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# PREVALENCE OF ANXIETY AND DEPRESSION AMONG ORPHANS AND NON-ORPHANS IN NIGERIA: A COMPARATIVE STUDY

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## ABSTRACT

*Orphanhood is an arduous period, and orphans are more vulnerable to emotional difficulties because they often lack secured parental attachment and care that are crucial for healthy emotional development. The current difficult socioeconomic conditions in Nigeria also put children and adolescents living with their families at risk for emotional problems. This study aimed to investigate the prevalence of anxiety and depression among orphans and non-orphans in Nigeria. The research sample consisted of 200 participants including 100 orphans and 100 non-orphans aged 8-18 years (M= 13). The Revised Child Anxiety and Depression Scale-25 (RCADS-25) was the tool used for data collection. The mean score of the total sample was calculated. Independent-Samples T\test was conducted to compare the means of orphans and non-orphans. Pearson Product Moment Correlation was computed to correlate total anxiety and total depression scores. The results showed that there is low prevalence of anxiety and depression among children and adolescents in Nigeria. Orphans had more symptoms of both anxiety and depression, compared to non-orphans. A moderate positive correlation (.570) was found between levels of anxiety and depression, indicating that there is comorbidity between both disorders. The research findings are*

*discussed in the light of relevant research. Further research that utilizes larger, nation-wide samples are recommended to extend this research findings, and timely interventions should be administered to children experiencing symptoms of depression and anxiety.*

**Keywords:** Anxiety, Depression, Orphans, Non-orphans.

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## 1. INTRODUCTION

Childhood and adolescence are critical periods for an individual's overall development -- physical, biological, cognitive, and psychosocial development (Dornan & Woodhead, 2015); thus, an individual's experiences in childhood and adolescence have physical and mental health consequences that do not only affect the childhood or adolescence phase, but also the entire life-course of the person (World Health Organization [WHO], 2014). Research has demonstrated that internalizing disorders like anxiety and depression are not only prevalent in adults, but also in children and adolescents (Slemming et al., 2010). Certain groups of children such as orphans, those abandoned by their families, and those nurtured in institutional homes are even more at risk of developing these psychological disorders than others, because they often lack family's love, care, and parental secured attachment that are crucial for growing into emotionally stable adults (Earls et al., 2008; Liu, 2006).

Anxiety is defined as an emotional state that is characterized by persistent feelings of worry, terror, and tension. Individuals with anxiety disorders usually experience recurring disturbing thoughts, avoid perceived threatening situations and objects, and may also have physiological symptoms such as dizziness, sweating, restlessness, trembling, increased heartbeat etc. Anxiety disorders are highly comorbid with one another and with other psychological disorders, especially depression (Penninx et al., 2021).

Depression is a common and serious mental disorder that is characterized by persistent feelings of sadness, worthlessness

or guilt, loss of interest, and inability to experience pleasure in enjoyable or previously rewarding activities (World Health Organization [WHO], 2012). In addition to emotional symptoms, people with depression also usually have physical symptoms such as trouble sleeping, disturbed appetite, loss of energy, impaired concentration, and increased fatigue. These symptoms significantly impair the individual's ability to live a rewarding and functional life (Wang et al., 2021).

Orphans in the present study, are children and adolescents aged 18 and below, who have lost one or both parents and are being fully cared for and raised in institutional homes, with minimal or no contact with their biological families. Non-orphans, in this context, are school-going children and adolescents aged 18 and below who live with both of their biological parents and whose biological parents are their primary caregivers.

Insecurity, insurgency, and terrorism are major challenges in Nigeria of today, leading to the loss of many lives and properties. Many people are rendered homeless, and many children are now orphans, denied a family's love and care (Obi, 2015). The numbers of orphans are increasing day-by-day. However, interventions and support for orphans in Nigeria are typically geared towards meeting the physical needs of such children. While meeting their physical needs is crucial, adequate attention needs to be paid to their psychological well-being as well. Unfortunately, there is a dearth of research on children's mental health and the prevalence of psychological disorders among orphans and non-orphans in Nigeria. There is also little awareness on the importance of this critical aspect.

