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Editorial Board

Special Issue: Addressing Health and General Well-Being in the Workplace, School and Community Settings

The need to continuously improve the health and general wellbeing of individuals necessitated this special issue edition. We call on researchers to contribute well-research papers which address health and wellbeing of people in the workplace, school and community settings.

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Effect of Yoga Therapy on Low Back Pain Management Among Older Adults: Implications for Gerontology Counselling

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Abstract

Objective: This research aimed to determine the effect of yoga therapy in managing low back pain (LBP) among older adults.

Method: 40 participants who were having low back pain were assessed. All participants completed baseline evaluation before beginning the Yoga intervention and at 6, 12 and 18 weeks. Participants completed a questionnaire titled Oswestry Low Back Pain Disability Questionnaire (ODQ). The statistical tool used for data analysis was within-and-between subjects ANOVA.

Results: The finding showed no significant difference in the baseline assessment for LBP between the treatment group and the waitlisted control group, $F(1,38) = 2.697$, P=.000, $\eta^2 = .066$. The posttest assessment at 6th week revealed a significant reduction of LBP among older adults in the yoga treatment group compared with those in the waitlisted control group, $F(1,37) = 3209.376$, $P = .000$, $\eta^2 = .989$. The assessment at 12th week revealed significant reduction in LBP among older adult in the yoga treatment group compared with those in the waitlisted control group, $F(1,36) = 2389.154$, $P = .000$, $\eta^2 = .985$. The assessment at 18th week further revealed a significant reduction in LBP among older adult in the yoga treatment group compared with those in the waitlisted control group, $F(1,36) = 2775.162$, $P = .000$, $\eta^2 = .987$.

Conclusion: Yoga therapy is an effective intervention for managing low back pain among older adults. Thus, gerontology counsellors can provide help to older people with low back pain within the framework of Yoga therapy. Further studies are required to find out and corroborate the efficacy of Yoga Therapy in managing low back pain among older adults.

Keywords: Yoga Therapy, low back pain, management, older adults and gerontologycounselling

1. Introduction

Low back pain (LBP) is seen as one of the main immobilizing health challenges among older people ranging from 60 and above resulting in painful conditions and disability (Bain et al., 2015). LBP has no definite history but from different pain sources (Middleton & Fish, 2009). Heneweer, Picavet, Staes, Kiers and Vanhees (2012) were of the views that work exposures to all human body such as lifting, twisting, bending, and stooping leads to body vibrations are potential risk factors for FBP in the older adults working age. According to Cypress (1983), people aged 60 years and above are topping the most common people suffering from LBP. Leopoldino et al. (2016) reported that LBP prevalence in community-dwelling older adults in one year ranges from 13 to 50% globally. Hides, Jull and Richardson (2001) reported that over 70% of the human population is expected to experience LBP at some point in time in their lifetime and recurrence rate can be as high as 85%. Tarzian and Hoffmann (2005) also report that 80% of older adults experience musculoskeletal pain with the majority attributed to LBP. Accordingly, the scholars maintained that low back pain among older adults is underreported globally while patients are treated inadequately which contributes to the high prevalence cases of LBP among older people of the society. Balagué and Pellisé (2016) opined that LBP starts in an individual's life as early as teenage and progressively expands at 60 years and above. Dijken, Fjellman-Wiklund and Hildingsson (2008) were of the views that LBP are attributed to occupational exposure among working age. Palacios-Ceña et al. (2015) reported that LBP is a common illness

among older adults of retirement age. Thomas, Peat, Harris, Wilkie and Croft (2004) identified severe and chronic LBP among older adults of working age. Docking et al. (2006) reported that back pain (BP) prevalence in one-month changes from 3.8% between older adults of 77–79 years to 9.7% between those at 90–100 years old. Williams et al. (2015) admitted that severe LBP is common among people of 80 years and above than those at the 50s'. The authors further noted that sometimes severe LBP are poorly handled which may generate to individual functional disabilities. In the other hand, Hartvigsen, Frederiksen and Christensen (2005) reported that chronic LBP was common among older people aged 65 and above and last for a duration of three months. Lavsky-Shulan, et al. (1985) were of the views that chronic LBP illness is more occurring among people in declining age and also common amongst female than male counterparts. Jacobs, Hammerman-Rozenberg, Cohen, and Stessman (2006) reported that women hypertension, joint pain, pre-existing LBP, and loneliness, were ascribed for developing persistent LBP in older adults aged 70 years. Williams, et al. (2015) revealed that comorbid chronic conditions were positively related to at least one LBP episode in the last month in low- and middle-income nations. Furthermore, the authors restated that the odds of LBP were 2.7 times higher among adults with one chronic comorbid condition, compared to adults without comorbidities, while the odds ratio was 4.8 for an individual with two or more comorbidities. Hammill, Beazell and Hart (2008) asserted that chronic LBP interferes with individual daily activities increasing death rate, reducing work performance, and poorly impacting self-concern. Chronic LBP has both emotional and psychological consequence and proves difficult to be cured as 17% death rate are ascribed to chronic LBP (Hammill, Beazell, & Hart, 2008).

