment, with the girls making greater strides than the boys, even though they (girls) had displayed greater symptomatology at baseline. This calls for gender sensitivity in interventions employing the mixed-gender group formats. Therapists need to realize that there are gender-specific factors that may influence treatment outcomes. Identifying and devising a way to deal with these factors early may maximize treatment benefits for both genders.

18. Cognitive behavioral play therapy proved efficacious for the treatment of ADs among children aged 8-16 years. There is a need to develop a manual that therapists can use within school settings in Kenya and Africa.
19. The government could consider allocating funds to schools to help them implement mental health programs.

### 5.5 Recommendations for Further Research

1. This study found very high prevalence rates for ADs. Hence, there is a need for national studies to assess the prevalence of ADs and other mental disorders by county in Kenya.
2. There is a need for a study to investigate the parenting practices, particularly father-son relationships, among other social factors that could be exposing children to the development of ADs. This would help in developing proactive intervention measures.
3. The finding that males had a higher risk for sexual abuse calls for further investigations to ascertain sexual-related abuses among boys presenting ADs.
4. Cognitive behavioral play therapy was found efficacious for the treatment of ADs among male and female children aged 8-16 years. It is important to move towards conducting more studies among this age group using larger samples in an effort towards developing a manual that can be used within school settings.
5. There is a need to investigate the risk factors that contribute to a high prevalence of ADs confirmed in this study and previous studies done within Nairobi among children and adolescents.
6. This was a cross-sectional study comparing age groups. Longitudinal studies on ADs can be conducted to shed more light on the development of ADs and comorbidities.

7. The current study utilized mixed group formats in terms of gender and age to administer treatments. Other studies can be conducted with separate age and gender groups to better understand the age and gender differences observed on symptomatology.
8. The current study did not involve parents in the assessment or treatment process. Future studies with younger children should consider involving parents in both assessments and the treatment process.
9. Since this study reported a higher prevalence of sexual abuse among boys diagnosed with ADs than the girls, in-depth research needs to be carried out using both clinical and non-clinical samples to shed more light on sexual abuse among boys and girls.
10. The impact of the number of siblings on homotypic comorbidity requires further investigation.
11. Cognitive behavioral play therapy was found efficacious for the treatment of ADs among male and female children aged 8-16 years. Its efficacy can be assessed with populations suffering from other mental disorders.

### 5.6 Limitations

1. Few studies have been carried out using CBPT; hence there is no specific manual for CBPT. The current study, however, incorporated age-appropriate play activities within the CBT protocols. Therefore, the results of the current study might present a problem of replicability in different socio-cultural settings. Further research is needed to develop a CBPT manual that is replicable amongst different populations.
2. The statistical relationship between the social demographic factors and ADs was not assessed; hence causal relationships cannot be made.

3. The sample size was limited in terms of representation of 8-16-year-olds since only those in class 4, and class 8 were available at the time. Larger, more representative sample sizes, in terms of age and gender, are required for the generalizability of results.
4. The tool in the current study (SCARED) did not assess for all the categorized ADs in the DSM-5, such as selective mutism, specific phobias, and agoraphobia. Perhaps incorporating tools that help assess these other disorders would shed more light on the prevalence of ADs from a wider perspective.
5. The SDQ assessed for other comorbidities, but it does not pinpoint the specific mental disorder. Therefore, using tools, such as Beck's Depression Inventory (BDI) tools may be more informative for comorbidities with depression or other tools that diagnose specific disorders, such as attention deficit hyperactive disorder. The study relied on child self-reports, but the utilization of multiple informants such as parents and teachers could give a wider perspective on symptomatology.
6. Although the reliability of the fear scales used in the current study was confirmed and acceptable, there is a need for exploratory factor analysis to ascertain the unidimensionality of each scale.

Notwithstanding these limitations, the current study's findings have important implications for psychological service providers to understand gender differences in symptomatology and treatment outcomes for ADs while using CBPT. This would assist the psychological service providers in offering effective assessments and interventions.

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## Appendix A: Ethical Clearance

**VERDICT - APPROVAL WITH COMMENTS**  
Daystar University Ethics Review Board

Our Ref: **DU-ERB/12/02/2020/000398**

Date: 12<sup>th</sup> February 2020

To: Josephine Wairimu Muchiri

Dear Josephine,

**COGNITIVE BEHAVIORAL PLAY THERAPY AND GENDER SYMPTOMATOLOGY OF ANXIETY DISORDERS AMONG CHILDREN: THE CASE OF SELECTED SCHOOLS IN DAGORETTI CONSTITUENCY, NAIROBI, KENYA**

Reference is made to your ERB application reference no. 270120-01 dated 27<sup>th</sup> January 2020 in which you requested for ethical approval of your proposal by Daystar University Ethics Review Board.

We are pleased to inform you that ethical review has been done and the verdict is to revise to the satisfaction of your Supervisors and Head of Department before proceeding to the next stage. As guidance, ensure that the attached comments are addressed. Please be advised that it is an offence to proceed to collect data without addressing the concerns of Ethics Review board. Your application approval number is **DU-ERB-000398**. The approval period for the research is between **12<sup>th</sup> February 2020 to 11<sup>th</sup> February 2021** after which the ethical approval lapses. Should you wish to continue with the research after the lapse you will be required to apply for an extension from DU-ERB at half the review charges.

This approval is subject to compliance with the following requirements;

- Only approved documents including (informed consents, study instruments, MTA) will be used.
- All changes including (amendments, deviations, and violations) are submitted for review and approval by Daystar University Ethics Review Board.
- Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to Daystar University Ethics Review Board within 72 hours of notification.
- Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to Daystar University Ethics Review Board within 72 hours.
- Clearance for export of biological specimens must be obtained from relevant institutions.
- Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- Submission of a signed one page executive summary report and a closure report within 90 days upon completion of the study to Daystar University Ethics Review Board via email [duerb@daystar.ac.ke].