Early detection and intervention are crucial for recovery and the prevention of further problems that may ensue if psychological difficulties are left unaddressed (Groenman et al., 2017). Consequently, the present study aims to explore the prevalence of anxiety and depression among children and adolescents in Nigeria. This research will investigate whether orphans raised in institutional homes present with more symptoms of anxiety and depression than non-orphans living with their parents. This study will also assess if there is comorbidity of anxiety and depression symptoms among children and adolescents in Nigeria. The significance of this study is to raise awareness at the family, institutional, and community levels about the importance of the mental health of children and adolescents. If orphans are found to have more symptoms of anxiety and depression than non-orphans, then measures can be taken to mitigate the detrimental effects by raising awareness on the importance of social and emotional support for potentially vulnerable groups of children. The study outcome will assist clinicians and counselors in paying attention to the unique circumstances of orphans and non-orphans during therapies. This research will also broaden the existing scant body of research on the mental health issues of children and adolescents, particularly orphans in Nigeria and other similar developing countries.

## 2. LITERATURE REVIEW

### 2.1 Anxiety and Depression

Karevold et al. (2009) conducted a study to identify the early predictors and pathways of symptoms of depression and anxiety in adolescence. They used data from an 11-year

prospective longitudinal survey in Norway. The relationship between temperamental (child emotionality and shyness) and contextual (family adversities, maternal distress, and social support) predictors was examined using structural equation modeling. Their findings showed that early risk factors accounted for 25% variance in covarying symptoms of anxiety and depression in adolescent girls, and 38% in boys. Child emotionality partly mediated all the risk factors. Maternal distress at 18 months predicted heightened levels of anxiety and depression in early adolescence. Family adversity in childhood was found to be a significant predictor of depressive symptoms in adolescence. They concluded that early life experiences have lasting effects on adolescent internalizing difficulties.

Moffitt et al. (2007) conducted a prospective longitudinal cohort study on 1037 participants in New Zealand to examine the cumulative and sequential co-morbidity of generalized anxiety disorder (GAD) and major depressive disorder (MDD). These participants were followed from birth up to age 32 years, with 96% retention. Research diagnoses of GAD and MDD were conducted on the participants at various ages. The results showed that there is a history of anxiety in 48% of lifetime depression cases, and a history of depression in 72% of lifetime anxiety cases. 12% of the cohort, in adulthood, had comorbid MDD and GAD, and 11% of the comorbid group had attempted suicide. They concluded that the relationship between GAD and MDD is stronger than previously presumed, and comorbid cases of both poses a severe mental health burden. They further asserted that it might be more important to predict overlapping

symptoms of anxiety and depression than symptoms of either depression or anxiety alone.

Groenman et al. (2017) carried out a quantitative meta-analysis of thirty-seven longitudinal studies including over 762,187 participants. The results showed that depression, childhood conduct disorder, oppositional defiant disorder, and attention-deficit/hyperactivity disorder (ADHD) significantly increased the risk of developing substance-related disorders later in life. They concluded that early detection and intervention are crucial for children experiencing these disorders in order to prevent crippling substance-related disorders later in life. This study indicates that childhood psychological disorders are not only sometimes persistent, but they may also lead to the acquisition of other debilitating mental disorders later in life if left undetected and untreated.

**2.2 Anxiety, Depression, and Care Environment**

Asides the relationship between anxiety and depressive disorders, various studies have also examined how different care environments may impact the prevalence of anxiety, depression, and other psychological disorders in children and adolescents. Omari et al. (2021) carried out a prospective cohort study on 1931 participants in Western Kenya from 2009-2019, to compare the impact of care environment on the mental health of orphans in institutional care, family-based care, and self-care on the streets. They found that orphans in all care environments experienced potentially traumatic events. However, orphans in institutional care are less likely to be diagnosed with mental health concerns such as depression, suicidality, anxiety and post-traumatic stress disorder (PTSD)

during the follow-up period, compared to orphans in family-based care. Orphans on the streets were found to be significantly more likely to be diagnosed with these psychological problems at any time during the follow-up periods than the other groups. They recommended that community mental health supports be made available for orphans.