The advancement of medicine has not only contributed to healthy living but has positively expanded human lifespan (Tse, Pun, & Benzie, 2005). Luo, Pietrobon, Sun, Liu and Hey (2004) were of the opinion that life threat mounted on humans especially the older adults had made them turn to some supplementary and alternative medicine in order to address their illness. Barnes and Bloom (2008) asserted that Yoga is the type complementary and alternative medicine that includes different practices such as physical posture, breathing exercise and medication. Barnes and Bloom (2008) opined that Yoga has been in practice among older American adults suffering from LBP since 2007. Yoga can be traced to ancient India. It is the practice of the inner mind (Saper, 2004). Hayes (2010) reported that yoga practice has numerous styles and characteristics by the combination of physical poses (asanas), controlled breathing (pranayama) and consequently the integration of meditation (dhyana). NHIS (2007) were of the view that the application of yoga in the USA increased between 2002 to 2007. As of 2007 over 13 million older adults had applied yoga (Barnes, 2008; Birdee et al., 2008). NHIS (2012) further reported that the application of yoga in the USA increased in 2012 to over 21 million older adults (Cramer et al., 2016). On the significant role of yoga, the International Association of Yoga Therapists (2016) recommends people seeking to manage their health issues adequately should always visit yoga therapists. According to this Association, therapeutic yoga is the application of yoga to solve or manage older adults' LBP and other related health conditions. Bussing, Ostermann, Ludtke and Michalsen (2012) stated that yoga helps in managing pain and disability conditions such as back pain. This seems to validate the position of NHIS in 2002 according to Birdee et al. (2008) on the alternative medicine supplement survey wherein over 10 million USA adults described using yoga for health reasons; 10.5% of yoga users said that their use was for musculoskeletal conditions and 76% of these users reported that the yoga was useful. Cramer, et al. (2016) reporting about NHIS' 2012 study, noted that 19.7% of yoga users said their use was specifically for back pain. Wren (2011) also pointed out that yoga therapy is efficient in persistent pain conditions, such as changes in physiological, psychological and behavioural factors. Yoga as one of the complementary and alternative medicine is used to treat LBP (Wolsko, 2003).

2. Methods

2.1 Study Design and Ethical Considerations

The study used a group randomized controlled trial design. The study protocol was approved by the research ethics committee of the Faculty of Education, University of Nigeria Nsukka.

2.2 Study Area and Participants

The study was carried out in South-East, Nigeria. Older adults within the study area were screened by the gerontology counsellors. The study participants were older adults with low back pain that had not received any treatment, besides symptomatic medication. Forty (40) eligible patients aged 50years and above, with LBP for more than a year, who agreed to provide informed consent were included in the study. The 40 eligible participants were randomized into one of two study groups: yoga intervention group (n = 20) and waitlist control group (n = 20) using computer-generated random numbers.

2.3 Measures

Participants completed a questionnaire measuring LBP, titled Oswestry Low Back Pain Disability Questionnaire (ODQ, Fairbank, & Pynsent, 2000) at baseline, 6, 12, and 18 weeks of yoga therapy. The ODQ which comprises of 10 items arranging from no impairment (0) to maximum impairment (5) which measure disability due to LBP. In the ODQ, one point is given for each item checked.

2.4 Intervention

The yoga session activities included relaxation, breathing exercise, physical posture, guided meditation, and chants. The intervention incorporated cognitive-behavioural and mindfulness components. Yoga exercises and cognitive-behavioural components were further derived from previous intervention by Kalsa et al. (2015). The study participants were also given a self-help guide for home practices which complemented the in-session yoga activities.

2.5 Procedure

Based on the set inclusionary-exclusionary criteria, gerontology counsellors referred eligible participants for yoga therapy. The study protocol was described to all participants, and informed consent forms were completed after an adequate description of the research objective, methodology and potential harms. After completing the baseline evaluation, the participants were exposed to 18-weeks yoga intervention sessions. The study participants were asked to attend the group intervention session twice weekly. Each yoga session lasted for 90 minutes. All waitlisted participants were scheduled to start the yoga sessions straight away when the yoga group participants have had their last yoga session and assessment. Participants in the waitlist group had casual meetings and discussions about LBP management during the waiting period.

2.6 Statistical Data Analysis

The statistical tool used for data analysis was within-and-between subjects ANOVA. Data were normally distributed and there were no missing data. All analyses were conducted using SPSS computer software, version 22.0 (IBM Corp. NY, United States). All p-values ≤ 0.05 were regarded as significant.

3. Results

There are twenty (20) participants in the treatment group (10males, 10females) and twenty (20) waitlisted controlled group participants (10 males, 10 females). Table 1 shows the descriptive statistics by study groups.