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and other clearances needed.

Yours sincerely,

  
Mrs. Purity Kiambi,  
Secretary, Daystar University Ethics Review Board

Encl. Review Report

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[www.daystar.ac.ke](http://www.daystar.ac.ke)

*"...until the day dawn and the daystar  
arise in your hearts"  
2 Peter 1, 19 KJV*

Appendix B: NACOSTI Research Permit

  
REPUBLIC OF KENYA

  
NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY & INNOVATION

RefNo: 787797 Date of Issue: 28 March 2020

**RESEARCH LICENSE**



This is to Certify that Ms. Josephine Muchiri of Daystar University, has been licensed to conduct research in Nairobi on the topic: Cognitive behavioral play therapy and gender symptomatology of anxiety disorders among children. The case of selected schools in Dagoretti constituency, Nairobi County, for the period ending : 28 March 2021.

License No: NACOSTI/P/20/4232

787797  
Applicant Identification Number

Director General  
NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY &  
INNOVATION

Verification QR Code



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## Appendix C: Letter of Authorization from the Ministry of Education

  
 Republic of Kenya  
**MINISTRY OF EDUCATION**  
**STATE DEPARTMENT OF EARLY LEARNING AND BASIC EDUCATION**

Telegrams: "SCHOOLING", Nairobi  
 Telephone: Nairobi 020 2453699  
 Email: rce Nairobi@gmail.com  
 cde Nairobi@gmail.com

REGIONAL DIRECTOR OF EDUCATION  
 NAIROBI REGION  
 NYAYO HOUSE  
 P.O. Box 74629 - 00200  
 NAIROBI

When replying please quote

Ref: RDE/NRB/RESEARCH/1/65 vol.1                      DATE: 19<sup>th</sup> October, 2020

Ms. Josephine Muchiri  
 Daystar University  
 NAIROBI.

**RE: RESEARCH AUTHORIZATION**

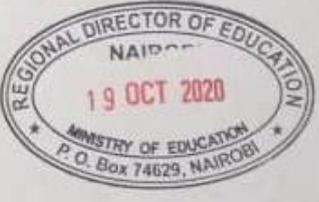
We are in receipt of a letter from the National Commission for Science, Technology and Innovation regarding research authorization in Nairobi County on the topic: *"Cognitive behavioral play therapy and gender symptomatology of anxiety disorders among children."*

This office has no objection and authority is hereby granted for a period, ending on **28<sup>th</sup> March, 2021** as indicated in the request letter.

Kindly inform the Sub County Director of Education of the Sub County you intend to visit.



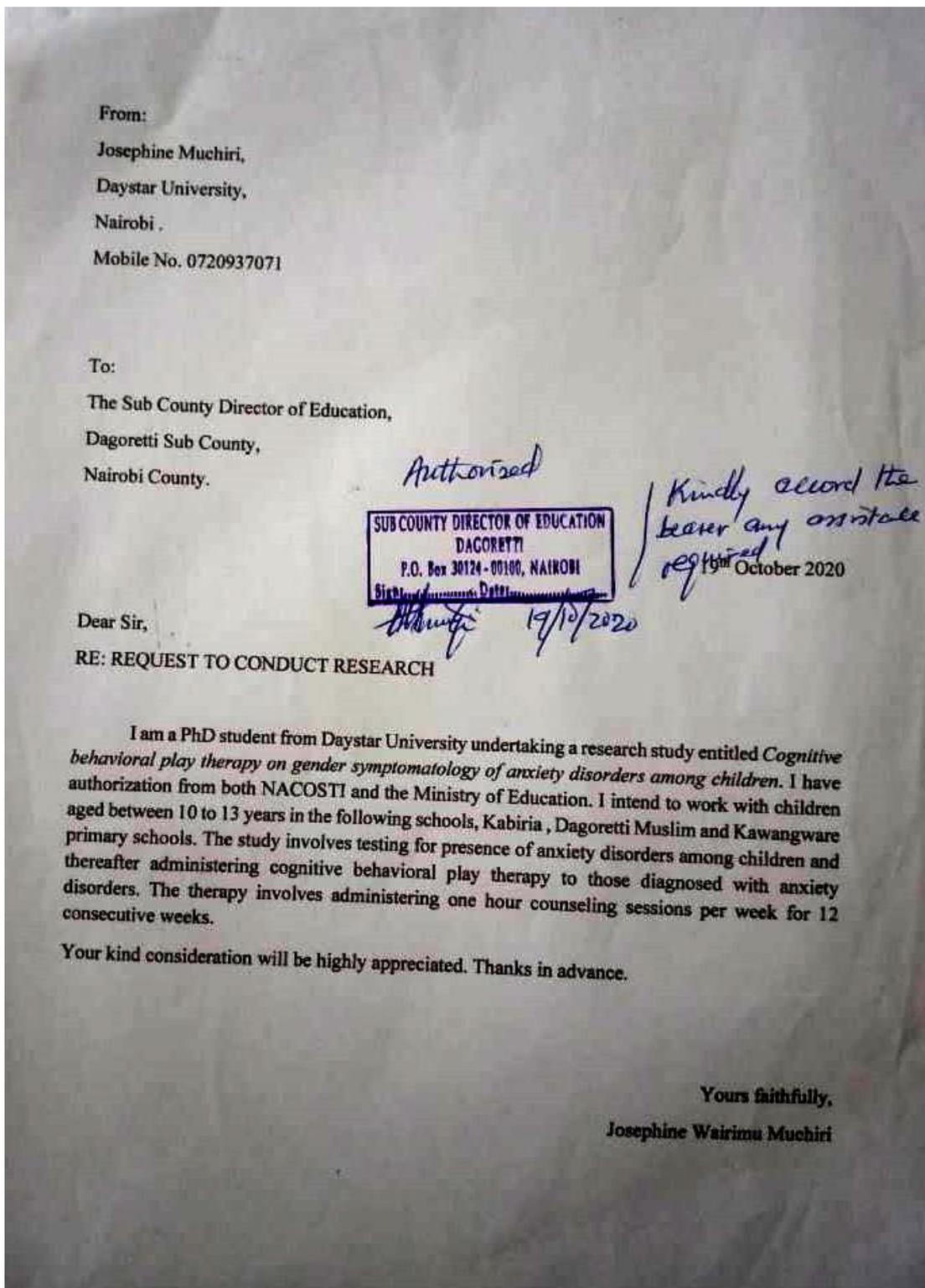
**JAMES KIMOTHO**  
 FOR: REGIONAL DIRECTOR OF EDUCATION  
 NAIROBI.