Bhatt et al. (2020) conducted a cross-sectional study to examine the prevalence of depressive symptoms among 602 orphans (13-17 years) living in childcare homes in Nepal. They used a validated questionnaire and Beck Depression Inventory-II (BDI-II) to assess depressive symptoms among the participants. They concluded that there is a high prevalence of clinically-relevant depressive symptoms among orphans living in childcare homes. They also concluded that females, victims of bullying, those with physical health problems, alcohol users, and those who have low social support are at more risk for depression; thus, interventions should be focused more on these groups.

A comparative study was conducted by Shafiq et al. (2020) using samples of 150 orphans and 150 non-orphans in Lahore, Pakistan to explore the relationship between anxiety, depression, stress, and decision-making among orphan and non-orphan adolescents. Depression, Anxiety & Stress Scales (DASS) and the Adolescent Decision-Making Questionnaire (ADMQ) were used for data collection. They used descriptive statistics, Pearson product moment, independent t/tests and simple regression analysis to analyze the data. The findings showed that decision-making is significantly positively correlated with anxiety, stress, and depression. The results also

revealed significant gender differences among both orphans and non-orphans with girls having high anxiety as compared to boys. They also found that anxiety and depression are more prevalent in orphans than non-orphans.

Kaur et al. (2018) conducted a descriptive study on the prevalence of behavioral and emotional problems in 292 orphans and other vulnerable children and adolescents (OVCA) living in institutional homes in India. They concluded that orphans and OVCA are more vulnerable to emotional and behavioral problems; thus, such children should be screened regularly for these disorders.

### 2.3 Protective Factors for Anxiety and Depression

Several studies have been carried out to identify protective factors that act as buffers against developing anxiety, depression, and other mental disorders even in the presence of significant risk factors. Oman and Lukoff (2018) reviewed theories and empirical evidence on the association between religion and spirituality, and mental health. They found that the majority of available evidence on this topic support the important role of religion and spirituality as protective factors against depression and anxiety for adolescents and adults in the US and several other countries. They also found that meta-analyses supported the efficacy of religion/spirituality tailored-treatments in improving psychological outcomes for individuals with existing disorders. They concluded that adequate attention should be paid to integrating religion/spirituality into healthcare systems, as substantial evidence demonstrates their favorable effects on mental health in various healthy and clinical populations.

Schug et al. (2021) conducted a study on the protective factors for depression and generalized anxiety in healthcare workers. They recruited 7765 participants in Germany and assessed them for symptoms of depression and generalized anxiety, social support, and optimism, as well as occupational and sociodemographic factors. They carried out multiple linear regression analyses to investigate the relationships between the constructs. It was found that irrespective of demographic or occupational risk factors, higher levels of social support and optimism were correlated with lower levels of generalized anxiety and depression. The researchers concluded that social support and optimism are vital psychological resources in preventing and dealing with depression and generalized anxiety.

Brinker and Cheruvu (2017) also carried out a study in the US on the impact of perceived social and emotional support in mitigating depression in adults with adverse childhood experiences (parental loss or separation, physical or sexual abuse etc.). They used data from the Behavioral Risk Factor Surveillance System (BRFSS) involving 12,487 adults with one or more adverse childhood experience. Logistic regression models were used for data analysis, adjusting for all possible confounders. The results showed that individuals who reported that they always received social and emotional support were 87% less likely to report depression, those who reported that they sometimes/usually received social and emotional support were 69% less likely to report depression, compared to people who reported that they never/rarely received social and emotional support. They concluded that social and emotional support are crucial protective factors against depression, and

that healthcare providers should facilitate the necessary social and emotional support for individuals with adverse childhood experiences.