Table 1. Descriptive statistics by study groups

Group		Baseline	6th Week	12th Week	18th Week
Yoga intervention group	M	82.15	5.70	4.35	4.35
	N	20	19	18	20
	SD	5.56	2.56	3.77	3.78
	SEM	1.24	.57	.84	.84
Waitlisted control group	M	79.40	79.27	79.37	78.84
	N	20	19	19	19
	SD	5.02	5.18	5.11	5.60
	SEM	1.12	1.19	1.28	1.17

Table 2. ANOVA statistics indicating the effect of yoga therapy in managing low back pain (LBP) among older adults

			Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Baseline	Between Groups	(Combined)	75.625	1	75.625	2.697	.109	.066
	Within Groups		1065.350	38	28.036			
	Total		1140.975	39				
6th Week	Between Groups	(Combined)	52727.808	1	52727.808	3209.376	.000	.989
	Within Groups		607.884	37	16.429			
	Total		53335.692	38				
12th Week	Between Groups	(Combined)	53029.266	1	53029.266	2389.154	.000	.985
	Within Groups		799.050	36	22.196			
	Total		53828.316	37				
18th Week	Between Groups	(Combined)	53819.734	1	53819.734	2775.162	.000	.987
	Within Groups		698.161	36	19.393			
	Total		54517.895	37				

As shown in Table 2, the finding showed no significant difference in the baseline assessment for LBP between the treatment group (82.15±5.56) and the waitlisted control group (79.40±5.02), $F(1,38) = 2.697$, $P = .000$, $\eta^2 = .066$. The posttest assessment at 6th week revealed a significant reduction of LBP among older adults in the yoga treatment group (5.70±2.56) compared with those in the waitlisted control group (79.27±5.18), $F(1,37) = 3209.376$, $P = .000$, $\eta^2 = .989$.

The assessment at 12th week revealed significant reduction in LBP among older adult in the yoga treatment group (4.35±3.77) compared with those in the waitlisted control group (79.37±5.11), $F(1,36) = 2389.154$, $P = .000$, $\eta^2 = .985$.The assessment at 18th week further revealed significant reduction in LBP among older adult in the yoga treatment group (4.35+3.78) compared with those in the waitlisted control group (78.84±5.60), $F(1,36)=2775.162$, $P = .000$, $\eta^2 = .987$.

4. Discussion

This study showed that yoga therapy was effective in reducing LBP among older adults. The yoga therapy intervention group result showed that older adults with LBP can be effectively managed through the application of yoga therapy by gerontology counsellors. The position was justified with the result of those in this group when compared to their counterpart in the waitlisted controlled group after 4 times administration of the test. The finding of this study is consistent with that of Posadzki, and Ernst (2011) who found that yoga therapy leads to a significantly greater reduction in low back pain than usual care, education or conventional therapeutic exercises. Büssing, Poier, Désirée, Thomas and Michalsen (2017) reported that yoga intervention has significant effects in treating patients with low back pain. Kelly (2009) found that yoga is very much efficient in the treatment of LBP. In a study by Sabet, Ganji and Dehghani (2017) on the effect of 8 weeks of yoga selected exercises on pain and functional disability in women with non-specific chronic low back pain, it was reported that treatment of LBP can be done with the use of yoga. Combs and Thorn (2015) found that proper management of yoga enables easy treatment of LBP. Combs and Thorn (2014) reported that the use of yoga was efficacious in treating chronic low back pain among individuals of different category. Tse, Pun and Benzie, (2005) reported that yoga has not only contributed to healthy living but has positively expanded human lifespan. Accordingly, the International Association of Yoga Therapists (2016) also recommends that management of health issues especially LBP can be better managed with the use of yoga therapy. McCall (2007) found that yoga helps in managing pain and disability conditions such as back pain. The finding also validates the position of NHIS in 2002 as articulated by Birdee et al. (2008), that yoga is an alternative medicine for health reasons. Wren (2011) found that yoga therapy is efficient in persistent pain conditions, such as changes in physiological, psychological and behavioural factors. Birdee et al. (2008) noted that yoga is a complementary and alternative medicine used to treat LBP. Madanmohan, Udupa, Bhavanani, Shatapathy and Sahai (2004) reported that yoga can be effectively used in the treatment of cardiovascular disorders as its use positively reflect in the reduction of systolic and diastolic blood pressure and of the heart rate as well as in higher heart rate variability. Vadiraja, Rao, Nagarathna, Nagendra, Rekha and Vanitha,

(2009) also reported that yoga therapy intervention is essential in eliminating human diseases such as emotional risk factors like negative effect, anxiety and depression. Baldwin (1999) found that yoga practices give protective factors like positive effect. Also, Smith (2005) reported that yoga intervention programmes offer participants a state of relaxation.

5. Conclusion

This study evaluated the effect of yoga therapy in managing low back pain (LBP) among older adults. The yoga intervention brought about a significant reduction in LBP scores of the recipients compared to participants in a waitlisted controlled group. Thus, we concluded that yoga therapy with the help of gerontology counsellors could be an effective treatment approach for reducing LBP symptoms among older adults. To that end, further clinical evaluation is very much needed to ascertain the effect of yoga therapy for other categories of persons with LBP.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Sustainable Health Counselling Strategies for Reducing the Impact of Malnutrition Among Rural Children in Nigeria

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Abstract

Objective: This study aimed to survey the sustainable health counselling strategies for reducing the impact of malnutrition among rural children in Nigeria.