**Copy to:** Director General/CEO  
 National Commission for Science, Technology and Innovation  
 NAIROBI.



Appendix D: Letter of Authorization from The Sub-County Director of Education,  
Dagoretti Constituency



### Appendix E: Informed Consent Form - Child

My name is Josephine Wairimu Muchiri. I am a PhD student undertaking a Clinical Psychology course at Daystar University, Nairobi Campus. I am currently undertaking a research study entitled “Cognitive behavioral play therapy on gender symptomatology of anxiety disorders among children: Case of selected schools in Dagoretti constituency, Nairobi, Kenya

The purpose of this study is to find out the prevalence of anxiety disorders among primary school children in Kenya. Anxiety disorders are a group of common mental health problems affecting children and adolescents. If not diagnosed and treated early, they can interfere with a child’s social, behavioral and academic functioning. The children diagnosed with the disorders will later be offered school-based treatment, using well researched and effective psychological therapies.

I------(parent’s/guardian’s name), as a parent/guardian of------(child’s name) have been told that my child will be asked to fill out two questionnaires. The first will assess some demographic information about his/her family background, while the second will answer questions concerning his/her well-being. I am aware that each of the questionnaires will take approximately 45-60 minutes. I am also aware that my child’s class teacher will be required to give confidential information regarding my child’s social, emotional, behavioral and academic functioning.

I have been told that to protect my child’s confidentiality, the child will be assigned a numerical code that will be used to identify their responses for statistical purposes only. The child’s responses will be kept in a confidential place that will only be available for access to the principal investigator. I have been told that the child may experience some discomfort in identifying some personal information during this

study; However, I have also been told that none of this personal information will be made public.

If I decide that my child is not comfortable completing the questionnaire, I can simply stop his/her participation. I have been told that my child's participation is voluntary and that refusal to participate will not involve penalty or loss of benefits. I have been told that my child will not gain any immediate benefits from participating in this study. However, I have also been informed that his/her participation in this study may contribute to a better understanding of his/her well-being, and to society's better understanding of children's mental health. If I have questions on this research, I can contact Josephine Muchiri on 0720937071 or josephinemuchiri161641@daystar.ac.ke

I have read and understood the information provided above.

I voluntarily give permission for my child to participate in the research

I decline to allow my child to participate in the research

Signed -----Date-----

----

Appendix F: Minor Assent to Therapy

*Therapy is a relationship that works well when the client and the therapist have clearly defined rights and responsibilities. As a client, you have certain rights to privacy that are important for you to know. In addition, there are also certain limitations to those rights that you need to be aware of. A therapist is mandated by the Law and Professional Ethics to disclose to you the rights and limitations.*

**Confidentiality**

Therapy is a great way to work on issues relevant to you and your parents or caretakers. Successful therapy requires being open and honest with your therapist, and applying the specific areas processed in therapy in your daily life.

I will make every effort to observe confidentiality. However, to give you the best treatment, I may share general information with your parents/caregivers. This is because you are below 18 years of age. Sometimes, you and I may agree to involve your parents/caregivers in treatment, or to consult with them to get more information.

However, if I'm convinced beyond reasonable doubts that you are likely to harm another person, abuse another child or a vulnerable adult, or if you give me information about someone else who is doing this, or you are in imminent danger of harming yourself, I am mandated to inform the Law enforcement agency to guarantee your and other peoples safety.

Name of minor:.....Signature.....Date.....

**Parent or Guardian: Read the points below and put your signature at the bottom to indicate your agreement to respect your child's privacy:**

-I will refrain from requesting detailed information about individual therapy sessions with my child. I understand that I will be provided with periodic updates about general progress, and /or may be asked to participate in therapy sessions as needed.

- Although I know I have the legal right to request written records/session notes since my child is a minor, I agree NOT to request these records in order to respect the confidentiality of my child’s treatment.

- I understand that I will be informed about situations that could seriously endanger my child. I know this decision to breach confidentiality in these circumstances is up to the therapist’s professional judgment.

**I have read, understood and discussed with my child’s therapist the information on this form and agree to all the terms prescribed.**

Parent.....Signature.....Date.....

...

Therapist.....Signature.....Date.....

....

## Appendix G: Strengths and Difficulties Questionnaire (T<sup>4-10</sup>)

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of the child's behavior over the last six months or this school year.