## 3. METHODOLOGY

A quantitative, research-based study was conducted. The research was comparative and correlational in nature, as it compared the level of anxiety and depression of children in different care environment. It also examined the correlation between anxiety and depression to check for their comorbidity. Purposive sampling method (a non-probability sampling technique) was used for data collection in the study. This method allowed us to obtain data from the sample population that were close to hand and possessed the criteria of interest based on the aims and objectives of the research. The data was collected by visiting various schools and institutional homes, and having the best-fit participants manually complete the questionnaires.

### 3.1 Sample

A total of 200 participants from the age group of 8-18 years were selected for the study. The average age of the participants was 13 years. Of the 200 participants, 100 (50%) were orphans living in institutional homes and the remaining 100 (50%) were school pupils living with their families. 102 participants (51%) were females and 98 participants (49%) were male. 148 participants resided in Lagos state and 52 from other parts of Nigeria.

### 3.2 Measurements

The participants were asked questions via the questionnaire method. They were asked to state their age, gender, and school grade on the questionnaire, and they were given questions from the Revised Child Anxiety and Depression Scale-25 (RCADS-25), which was used to measure the participants' level of anxiety and depression symptoms.

The Revised Child Anxiety and Depression Scale-25 (RCADS-25)- This scale comprises of 25 items that measure the level of anxiety and depression in children and adolescents aged 8-18 years, with at least a third-grade reading ability level. Of the 25 items, 10 items measure symptoms of major depressive disorder (MDD) and 15 items measure symptoms of anxiety disorders (obsessive compulsive disorder = 3 items, social anxiety disorder/social phobia = 6 items, panic disorder = 3 items, generalized anxiety disorder = 3 items). RCADS-25 yields two subscale scores (Total Anxiety and Total Depression) and an overall internalizing score. Respondents rated each item on a 4-point Likert scale based on the frequency of symptoms: 0=never, 1=sometimes, 2=often, 3=always. RCADS-25 subscales have good to excellent reliability in clinical settings (Anxiety $\alpha$= .96, Depression $\alpha$= .80) and school-based samples (Anxiety $\alpha$= .94, Depression $\alpha$= .79). The scale also has a good to excellent internal consistency ($\alpha$= .87-.95) and acceptable to good test-retest reliability (*r*= .78-.86).

### 3.3 Inclusion and Exclusion Criteria

Children and adolescents aged 8-18 years who were orphans living in institutional homes and non-orphans living with their parents in Nigeria, with at least a third grade reading ability level

were included in the study. Excluded from the study were orphans who were having regular contact with their biological families via weekend or vacation visits; orphans whose duration of stay in the institutional homes was less than one year; and children who were suffering from intellectual disability, learning disabilities or serious medical illnesses that may interfere with their ability to comprehend and provide accurate responses to the items on the questionnaire.

### 3.4 Data Collection Process

Consent forms were sent to schools and institutional homes beforehand to obtain parents, schools and institutional homes' permission to have their wards participate in the study. Afterwards, schools and institutional homes were visited and the participants were given printed questionnaires to be manually completed. Some of the younger children (particularly those within the age range of 8-10 years) required some help in reading the content of the questionnaire. For this group of children, the researcher read each item from a spare questionnaire to the children, then each child circled the option that best fit their mood and thoughts on their questionnaires. Data was collected from 4 schools and 3 institutional homes across Nigeria, between 24$^{th}$ April 2022 to May 8$^{th}$ 2022.

### 3.5 Validity & Reliability

The primary potential threat to reliability and validity are the likely errors associated with the use of self-report questionnaires. Whilst self-report questionnaires are one of the most prominent assessment tools used in clinical psychology, they have important limitations (Demetriou et al., 2015). The respondents may have provided invalid answers to some of the

questions, especially sensitive ones. They may have responded in a socially acceptable way, rather than reporting the truth about their feelings and thoughts (social desirability bias). Also, some of the respondents may lack clarity about the meanings of the items and may have given different interpretations to the questions (Demetriou et al., 2015). Furthermore, some respondents may have given responses based on their mood at the time of responding, rather than how they feel over time. Attitudinal factors such as seriousness about the test and intrinsic motivation to participate may have also affected the validity of the responses.