Method: The population of the study comprised the entire 209 counsellors. Descriptive and inferential statistics were used to analyze the data collected.

Results: The result showed found that providing information about adequate food intake for sustainable health, awareness creation, and counselling, organizing conference on healthy nutrition, providing health awareness for sustainable growth; educating preschoolers' caregivers on fibre, knowledge of the best choice, knowledge of the sources of vitamin B12; assessing nutritional status of children; information on underweight to avoid obesity; and improving scope feeding behaviour through counselling are strategies that could reduce impacts of malnutrition among rural children in Nigeria. No significant was observed between male and female respondents with regards to sustainable health counselling strategies for reducing the impact of malnutrition among rural children.

Conclusion/Suggestion: Since eating practice of the rural children is poor and counselling strategies have been suggested, there is an urgent need for implementation of those strategies. Since evidence-based literature indicated that rural children in developing countries are at high risk of malnutrition and our findings showed strategies to reduce the proportion of children suffering from malnutrition, it implies that a Nutrition Rehabilitation Programme should be introduced to educate them on best nutritional practices.

Keywords: health counselling; malnutrition; food intake; rural children

1. Introduction

The importance of quality diet in overall growth and development of children at various ages seems to be a major concern of organizations, governments and the world at large. This has continued to be a major to practitioners in clinical psychology, health, and counselling. This is because of the perceived negative impacts of underfeeding on public health in most developing countries like Nigeria. Currently, the media has reported that over ten million children in Nigeria are experiencing severe malnutrition that could lead to mental deformation (Eno, 2017; Olawale, 2017). Prior to this report, the Nigeria Demographic and Health Survey (NDHS) (2013) decried the alarming prevalence of malnutrition which was at 29%, (underweight) in children under five years old. Meanwhile, malnutrition in childhood could lead to many chronic diseases later in life. Malnutrition is most simply defined as nutrition imbalance (Dorland's Illustrated Medical Dictionary, 2011) that leads both underweight and overweight

patients alike (White, Guenter, & Jensen, 2012). According to Eze, Maduabum, Onyeke, Anyaegunam, Ayogu, Ezeanwu and Eseadi (2017), when foods are not consumed in quantities commensurate with individuals' body needs, malnutrition or over-nutrition may set in. Generally, malnutrition is described as either "undernutrition" or "overnutrition.

Previous study reported that over 50.6 million kids aged less than five years are half-starved in every developing country (Best et al., 2007). It was reported that a high percentage of children had poor eating behaviours (McNaughton et al., 2009) and only one-third and two-thirds of mothers indicated that their children consumed three or more dishes of vegetables and served of fruit per day respectively (World Health Organization, WHO, 2004). It is based on the same note that McNaughton et al., (2009) decried that despite government and organizations' efforts in providing guideline recommendations that reduced fat milk be introduced gradually from 2 years of age there is still a large proportion of children that consumed whole milk compared to low or reduced-fat milk. In Nigeria, for example, many children commonly consume high-energy, nutrient-poor foods that have a high quantity of cakes, doughnuts and sweet biscuits, and pies, pasties, and sausage rolls. These differences could be attributed to availability and accessibility in the area, however, further research is required to clarify this. McNaughton (2009) found that there were no significant differences between children living in urban and rural areas for intakes of vegetables, fruit or fried potato; however, children living in rural areas consumed non-fried potato more frequently. Evidence had shown that there is a high rate of malnutrition in this country (Quddus & Bauer, 2013; WHO, 2004).

Rural children seem to remain a significantly understudied population and little is known about their healthy food consumption in rural areas in Nigeria. Literature showed that people living in rural areas consume a high quantity of vegetables, dairy fats and cooking oil (McLennan & Podger, 1998). In this study area, there seems to be a high consumption of cassava, potato, garri, and yam among rural dwellers with little emphasis on protein related foods. Recent National Health Survey reported that rural population are associated with low fat or skim milk and possibly drink and eat carbohydrates frequently (Nigeria Demographic and Health Survey, NDHS, 2013). They were, however, more likely to consume the recommended number of serves of vegetables (Australian Institute of Health and Welfare, 2008).

These children are naturally vulnerable, often suffering from malnutrition with above 50% of them being moderate or severely malnourished (Rayhan & Khan, 2006) which is a major risk factor for childhood mortality. Underweight and stunting appear to be a major problem among low-income children aged 2-10 years. It was revealed that an average child has low height-for-age, low weight-for-age and low weight-for-height which affect about 30%, 27% and 8% of the child population respectively (WHO, 2004).