Child's name ..... Male/Female

Date of birth.....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restless, overactive, cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often complains of headaches, stomach-aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shares readily with other children, for example toys, treats, pencils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often loses temper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rather solitary, prefers to play alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally well behaved, usually does what adults request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many worries or often seems worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helpful if someone is hurt, upset or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constantly fidgeting or squirming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has at least one good friend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often fights with other children or bullies them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often unhappy, depressed or tearful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally liked by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easily distracted, concentration wanders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nervous or clingy in new situations, easily loses confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kind to younger children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often lies or cheats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Picked on or bullied by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often offers to help others (parents, teachers, other children)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thinks things out before acting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steals from home, school or elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gets along better with adults than with other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many fears, easily scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Good attention span, sees work through to the end	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have any other comments or concerns?

**Please turn over - there are a few more questions on the other side**

Overall, do you think that this child has difficulties in any of the following areas: emotions, concentration, behavior or being able to get on with other people?

No	Yes- minor difficulties	Yes- definite difficulties	Yes- severe difficulties
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you have answered "Yes", please answer the following questions about these difficulties:

• How long have these difficulties been present?

Less than a month	1-5 months	6-12 months	Over a year
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

• Do the difficulties upset or distress the child?

Not at all	Only a little	A medium amount	A great deal
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

• Do the difficulties interfere with the child's everyday life in the following areas?

	Not at all	Only a little	A medium amount	A great deal
PEER RELATIONSHIPS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CLASSROOM LEARNING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

• Do the difficulties put a burden on you or the class as a whole?

Not at all	Only a little	A medium amount	A great deal
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature ..... Date .....

**Thank you very much for your help**

© Robert Goodman, 2005

Appendix H: Strengths and Difficulties Questionnaire (T<sup>11-17</sup>)

Overall, do you think that this student has difficulties in any of the following areas: emotions, concentration, behavior or being able to get on with other people?

	No	Yes- minor difficulties	Yes- definite difficulties	Yes- severe difficulties
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you have answered "Yes", please answer the following questions about these difficulties:

• How long have these difficulties been present?

	Less than a month	1-5 months	6-12 months	Over a year
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

• Do the difficulties upset or distress this student?

	Not at all	Only a little	A medium amount	A great deal
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

• Do the difficulties interfere with this student's everyday life in the following areas?

	Not at all	Only a little	A medium amount	A great deal
PEER RELATIONSHIPS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CLASSROOM LEARNING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

• Do the difficulties put a burden on you or the class as a whole?

	Not at all	Only a little	A medium amount	A great deal
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature .....

Date .....

**Thank you very much for your help**

© Robert Goodman, 2005

Appendix I: Fear Survey Schedule for Children-Revised (FSSC-R)

© Thomas H. Ollendick

Name: \_\_\_\_\_ Age: \_\_\_\_\_ Date: \_\_\_\_\_

DIRECTIONS: A number of statements which boys and girls use to describe the fears they have are given below. Read each carefully and put an X in the box in front of the words that best describe your fear. There are no right or wrong answers. Remember, find the words which best describe how much fear you have.

- 1. Giving an oral report . . . . .  None  Some  A lot
- 2. Riding in the car or bus . . . . .  None  Some  A lot
- 3. Getting punished by mother . . . . .  None  Some  A lot
- 4. Lizards . . . . .  None  Some  A lot
- 5. Looking foolish . . . . .  None  Some  A lot
- 6. Ghosts or spooky things . . . . .  None  Some  A lot
- 7. Sharp objects . . . . .  None  Some  A lot
- 8. Having to go to the hospital . . . . .  None  Some  A lot
- 9. Death or dead people . . . . .  None  Some  A lot
- 10. Getting lost in a strange place . . . . .  None  Some  A lot
- 11. Snakes . . . . .  None  Some  A lot
- 12. Talking on the telephone . . . . .  None  Some  A lot
- 13. Roller coaster or carnival rides . . . . .  None  Some  A lot
- 14. Getting sick at school . . . . .  None  Some  A lot
- 15. Being sent to the principal . . . . .  None  Some  A lot
- 16. Riding on the train . . . . .  None  Some  A lot
- 17. Being left at home with a sitter . . . . .  None  Some  A lot
- 18. Bears or wolves . . . . .  None  Some  A lot
- 19. Meeting someone for the first time . . . . .  None  Some  A lot
- 20. Bombing attacks—being invaded . . . . .  None  Some  A lot
- 21. Getting a shot from the nurse or doctor. . . . .  None  Some  A lot
- 22. Going to the dentist . . . . .  None  Some  A lot
- 23. High places like mountains . . . . .  None  Some  A lot
- 24. Being teased . . . . .  None  Some  A lot
- 25. Spiders . . . . .  None  Some  A lot
- 26. A burglar breaking into our house . . . . .  None  Some  A lot
- 27. Flying in an airplane . . . . .  None  Some  A lot
- 28. Being called on by the teacher . . . . .  None  Some  A lot
- 29. Getting poor grades . . . . .  None  Some  A lot
- 30. Bats or birds . . . . .  None  Some  A lot