To minimize the occurrence of the above potential threats, the participants were informed that the purpose of the questionnaire is to capture their unique experiences, and there were no right or wrong answers. They were also informed about the average time to complete the questionnaire, in order to boost their mental readiness. They were asked to rate their responses based on their mood and thoughts over at least the past 2 weeks, not just how they felt at the moment. The shorter version of the RCADS scales (RCADS-25) was selected to eliminate certain extraneous variables such as boredom and mental fatigue. Before the questionnaires were handed over to the participants, they were briefly enlightened about the importance of the study in increasing awareness about mental health of children and adolescents, in order to boost their intrinsic motivation to complete the questionnaires truthfully and efficiently. Participants were also assured of the anonymity and confidentiality of their data. To reinforce this, age, gender, and school grade were the only demographic data requested to be written on the questionnaires (no names). Also, the

questionnaires of each group of children filling at the same time were submitted to a paper box placed in a corner of the room, not directly to the researcher or caregivers. Participants were also told that they were free to ask for clarifications on any of the questionnaire items, and some participants did ask for meanings of certain statements, such as “what does it mean to feel worthless?”

### 3.6 Ethical Considerations

Key ethical guidelines were abided by throughout this study, and the rights and safety of the participants were duly protected as much as possible. The following ethical considerations were adhered to:

1. Informed Consent: The participants and their caregivers were clearly informed about the aims and objectives of the study and how the data obtained will be used. Consent forms were sent to the schools and institutional homes beforehand. The participating schools and institutional homes issued letters to authorize data collection on their premises. Verbal consent was also sought from each of the participants before data was collected, as they were given the liberty to choose to participate or decline. The opportunity to ask any questions or clarifications was also given.

2. Right to Withdraw: The participants and their guardians were educated on their rights to discontinue participation and withdraw the data they have provided at any point in time, without facing any penalty.

3. Confidentiality: To ensure anonymity as much as possible, the participants' names were not recorded, and the questionnaires were submitted in a paper box with a pool of other questionnaires. The data obtained was kept confidential.

4. Anti-Discrimination: Children and adolescents who met the criteria of interest in schools and institutional homes were given equal chance to participate, without any form of religious, gender or racial discrimination.

**3.7 Data Analysis**

The data for each participant was first coded and inputted into the excel scoring program (version 3.1) of the developer of RCADS-25. The scoring program converts the total scores of each child into T-scores using equations developed through research, while accounting for gender and grade. The data for all participants was then compiled in an excel sheet and exported to SPSS version 28.0 for analysis. The average (mean score) of the total sample was calculated. The mean scores of the two sample sub-groups (orphans and non-orphans) were compared. Pearson Product Moment Correlational statistics was computed to see if anxiety scores and depression scores (the two variables put into the analysis) were correlated. The significance of correlation was verified using Spearman Brown correlation (Spearman's rho) and Kendall rank correlation (Kendall's tau). $P<0.01$ was taken as statistically significant.

## 4. RESULTS

### 4.1 Prevalence of anxiety and depression

Table 1 shows the average (mean) scores of the depression subscale, anxiety subscale, and total internalizing scale of the total sample of children and adolescents. The depression, anxiety, and total internalizing mean scores were 54.11, 60.90, and 59.04 respectively, indicating low prevalence of anxiety and depression symptoms. T-scores below 65 on the RCADS is considered to be below clinical threshold (low severity), 65-70 is considered borderline clinical threshold (medium severity), and scores greater than 70 are above clinical threshold (high severity). This shows that the prevalence of anxiety and depression is low among the sample population.