Globally, nutritional status is considered as the best indicator of the well-being of young children and parents for monitoring the progress towards the millennium development goals (Rahman, Mostofa, & Nasrin, 2009). The prevalence of malnutrition due to food insecurity is well recognised in the world, especially in developing countries. Hilly and forestry areas are the most vulnerable disadvantaged regions in Enugu State and which are inhabited by vast populations who are extremely poor. Children in this area suffer from food deficiency and malnutrition and these are serious problems in children under 10 years. In this area of this study, preschoolers are exposed and eat unhealthy foods.

In order to reduce malnutrition and food insecurity of children, there is a need for qualified and professional nutrition counsellors who will guide and counsel the rural mothers on dietary management for their sustainable health. Effective management of malnutrition requires collaboration among multiple interventions and disciplines such as counselling and other psycho-education. In many hospitals, malnutrition continues to be managed in silos, with knowledge and responsibility provided predominantly by the dietician. However, more holistic and interdisciplinary studies to tackle this significant issue are needed (Tappenden et al., 2013). Among these interdisciplinary process that can help to promote quality health care and healthy food intake is counselling.

Counselling is an integral part of guidance which provides the forum for interaction between a counsellor and counsellee (Nwoje, 2001). According to Uzoeshi (2004), counselling is a process of assisting a client to overcome problems and become happier and more effective individual in the environment. Operationally, counselling is defined as a helping relationship between counsellor and counsellees through which the counsellor helps both preschoolers and their caregiver to ensure adequate nutrition through awareness creation.

Nutrition Counsellors are primarily saddled with the responsibility of facilitating a total and holistic development of individuals who will be useful to themselves and society. Specifically, their roles according to Denga (2001) involves counselling, planning and developing of guidance programmes, appraising, interpreting and making appropriate referrals to relevant specialists on problems and issues that fall outside their competence orbit. Other

roles of guidance counsellors include researching, evaluating and organizing programmes, attending conference and workshops, disseminating information for sustainable health and adequate nutrition awareness creation.

The goal of nutrition counselling is to ensure that there is increased awareness of the need for change, and reinforce commitment and continue new behaviours with regards to commensurable food intake (Stang & Story, 2005). These can be achieved through creating a supportive climate for change and discuss personal aspects and health consequences of poor eating or sedentary behaviour, assess knowledge, attitudes, and beliefs as well as building on existing knowledge (Stang & Story, 2005). This implies that nutrition counsellors provide health tips to people. However, despite the efforts of counsellors in both urban and rural areas, evidence abounds that poor nutrition is currently taking so many lives of children in rural areas in the Enugu state of Nigeria (Maduabum, 2015; Popkin, 2002).

It is worrisome that children at different ages are currently dying due to poor nutrient intake in rural areas in Enugu State (Eze, Maduabum, Onyeke, Anyaegunam, & Eseadi, 2017; Maduabum, 2015). Despite the overwhelming importance of adequate nutrition to children's development and growth as well as power packed information delivery service system supported by nutrition counsellors, preschoolers are still dying geometrically. Children in Enugu State suffer from food deficiency and malnutrition (Eze, Maduabum, Onyeke, Anyaegunam, & Eseadi, 2017). In this area of this study, preschoolers are exposed and eat unhealthy foods. It is against these disturbing concerns that the researchers aimed to explore sustainable health counselling strategies for reduction of malnutrition among rural preschoolers in Enugu State, Nigeria. In addition, we hypothesized that gender, age, and qualification are not indices for reduction of malnutrition among rural preschoolers in Enugu State, Nigeria. It is in view of this background that this study was carried out.

2. Methods

2.1 Ethical Approval

The ethical approval of the study was obtained from the Research Ethics Committee of the Faculty of Education, University of Nigeria, Nsukka. In addition, Enugu State Universal Basic Education Board and primary school headmasters/mistress gave approval for the current study in the study area.

2.2 Population of the Study

The population of the study comprised all the 209 professional and teacher counsellors in all 209 public primary schools in Obollo-Afor Education Zone of Enugu State.

2.3 Participants

The participants for the study were all the 209 teacher-counsellors in primary school. All participants were included in the study because all of them met the inclusion criteria. The inclusion criteria involve being ready to respond to the questionnaire, must be primary education staff, having knowledge of nutrition, health and counselling, and filling of an informed consent form.

2.4 Design of the Study

The study adopted a descriptive survey design. According to Nworgu (2006), a descriptive survey refers to those studies which aim at collecting data on, and describing in a systematic manner, the characteristics features or facts about a given population. This design was considered suitable for the study because it accorded the researchers the opportunity of collecting data from a sample considered to be representative of the population for describing systematically the sustainable health counselling strategies for reducing the impact of poor nutrition among children. The study was carried out in Obollo-Afor Education Zone of Enugu State Nigeria. The choice of this area of study is based on the observed increasing number of child mortality which appears to be as a result of malnutrition. The instrument for data collection in this study was a questionnaire developed by the researchers tagged: Sustainable Health Counselling and Malnutrition Scale (SHCMS). The instrument was developed from the review of previous literature on the knowledge of nutrition counsellors and sustainable health awareness roles for eliminating malnutrition (Eze, Maduabum, Onyeke, Anyaegunam, & Eseadi, 2017; Maduabum, 2015; McNaughton, Dunstan, et al., 2009; Rahman, Mostofa, & Nasrin, 2009; Rayhan & Khan, 2006; Stang & Story 2005). The instrument has both Section A and B. Section A focused on personal information of the respondents such as family income, place of residence, study field, academic level, marital status, age, and gender. Section B contained information on the knowledge of nutrition counsellors about sustainable health awareness roles for eliminating malnutrition put into 19 items. The items of the instrument had four-point response options of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) which are weighted 4, 3, 2 and 1 respectively.