31. My parents criticizing me . . . . .  None  Some  A lot
32. Guns . . . . .  None  Some  A lot
33. Being in a fight . . . . .  None  Some  A lot
34. Fire—getting burned . . . . .  None  Some  A lot
35. Getting a cut or injury . . . . .  None  Some  A lot
36. Being in a big crowd . . . . .  None  Some  A lot
37. Thunderstorms . . . . .  None  Some  A lot
38. Having to eat some food I don't like . . . . .  None  Some  A lot
39. Cats . . . . .  None  Some  A lot
40. Failing a test . . . . .  None  Some  A lot
- 
41. Being hit by a car or truck . . . . .  None  Some  A lot
42. Having to go to school . . . . .  None  Some  A lot
43. Playing rough games during recess . . . . .  None  Some  A lot
44. Having my parents argue . . . . .  None  Some  A lot
45. Dark rooms or closets . . . . .  None  Some  A lot
46. Having to put on a recital . . . . .  None  Some  A lot
47. Ants or beetles . . . . .  None  Some  A lot
48. Being criticized by others . . . . .  None  Some  A lot
49. Strange looking people . . . . .  None  Some  A lot
- 
50. The sight of blood . . . . .  None  Some  A lot
51. Going to the doctor . . . . .  None  Some  A lot
- 
52. Strange or mean looking dogs . . . . .  None  Some  A lot
53. Cemeteries . . . . .  None  Some  A lot
54. Getting a report card . . . . .  None  Some  A lot
55. Getting a haircut . . . . .  None  Some  A lot
56. Deep water or the ocean . . . . .  None  Some  A lot
57. Nightmares . . . . .  None  Some  A lot
58. Falling from high places . . . . .  None  Some  A lot
59. Getting a shock from electricity . . . . .  None  Some  A lot
60. Going to bed in the dark . . . . .  None  Some  A lot
61. Getting car sick . . . . .  None  Some  A lot
62. Being alone . . . . .  None  Some  A lot
63. Having to wear clothes different from others. . . . .  None  Some  A lot
64. Getting punished by my father . . . . .  None  Some  A lot
65. Having to stay after school . . . . .  None  Some  A lot
66. Making mistakes . . . . .  None  Some  A lot
67. Mystery movies . . . . .  None  Some  A lot

(Continued on next page)

- 68. Loud sirens . . . . .  None  Some  A lot
- 69. Doing something new . . . . .  None  Some  A lot
- 70. Germs or getting a serious illness . . . . .  None  Some  A lot
- 71. Closed spaces . . . . .  None  Some  A lot
- 72. Earthquakes . . . . .  None  Some  A lot
- 73. Terrorists . . . . .  None  Some  A lot
- 74. Elevators . . . . .  None  Some  A lot
- 75. Dark places . . . . .  None  Some  A lot
- 76. Not being able to breathe . . . . .  None  Some  A lot
- 77. Getting a bee sting . . . . .  None  Some  A lot
- 78. Worms or snails . . . . .  None  Some  A lot
- 79. Rats or mice . . . . .  None  Some  A lot
- 80. Taking a test . . . . .  None  Some  A lot

The End

## Appendix J: Screen for Child Anxiety Related Disorders (SCARED)

CHILD Version—Page 1 of 2 (to be filled out by the CHILD)

Developed by Boris Birmaher, M.D., Sunceta Khetarpal, M.D., Marlane Cully, M.Ed., David Brent, M.D., and Sandra McKenzie, Ph.D., Western Psychiatric Institute and Clinic, University of Pittsburgh (October, 1995). E-mail: birmaherb@upmc.edu

See: Birmaher, B., Brent, D. A., Chiappetta, L., Bridge, J., Monga, S., & Baugher, M. (1999). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): a replication study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(10), 1230-6.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Directions:**

Below is a list of sentences that describe how people feel. Read each phrase and decide if it is "Not True or Hardly Ever True" or "Somewhat True or Sometimes True" or "Very True or Often True" for you. Then, for each sentence, fill in one circle that corresponds to the response that seems to describe you *for the last 3 months*.

	0 Not True or Hardly Ever True	1 Somewhat True or Sometimes True	2 Very True or Often True	
1. When I feel frightened, it is hard to breathe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
2. I get headaches when I am at school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
3. I don't like to be with people I don't know well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SC
4. I get scared if I sleep away from home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
5. I worry about other people liking me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
6. When I get frightened, I feel like passing out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
7. I am nervous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
8. I follow my mother or father wherever they go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
9. People tell me that I look nervous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
10. I feel nervous with people I don't know well.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SC
11. I get stomachaches at school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
12. When I get frightened, I feel like I am going crazy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
13. I worry about sleeping alone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
14. I worry about being as good as other kids.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	GD
15. When I get frightened, I feel like things are not real.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
16. I have nightmares about something bad happening to my parents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP
17. I worry about going to school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SH
18. When I get frightened, my heart beats fast.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
19. I get shaky.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	PN
20. I have nightmares about something bad happening to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	SP

**Screen for Child Anxiety Related Disorders (SCARED)**  
CHILD Version—Page 2 of 2 (to be filled out by the CHILD)

	<b>0</b> Not True or Hardly Ever True	<b>1</b> Somewhat True or Sometimes True	<b>2</b> Very True or Often True	
21. I worry about things working out for me.	0	1	2	GD
22. When I get frightened, I sweat a lot.	0	1	2	PN
23. I am a worrier.	0	1	2	GD
24. I get really frightened for no reason at all.	0	1	2	PN
25. I am afraid to be alone in the house.	0	1	2	SP
26. It is hard for me to talk with people I don't know well.	0	1	2	SC
27. When I get frightened, I feel like I am choking.	0	1	2	PN
28. People tell me that I worry too much.	0	1	2	GD
29. I don't like to be away from my family.	0	1	2	SP
30. I am afraid of having anxiety (or panic) attacks.	0	1	2	PN
31. I worry that something bad might happen to my parents.	0	1	2	SP
32. I feel shy with people I don't know well.	0	1	2	SC
33. I worry about what is going to happen in the future.	0	1	2	GD
34. When I get frightened, I feel like throwing up.	0	1	2	PN
35. I worry about how well I do things.	0	1	2	GD
36. I am scared to go to school.	0	1	2	SH
37. I worry about things that have already happened.	0	1	2	GD
38. When I get frightened, I feel dizzy.	0	1	2	PN
39. I feel nervous when I am with other children or adults and I have to do something while they watch me (for example: read aloud, speak, play a game, play a sport).	0	1	2	SC
40. I feel nervous when I am going to parties, dances, or any place where there will be people that I don't know well.	0	1	2	SC
41. I am shy.	0	1	2	SC