Table 1. Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Depression (T-score) | 200 | 31 | 80 | 54.11 | 11.215 |
| Anxiety (T-score) | 200 | 34 | 80 | 60.90 | 10.843 |
| Total Internalizing (T-score) | 200 | 31 | 80 | 59.04 | 11.114 |
| Valid N (listwise) | 200 | | | | |

### 4.2 Comparison of the levels of anxiety and depression between orphans and non-orphans

Table 2 shows the average (mean) scores of orphans and non-orphans on both the anxiety and depression subscale. The mean anxiety scores of orphans and non-orphans were 62.29 and

59.51 respectively, while the mean depression scores of orphans and non-orphans were 58.69 and 49.53 respectively. This indicates that although both groups (orphans and non-orphans) have an average score below the clinical threshold, orphans presented more with symptoms of both anxiety and depression than non-orphans.

Table 2. Comparison of mean scores on RCADS

| | Group | N | Mean | Std. Deviation |
|---|---|---|---|---|
| Anxiety (T-score) | Orphans | 100 | 62.29 | 10.879 |
| | Non-orphans | 100 | 59.51 | 10.680 |
| Depression (T-score) | Orphans | 100 | 58.69 | 10.725 |
| | Non-orphans | 100 | 49.53 | 9.768 |

### 4.3 The correlation between anxiety and depression

Pearson's correlation was conducted between the scores of the Anxiety and Depression subscales of the Revised Child Anxiety and Depression scale. Table 3 depicts a moderate positive correlation between the levels of anxiety and depression, $r$ (98) = .57 $p$<0.01 indicating that there is comorbidity between anxiety and depression (i.e., the higher the level of anxiety, the higher the level of depression, and vice versa).

Table 3. Correlation between Anxiety and Depression scores

| | | Depression (T-score) | Anxiety (T-score) |
|---|---|---|---|
| Depression (T-score) | Pearson Correlation | 1 | .570** |
| | Sig. (2-tailed) | | <.001 |
| | N | 200 | 200 |
| Anxiety (T-score) | Pearson Correlation | .570** | 1 |
| | Sig. (2-tailed) | <.001 | |
| | N | 200 | 200 |

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

## 5. DISCUSSION

The present study was aimed to comparatively investigate the prevalence of the symptoms of anxiety and depression among orphans and non-orphans in Nigeria, and to examine if both disorders are co-morbid. The results indicated that there was low prevalence of anxiety and depression among children (both orphans living in institutional homes and non-orphans living with their families) in Nigeria. Majorly, the literature reviewed found a high prevalence of anxiety and depression among orphans. However, few studies supported the finding of this research. Omari et al. (2021) studied the impact of care environment on the mental health of orphans, and they found that orphans living in institutional homes were less likely to be diagnosed with mental health concerns, including anxiety and depression, than orphans raised in family-based care and orphans on the streets. Since the orphans that participated in

the present study were all being cared for in well-managed institutional homes, Omari et al. (2021) findings support the low prevalence of anxiety and depression found in the present study.

Furthermore, certain evidence-based protective factors may have also mediated the relationship between the variables studied. Brinker and Cheruvu (2017) found that social and emotional support significantly mitigated depression in individuals with adverse childhood experiences (including parental loss and separation). Schug et al. (2021) also found that regardless of demographic and occupational risk factors, social support and optimism were correlated with lower levels of generalized anxiety and depression. Nigeria is a collectivist society with a high sense of community. The orphans attended different schools in and around the communities, so they got to relate with other children and adults in the larger community. The institutional homes also had stable caregivers and low child-caregiver ratio. While orphanhood was a significant stressor that was expected to heighten the prevalence of anxiety and depression, perceived social and emotional support received by the orphans may have impacted the low prevalence of anxiety and depression found in the present study.