After the construction of the instrument, the questionnaire was validated by a panel of experts (three professional

practising counsellors in University of Nigeria) and trial tested statistically (209 professional counsellors in primary schools from Anambra State of Nigeria) to determine the reliability of the instrument. The aim was to ascertain the accuracy and internal consistency of the questionnaire. From the suggestions, corrections, and feedback obtained, few items were rephrased to reduce bias, and the outline of the questionnaire was improved. Statistical analysis was done using Cronbach Alpha coefficient and the result gave Alpha Co-efficient value of 0.89, hence indicated that the instrument is highly reliable to be used for the study.

Prior to the data collection, the researchers had obtained written informed consent from the Enugu State Director of Guidance and Counselling as well as Educational Foundations Research Committee to conduct the study. The researchers personally administered the copies of the questionnaire to the respondents (N = 209). The administration of the questionnaire lasted for two months. The respondents who had Bachelor, Master and Doctoral degrees in psychology, Guidance and Counselling, Food Science and Nutrition and Home economics and hospitality management were allowed to participate during this survey. Among the researchers, two administered the instrument to counsellors in Igbo-Eze North and two in Igbo-Eze South while one researcher administered the instrument to counsellors in Udenu local government area, all in Obollo-Afor Education Zone of Enugu State. Some respondents who were not in the school during our several visits were contacted via their phone numbers and electronic mails. Each respondent was asked to tick or assign each health counselling strategy a score on each of the preselected criteria as indicated in the instrument.

Descriptive statistics were used to determine the mean of professional counsellors' responses with respect to sustainable health counselling strategies for reducing the impact of malnutrition. Mean score of 2.50 was purposively adopted as a benchmark for acceptance. That is an item that scores 2.50 and above was taken as agree and any mean score below 2.50 was taken as disagree. In addition, the t-test statistical tool was conducted at 95% significance level to ascertain the differences between male and female professional counsellors' responses. The inferential statistical tool (t-test) used to make a decision on the probability of difference observed between male and female counsellors are dependent on chance. Prior to that, the data were subjected to Shapiro-Wilks normality test to ensure adequate administration of the instrument according to gender and it gave Shapiro-Wilks normality value of 0.72.

3. Result

Table 1. Socio-demographic characteristics of Participants

Variable	N (209)	%
Family income		
Less than 20,000 naira per month	96	200.64
21,000-60,000 naira per month	63	131.67
61,000 and above per month	45	94.05
Place of residence		
Privately rented apartment	74	154.66
At home	100	209
Dorm	35	73.15
Study field		
Psychology	80	167.2
Guidance and counselling	50	104.5
Food Science and Nutrition	55	114.95
Home economics and hospitality management	24	50.16
Academic level		
Bachelor degree	176	367.84
Master degree	21	43.89
Doctoral degree	12	25.08

Marital status		
Single	57	119.13
Married	152	317.68
Gender		
Male	88	183.92
Female	121	252.89
Age		
25-35	35	73.15
36-44	56	117.04
45-55	71	148.39
56-64	47	98.23

Table 1 showed that the participants were 88 males (N = 183.92 %) and 121 females (N = 252.89 %). The family income of professional counsellors were 200.64% Less than 20,000 naira per month (N = 96), 131.67% for 21,000-60,000 naira per month (N = 63), and 94.05% for family with 61,000 naira and above per month (N = 45). The responders' place of residence includes 74 participants privately rented apartment (154.66%), 100 participants at home (209%) and 35 participants in a dorm (73.15%). For the field of study, 80 participants studied Psychology (167.2%), 50 studied Guidance and Counselling (104.5%), 55 Food Science and Nutrition (114.95%), and 24 Home economics and hospitality management (50.16%). Regarding academic level the respondents 176(367.84%) had Bachelor degree, 21(43.89%) had a Master degree, and 12(25.08%) had a Doctoral degree. Of those that responded, 57 (119.13%) were single and (317.68%) were married. The respondents age were within 25-35(73.15%)35, 36-44 (117.04%)56, 45-55 (148.39%)71 and 56-64 (98.23%)47.