**SCORING:**

A total score of  $\geq 25$  may indicate the presence of an **Anxiety Disorder**. Scores higher than 30 are more specific. **TOTAL =**

A score of 7 for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate **Panic Disorder** or **Significant Somatic Symptoms**. **PN =**

A score of 9 for items 5, 7, 14, 21, 23, 28, 33, 35, 37 may indicate **Generalized Anxiety Disorder**. **GD =**

A score of 5 for items 4, 8, 13, 16, 20, 25, 29, 31 may indicate **Separation Anxiety SOC**. **SP =**

A score of 8 for items 3, 10, 26, 32, 39, 40, 41 may indicate **Social Anxiety Disorder**. **SC =**

A score of 3 for items 2, 11, 17, 36 may indicate **Significant School Avoidance**. **SH =**

*For children ages 8 to 11, it is recommended that the clinician explain all questions, or have the child answer the questionnaire sitting with an adult in case they have any questions.*

*The SCARED is available at no cost at [www.upmc.pitt.edu/research/under\\_tools\\_and\\_assessments](http://www.upmc.pitt.edu/research/under_tools_and_assessments), or at [www.pediatric.bipolar.pitt.edu/under\\_instruments](http://www.pediatric.bipolar.pitt.edu/under_instruments).*

March 27, 2012

### Appendix K: Child Social Demographic Questionnaire (CSDQ)

Please answer the questions below as truthfully as possible. All the information will be kept confidential and it will not be disclosed to anyone other than the researcher without your written permission.

#### A: Personal characteristics

1. Name.....
2. Date of birth.....
3. Class.....

#### Enquiry about medical health

1. Are you currently taking any medication from a doctor? (Yes/ No).

#### B: Family characteristics

1. Who among these people lives with you at home? (Tick appropriately)

- Father
- Mother
- Sisters
- Brothers
- Cousins
- Uncles
- Aunties
- None
- Other people

(specify).....  
 .....

2. I have..... (1, 2, 3, 4,5 more than 5 ) sisters.
3. I have .....(1, 2, 3, 4, 5, more than 5) brothers.

#### C: Risk Factors enquiry

##### Abuse

4. Has anyone older than you at home or at school ever touched you in any of your private parts without your permission?  
 At school..... (Yes / No).  
 At home..... (Yes / No).
5. Has anyone at home or in school ever beaten you until you had bruises in any part of your body?  
 At school..... (Yes / No).  
 At home..... (Yes / No).
6. Has anyone at home or at school ever insulted you by calling you bad names?

At school..... (Yes / No).  
At home..... (Yes / No).

The end.

Thank You.