In addition, another study (Oman & Lukoff, 2018) noted that religiosity and spirituality are crucial protective factors in the prevention of psychological disorders, including anxiety and depression. Generally, there is a high level of spirituality and religious involvement in Nigeria, with Islam and Christianity being the two major religions. While the current straitened socio-economic conditions in the country and orphanhood were expected to lead to high prevalence of anxiety and

depression among children and adolescents in Nigeria, belief in a higher power and involvement in religious activities may have significantly acted as buffers against symptoms of depression and anxiety among orphans and non-orphans. Methodological issues (such as the use of non-probability sampling, participants giving socially desirable answers etc.) and sociodemographic variables (e.g., gender differences, age of admission and years of stay in the institutional homes) not accounted for in this study may have also caused a variation in the prevalence rate found in the present study, compared to other similar studies.

Although a low prevalence of anxiety and depression was found among children in Nigeria (orphans and non-orphans), the results further indicated that orphans living in institutional homes had more symptoms of both anxiety and depression than non-orphans. This finding is in agreement with majority of previous comparative studies conducted in other countries on level of psychological distress among orphans and non-orphans, such as the study of Shafiq et al. (2020) in Pakistan. Shafiq et al. (2020) also reported that symptoms of anxiety and depression were found to be more prevalent in orphans than non-orphans.

A positive correlation (.570) was found between anxiety and depression, indicating that both disorders were co-morbid. Previous similar studies have also demonstrated significant co-morbidity between anxiety and depressive disorders. Moffit et al. (2007) in their longitudinal study found that anxiety and depression were both cumulatively and sequentially co-morbid. The co-morbidity between anxiety and depression could be further justified with the fact that both disorders shared many common symptoms and had similar environmental and genetic risk factors. Kalin (2020) asserted that among the internalizing

disorders, depression and generalized anxiety disorder appeared to share the highest level of common genetic risk.

## 6. CONCLUSION

This study attempted to provide an insight into the emotional problems of children in Nigeria, particularly vulnerable groups of children such as orphans as there are very few studies on the psychological distress experienced by this group. The findings suggested that there was a low prevalence of anxiety and depression among children and adolescents in Nigeria. While the prevalence of anxiety and depression was generally below clinical threshold, orphans living in institutional homes still presented with more symptoms of both anxiety and depression than non-orphans living with their families. Anxiety and depression were found to be positively correlated (comorbid). In addition, social and emotional support, optimism, stable caregivers, and religion and spirituality appeared to be important protective factors against internalizing disorders, including depression and anxiety.

The research findings have practical and theoretical implications. Psychologists and counselors dealing with childhood psychological and adjustment difficulties can gain insight from this study into developing comprehensive therapeutic interventions that take into consideration the unique circumstances of orphans and non-orphans. The comorbidity found between depression and anxiety disorders also highlights the importance of assessing the overlapping symptoms of anxiety and depression (rather than either alone) since they frequently coexist. The Government and non-governmental organizations (NGOs) can utilize this research

findings to create routine mental health assessments and programs for orphanages and schools. Religious organizations may also utilize this research in developing faith-based counseling and mental health programs that incorporates spirituality to assist children and youths in their community. A symptoms guideline can also be developed, that orphans' caregivers and teachers can utilize to watch out for signs of emotional difficulties, so they can seek appropriate evaluation and intervention for the children at the budding stage of such disorders. Researchers can also make use of this research as supporting literature for studies related to this topic, and as a base to further explore mental health issues of children and adolescents.

However, this study has limitations. Although, the Revised Child Anxiety and Depression Scale (RCADS) is a valid and reliable tool to measure symptoms of anxiety and depression in children and adolescents (8-18 years), self-reported assessment tools are better used in addition to functional neuroimaging or structured clinical interviews for more accurate diagnosis (Ho et al., 2020). Also, the sample size was limited to 200 participants and selected through purposive sampling (a non-probability sampling technique); consequently, the external validity of the study may be questionable. Furthermore, due to cultural differences, certain items on the RCADS that are flagged as symptoms of anxiety and depression may be normal feelings and thought patterns in some participants' culture and religion. Lastly, the difference between the prevalence of symptoms in orphans and non-orphans may have been impacted by confounding variables; thus, a causal relationship between orphanhood, care environment, and symptoms of

anxiety and depression cannot be established. Further studies involving longitudinal follow-ups, larger sample size, and more standardized methodology are recommended to extend this research findings.