Table 2. T-test analysis of sustainable health counselling strategies for reducing the impact of malnutrition

S/N	Sustainable health counselling strategies for reducing the impact of malnutrition	N = 209 (Female = 109; Male = 100)								
		Gender	$\bar{x}$	SD	RMK	F	Sig	Df	t	Dec
1.	Providing information on how to build on existing knowledge about adequate food intake for sustainable health	Female Male	3.30 3.28	.81 .75	A	2.139	.145	207	.145	NS
2.	Creating awareness of foods that have more calcium	Female Male	3.38 3.23	.735 .800	A	.096	.757	207	1.412	NS
3.	Inviting international bodies (WHO) to organize a conference on healthy nutrition for rural citizens	Female Male	3.37 3.14	.84 1.04	A	3.720	.055	207	1.769	NS
4.	Providing health awareness for sustainable growth	Female Male	3.25 3.30	.83 .81	A	.196	.658	207	-.464	NS
5.	Educating preschoolers' caregivers on the health consequences of poor eating.	Female Male	3.30 3.34	.85 .90	A	.328	.567	207	-.325	NS
6.	Creating awareness of foods that have more fibre	Female Male	3.51 3.50	.78 .68	A	.011	.915	207	.151	NS
7.	Counselling students on the need for personal hygiene	Female Male	3.41 3.33	.70 .74	A	.117	.733	207	.710	NS

8.	Awareness of hazards related to soft drinks	Female Male	3.26 3.28	.84 .92	A	.892	.346	207	-.200	NS
9.	Knowledge of the best choice to reduce the amount of fat in the diet	Female Male	3.28 3.29	.805 .74	A	1.351	.246	207	-.127	NS
10.	Knowledge of the sources of vitamin B12 and iron	Female Male	3.21 3.24	.87 .91	A	.181	.671	207	-.233	NS
11.	Knowing food that contains carbohydrates	Female Male	3.31 3.33	.84 .90	A	.269	.605	207	-.242	NS
12.	Assessing the nutritional status of children	Female Male	3.25 3.21	.72 .78	A	.759	.385	207	.375	NS
13.	Information on Underweight to avoid Obesity	Female Male	3.41 3.47	.67 .71	A	.087	.768	207	-.604	NS
14.	Providing information on daily food intake	Female Male	3.34 3.33	.78 .71	A	2.396	.123	207	.094	NS
15.	Nutrition counselling Intervention strategy to be targeted at preschoolers' mothers	Female Male	2.73 2.86	.96 .89	A	2.462	.118	207	-1.035	NS
16.	A community intervention counselling for positive change in behaviour with regards to nutrition education.	Female Male	2.87 2.83	1.17 .01	A	6.210	.013	207	.233	NS
17.	Improving scope feeding behaviour through counselling	Female Male	3.23 3.11	.86 .91	A	.002	.961	207	.901	NS
18.	Health counselling enlightenment campaign high parity of mothers which predisposes to poor nutritional status	Female Male	3.02 3.18	.96 .72	A	6.602	.011	207	-1.395	NS
19.	Counselling to increase women education to make them receptive to health interventions that will improve their nutritional status	Female Male	3.44 3.22	.77 .88	A	.787	.376	207	1.837	NS

Key: N = Number of respondents, $\bar{X}$= mean, SD = Standard Deviation, A = Agree, t-cal= t-test value calculated, df= degree of freedom, Sig= level of Significance, Dec = Decision.

The data in the Table 2 showed the sustainable health counselling strategies for reducing the impact of malnutrition among children. The result revealed that participants suggested providing information on how to build on existing knowledge about adequate food intake for sustainable health (*Females (F)*= 3.30±.81; *Males* (*M*) = 3.28±.75); creating awareness of foods that have more calcium (*F* = 3.38±.735; M = 3.23±.800); inviting international bodies (WHO) to organize conference on healthy nutrition for rural citizens (*F* = 3.37±.84; M = 3.14±.1.04); providing health awareness for sustainable growth; educating school children caregivers on the health consequences of poor eating (F = 3.25±.83; M = 3.30±.81); and creating awareness of foods that have more fiber (*F* = 3.51±.78; M = 3.50±.68) as sustainable health counselling strategies. The results also showed that counselling students on the need for personal hygiene (*F* = 3.41±.70; M = 3.33±.74); awareness of hazards related to soft drinks (*F* = 3.26±.84; M = 3.28±.92); knowledge of the best choice to reduce the amount of fat in diet (*F* = 3.28±.804; M = 3.29±.74); knowledge of the sources of vitamin B12 and iron (*F* = 3.21±.87; M = 3.24±.91); knowing food that contains carbohydrates (*F* = 3.31±.84; M = 3.33±.90); assessing nutritional status of children (*F* = 3.25±.72; M = 3.21±.78); information on Underweight to avoid Obesity (*F* = 3.41±.67; M = 3.47±.71); providing information on daily food intake (*F* = 3.34±.78; M = 3.33±.71); nutrition counselling intervention strategy to be targeted at preschoolers' mothers (*F* = 2.73 ±.96; M = 2.86±.89); a community intervention counselling for positive change in behaviour with regards to nutrition education (*F* = 2.87 ±1.17; M = 2.83±.01); improving scope feeding behaviour through counselling (*F* = 3.23 ±.86; M = 3.11 ±.91); health counselling enlightenment campaign high parity of mothers which predisposes to poor nutritional status (*F* = 3.02 ±.96; M = 3.18 ±.72); counselling to increase women

education to make them receptive to health interventions that will improve their nutritional status (F = 3.44 ±.77; M = 3.22 ±.88) are sustainable health strategies for elimination malnutrition in Nigeria.