## Appendix L: The Study Flow Chart

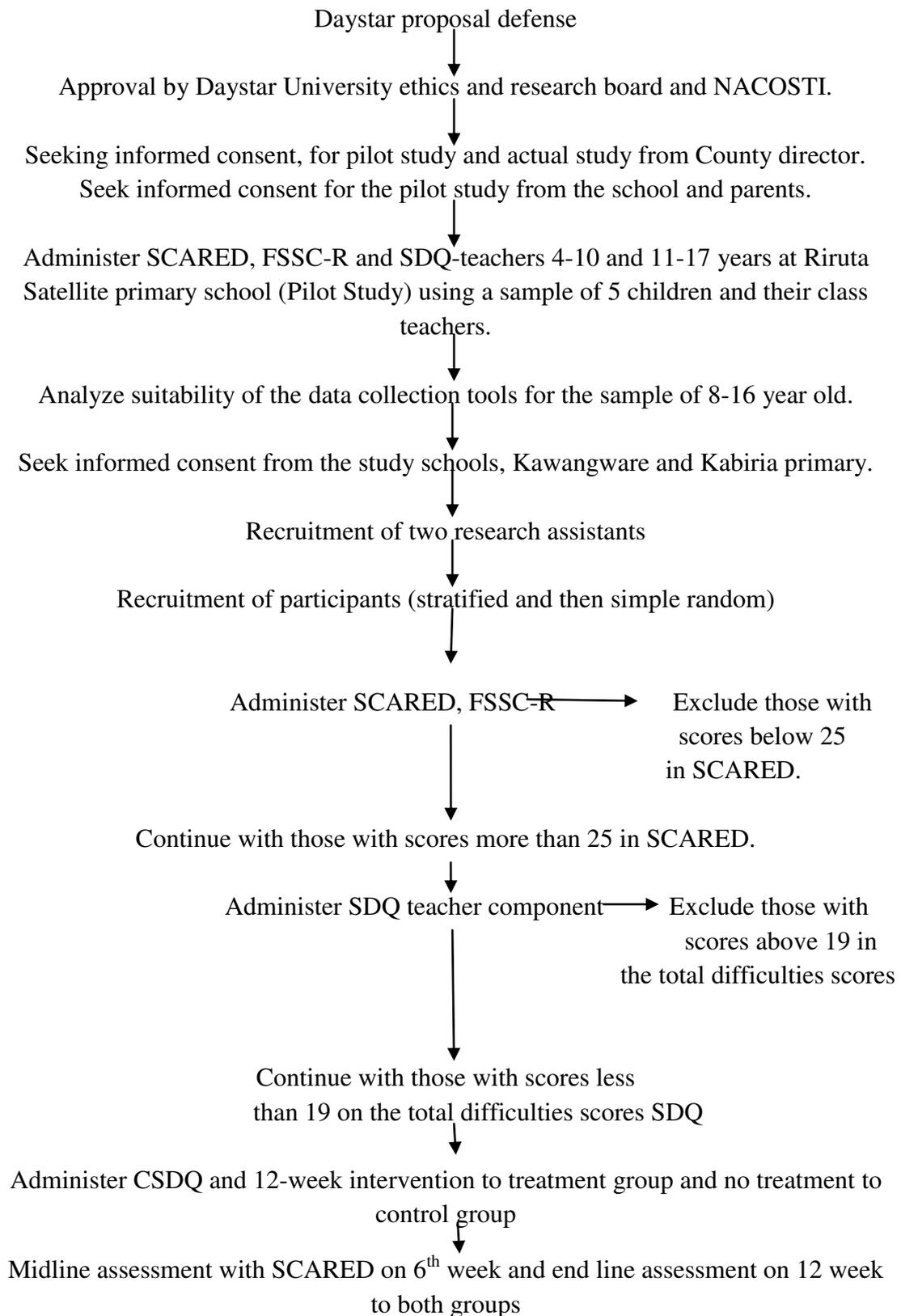


Figure 3.9: Study Flow Chart

## Appendix M: The FSSCR scales

Scale	Item	N	Mean	Standard deviation
Fear of Criticism, Failure and Punishment 14 Items	Getting punished by my father	158	1.2911	.77627
	Making mistakes	158	1.2658	.67170
	My parents criticizing me	156	1.2564	.77769
	Getting punished by mother	157	1.1783	.75535
	Strange looking people	159	1.1384	.74186
	Being criticized by others	157	1.1338	.76874
	Being teased	156	.9615	.76945
	Looking foolish	158	.8924	.87123
	Being in a big crowd	159	.8365	.78655
	Giving an oral report	157	.8153	.66816
	Meeting someone for the first time	158	.7595	.69968
	Having to put on a recital	157	.7389	.72631
	Having to wear clothes different from others	158	.5949	.72303
	Talking on the telephone	159	.3585	.67770
Fear of Death and Danger 31 Items	Being hit by a car or truck	153	1.5490	.79423
	Falling from high places	153	1.5294	.76139
	Terrorists	154	1.5000	.80237
	Not being able to breathe	159	1.4969	.76203
	Fire – getting burned	159	1.4780	.76998
	Bombing attacks – being invaded	160	1.4625	.77612
	Getting a shock from electricity	158	1.4494	.74481
	Earthquakes	156	1.4103	.81019
	Guns	156	1.3910	.83915
	A burglar breaking into our house	159	1.3836	.84792

	Germes or getting a serious illness	158	1.3418	.75521
	Death or dead people	158	1.3291	.84795
	Deep water or the ocean	157	1.2803	.79931
	Ghosts or spooky things	154	1.2143	.85531
	Cemeteries	157	1.2102	.83996
	Strange or mean looking dogs	159	1.1258	.77739
	getting a cut or injury	157	1.0764	.72978
	Getting a bee sting	159	1.0755	.71642
	Being in a fight	157	1.0701	.79352
	High places like mountains	157	1.0701	.83293
	Sharp objects	156	1.0513	.72552
	Playing rough games during recess	156	1.0449	.74784
	Thunderstorms	156	1.0192	.83063
	Having to eat some food I don't like	160	.9000	.76232
	The sight of blood	155	.8774	.84003
	Loud sirens	157	.6752	.71805
	Roller coaster or carnival rides	157	.6178	.73846
	Flying in an airplane	156	.6026	.75074
	Getting a haircut	157	.4713	.73868
	Riding in the car or bus	159	.4528	.73518
	Riding on the train	156	.3590	.69976
Fear of Animals	Snakes	156	1.3782	.82182
	Bears or wolves	157	1.3567	.85495
9 Items	Worms or snails	158	.8734	.79596
	Lizards	157	.8025	.83543
	Ants or beetles	156	.7500	.78391
	Spiders	157	.7389	.81765
	Rats or mice	160	.6875	.79454
	Cats	157	.4522	.74632
	Bats or birds	154	.3701	.55954
Fear of the Unknown	Nightmares	116	1.5517	.83765
	Having my parents argue	157	1.4013	.74127
12 Items	Getting lost in a strange place	156	1.3654	.73692

	Dark places	157	1.1274	.81434
	Dark rooms or closets	155	1.1032	.79914
	Closed spaces	154	.9870	.77533
	Going to bed in the dark	154	.9156	.79993
	Mystery movies	158	.8291	.81540
	Being alone	154	.7792	.78588
	Doing something new	159	.7233	.73701
	Being left at home with a sitter	160	.6313	.74919
	Elevators	156	.5321	.74850
Medical & School related Fears	Getting poor grades	155	1.3161	.72752
	Failing a test	155	1.2968	.70411
	Being sent to the principal	159	.9182	.79531
14 Items	Going to the dentist	159	.8742	.82479
	Getting sick at school	158	.8544	.73862
	Getting a shot from the nurse or doctor	158	.8354	.78083
	Taking a test	159	.8176	.71028
	Having to stay after school	158	.8038	.84053
	Getting car sick	157	.7389	.75232
	Getting a report card	157	.7134	.72546
	Having to go to the hospital	157	.6752	.74435
	Being called on by the teacher	157	.5860	.68915
	Going to the doctor	154	.5195	.66883
	Having to go to school	153	.4118	.76545