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## APPENDICES

### Appendix 1: Consent Form

The Department of Psychology at the International Open University (IOU) supports the practice of protection of human participants in research. The following will provide you with information about the study that will help you in deciding whether or not you wish to have your child/ward participate. If you agree to have your child/ward participate, please be aware that you are free to withdraw your child/ward at any point throughout the duration of the study.

This study aims to investigate the prevalence of anxiety and depression among children and adolescents residing in Nigeria, with a comparison between orphans and non-orphans. We will ask your child/ward to fill out a questionnaire consisting of questions relating to their thoughts and feelings. All the information provided will remain confidential and will not be associated with their names. If for any reason during this study you or your child/ward does not feel comfortable, they may stop filling the questionnaire and their information will be discarded.

Your child/ward's participation in this study will require approximately 5-10 minutes.

If you have any further questions concerning this study, please feel free to contact us via email at kafayat.a.azeez.gmail.com

Your child/ward's participation is solicited, yet strictly voluntary. All information will be kept confidential and your child/ward's name will not be associated with any research findings.

Please indicate with your signature on the space provided below that you understand your rights and consent to have your child/ward participate in the study.

Signature of Parent/Guardian

**Appendix 2: The Revised Child Anxiety and Depression Scale-25 (RCADS-25)**

**Age:** _____ **Grade:** _____
**Gender:** _____

Please put a circle around the word that shows how often each of these things happens to you, for at least the past two weeks. There are no right or wrong answers, so respond according to your own experiences, rather than how you think "most people" would respond.

| | | | | |
|---|---|---|---|---|
| 1. I feel sad or empty | Never | Sometimes | Often | Always |
| 2. I worry when I think I have done poorly at something | Never | Sometimes | Often | Always |
| 3. I would feel afraid of being on my own at home | Never | Sometimes | Often | Always |
| 4. Nothing is much fun anymore | Never | Sometimes | Often | Always |
| 5. I worry that something awful will happen to someone in my family | Never | Sometimes | Often | Always |
| 6. I am afraid of being alone in | Never | Sometimes | Often | Always |

| | | | | |
|---|---|---|---|---|
| crowded places (like shopping centers, the movies, buses, busy playgrounds) | | | | |
| 7. I worry what other people think of me | Never | Sometimes | Often | Always |
| 8. I have trouble sleeping | Never | Sometimes | Often | Always |
| 9. I feel scared if I have to sleep on my own | Never | Sometimes | Often | Always |
| 10. I have problems with my appetite | Never | Sometimes | Often | Always |
| 11. I suddenly become dizzy or faint when there is no reason for this | Never | Sometimes | Often | Always |
| 12. I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order) | Never | Sometimes | Often | Always |
| 13. I have no energy for things | Never | Sometimes | Often | Always |
| 14. I suddenly start to tremble or shake when there is no reason for this | Never | Sometimes | Often | Always |

| | | | | |
|---|---|---|---|---|
| 15. I cannot think clearly | Never | Sometimes | Often | Always |
| 16. I feel worthless | Never | Sometimes | Often | Always |
| 17. I have to think of special thoughts (like numbers or words) to stop bad things from happening | Never | Sometimes | Often | Always |
| 18. I think about death | Never | Sometimes | Often | Always |
| 19. feel like I don't want to move | Never | Sometimes | Often | Always |
| 20. I worry that I will suddenly get a scared feeling when there is nothing to be afraid of | Never | Sometimes | Often | Always |
| 21. I am tired a lot | Never | Sometimes | Often | Always |
| 22. I feel afraid that I will make a fool of myself in front of people | Never | Sometimes | Often | Always |
| 23. I have to do some things in just the right way to stop bad things from happening | Never | Sometimes | Often | Always |
| 24. I feel restless | Never | Sometimes | Often | Always |
| 25. I worry that something bad will happen to me | Never | Sometimes | Often | Always |