## Appendix N: The CBPT Intervention Guidelines

Session	Protocol	Materials required	Objectives	Homework
1	Psycho education.	Play dough Pencil and crayons Child workbook Erasers	Rapport building. Teach about structure of sessions. Establish group rules and norms	The therapist will ask each group member to remember their good qualities when they are having difficulties in school or at home.
	Psycho education	Story telling Chart on feeling faces. Child workbook Mood thermometer	Psycho educate on difference between feelings and thoughts Psycho educate on the relationship between thoughts, feelings and behavior	Draw their feelings Before bed each day Record an event that happened during the day, and the thoughts that went through your mind.
3	Somatic management	Video Child workbook Mood thermometer Thought log form	Teach the 4-7-8 breathing techniques. Teach on guided imagery for relaxation.	Practice deep breathing exercises three times a day and record. Continue with daily mood record and daily thought record.
4	Somatic management	Pencils, crayons Child workbook Mood thermometer Thought log form	Explore fears. Construct a fear hierarchy. Teach use of relaxation techniques to reduce the fears.	Continue with the daily mood log and thought log form. Continue with the breathing exercises.
5	Cognitive restructuring	Story telling Mood thermometer Thought log form	Identify cognitive distortions. Cognitive reframing.	Make a list of 10 cognitive distortions/negative thoughts you have had in the past, or other people you know have had. Continue with mood and thought recording.
6	Midline assessment	SCARED questionnaire	Assess symptom alleviation	Continue with mood and thought recording
7	Exposure	Papers and pencils,	Expose the child to their feared	Continue with mood and thought recording.

		crayons.	stimuli through drawing. Use relaxation techniques to dissipate the fear. Use positive self-statements to decrease anxiety.	Everyday repeat and record 10 positive self-statements
8	Relapse prevention -Anger management	Play dough, balloons	Teach about effect of anger on our bodies. Teach on healthy ways to release anger.	Practice anger management techniques
9	Relapse prevention  Self-acceptance	Child workbook Crayons Pencil	Teaching appropriate boundaries. Educate on child rights.	Continue reciting the above statement twice every day of the week. Continue with mood and thought log recording.
10	Relapse prevention Boost self esteem	Self-photos Child workbook Glue Scissors	Boost self esteem	Continue with mood and thought log recording. Repeat 5 good things you like about yourself everyday.
11	Relapse prevention preparation for termination	Child workbook, pencil, crayons.	Promote resilience Increase awareness of social support Boost self esteem	Write a summary of all the skills you have learnt.
12	Termination	Tokens SCARED	Administer SCARED Reward with candies for participation	Continue practicing skills learnt

## Appendix O: Researcher's Curriculum Vitae

### **PERSONAL DETAILS**

Name: Josephine Wairimu Muchiri

Gender: Female

Contacts: Mobile No. 0720937071; email: wairimu.josephine.jw@gmail.com

Nationality: Kenyan

Marital status: Married with children

Religion: Christianity

### **PERSONAL MISSION STATEMENT**

Colossians 3:17: "Whatever you do, whether in word or deed, do it all in the name of the Lord Jesus, giving thanks to God the Father through Him."

### **EDUCATIONAL AND TRAINING**

- Daystar university (2017-2021)- PhD clinical psychology.
- Kenyatta university (2008-2010)- Master's degree in education (Guidance and Counseling option)
- Kenyatta university (1994-1998 - B.Ed. (Science) degree (Mathematics /Chemistry)
- Bishop Gatimu Ngandu Girls (1989-1992)- B+ in KCSE
- Gikumbo primary school (1980-1988)- KCPE

### **Short courses**

- Amani counselling center: Basic skills in counseling and Substance abuse (2003)
- African institute of professional counseling: Trainer of trainers course, Play and art therapy (2008-2009)
- Maranatha college of professional counseling: Practical skills in counseling (2009)

### **WORK EXPERIENCE**

- Kamukunji technical training Institute (From January 2021 to present)

Responsibilities: Maths Lecturer, Guidance and Counseling

- P.C Kinyanjui Technical Training Institute (from 2014-2020)

Responsibilities: Maths Lecturer; Exams officer-Applied Science Department; Counseling students

- Nyeri Technical Training Institute (From 2010-2013)

Responsibilities: Maths Lecturer

- Nduriri High school (from 2002-2008)

Responsibilities: Maths and chemistry Teacher, Guidance and Counseling.

### **Part –Time work experience**

- Machakos University (From September 2021 to present)

Responsibilities: Lecturer –Social sciences and humanities department.

- Management University of Africa (2018-2019)

Responsibilities: Lecturer-Social sciences and humanities department

### **Short term work experience**

- Kiambu G.K Prison- Master's degree Counseling practicum (2009)

Responsibilities: Counseling of inmates and staff.

- Tandaza Trust (2013)- Volunteer at a church based organization

Responsibilities: Part time counseling of the homeless women.

- Mary faith rescue center- 2018 (PhD program counseling practicum)

Responsibilities: Counseling sexually abused children.

- Kenyatta University through African Institute of Professional Counseling) AIPC (2017-2018)

Responsibilities: Facilitator in various courses; Play and art therapy, Counseling supervision, Trauma and assessment therapy and Trainer of trainers

### **PUBLISHED WORKS**

1. *Factors Affecting the Academic Performance, Academic and Occupational Aspirations of Adolescents.* [Master's thesis]
2. *The Impact of Gender in the Prevalence, Severity and Comorbidities of Anxiety Disorders. Case of Children from Selected Schools in Dagoretti Sub-County, Nairobi County, Kenya.*

### **CONFERENCE PRESENTATIONS**

1. *Age Comparisons in the Prevalence and Severity of Anxiety Disorders among Children and Adolescents from Nairobi Kenya* [An Oral Presentation at the Webinar of 8th World Summit on Mental Health, Psychiatry and Wellbeing, September 08- 09, 2021]

## Appendix P: Plagiarism Report

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