Furthermore, the results in Table 2 reveal no significant differences between male and female counsellors on the sustainable health counselling strategies for reducing the impact of malnutrition among preschoolers, given that the P-values for all t-tests ranged from 0-.127 to 1.837at 207 degrees of freedom and were, therefore, higher than the chosen level of significance (0.05). This suggests that both male and female counsellors in the target area agreed on the sustainable health counselling strategies for eliminating malnutrition among preschoolers regardless of gender.

4. Discussion

The results from present study suggest that providing information about adequate food intake for sustainable health, awareness creation and counselling, organizing conference on healthy nutrition, providing health awareness for sustainable growth; educating preschoolers' caregivers fibre, knowledge of the best choice to reduce the amount of fat in diet and carbohydrates, knowledge of the sources of vitamin B12; assessing nutritional status of children; information on underweight to avoid obesity; and improving scope feeding behaviour through counselling are strategies that could reduce impacts of malnutrition among rural children in Nigeria. Our finding corresponds with the finding of other studies from developing countries that showed the need for effective health services, regular home visits, supplementary feeding programmes for school children and an effective health education campaign on the importance of immunization and nutrition for rural people (Gibson et al., 2000; Ojofeitimi, 1984). This finding agreed with Quddus and Bauer (2013) who suggested that awareness, availability, and accessibility to family planning should be strengthened to limit the number of children in the family and increase female education including nutritional knowledge. It is interesting that nutritional counsellors are effectively updated in terms of their knowledge level. This will help nutrition campaign community health workers who would assist them in giving information on existing nutritional knowledge to rural dwellers. To ensure the implementation of the strategies, improved practices procedures, campaign team to promote quality health and nutrition messages, public media community-based to support micronutrient content in Nigerian basic schools are required (Dicken, Griffiths, & Piwoz, 1997; Graciano, 1997; Smitasiri & Dhanamitta, 1999).

In addition, the results revealed no significant differences between male and female counsellors on the sustainable health counselling strategies for reducing the impact of malnutrition among preschoolers. This suggests that both male and female counsellors in the target area agreed on the sustainable health counselling strategies for reducing the impact of malnutrition among preschoolers regardless of gender. Ibrahim, Wambiya, Aloka, and Raburu (2014) showed that awareness creation among secondary school students is not influenced by gender difference. This is to say that counsellors are discharging their professional roles especially as it concerns nutritive food intake among rural preschoolers (Zainuddin et al., 2013).

The implication of this finding is that if there is no policy intervention, those rural dwellers may record a high death rate. By implication, if awareness creations are not encouraged by nutritional counsellors and experts the dietary patterns of those preschoolers bare at stake. Meanwhile, caregivers ought to listen to possible awareness creation that may help in the reduction of malnutrition in rural locations. It implies that if efforts are not made in controlling the poor nutritional contents of food which those preschoolers consume, other chronic diseases may be attributed to that. In all, more research is required for improved practice, modification of dietary patterns of those in rural areas. It implies that a nutrition rehabilitation programme should be introduced to educate them on the best nutritional practices.

5. Conclusion

In many developing countries, children are apparently facing undernutrition and malnutrition. This has primarily continued to bring about ill-health, abnormal development, impairment of physical body, obesity, overweight and chronic disease among rural children. Such cases seem more prevalent in the rural location of Nigeria where schooling children population are vulnerable to diseases. It was the interest to seek a solution that this current study investigated the sustainable health counselling strategies for reducing the impact of poor nutrition among preschoolers. However, we found that providing information about adequate food intake for sustainable health, awareness creation and counselling, organizing conference on healthy nutrition, providing health awareness for sustainable growth; educating preschoolers' caregivers fiber, knowledge of the best choice to reduce the amount of fat in diet and carbohydrates, knowledge of the sources of vitamin B12; assessing nutritional status of children; information on underweight to avoid obesity; and improving scope feeding behaviour through counselling are strategies that could reduce impacts of malnutrition among rural children in Nigeria. On that note, mass media like television, radio, and newspapers should assist nutrition counsellors in disseminating nutrition information on the

need to improve dietary diversification strategies.

5.1 Limitations

The researchers did not consider the ethnic groups of the participants therefore; further research could be done to fill the gap. The sample size appeared to be small which tends to affect the generalizability of the findings considering the number of counsellors in Nigeria. We, therefore, suggest that future studies may cover a larger population. In addition, the use of only one instrument also tends to affect the validity of the study.

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School Management and Administrative Implications of Video Education Intervention for HIV/AIDS Awareness Among School Children

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Abstract

Objective: The study aimed to examine the effects of a video education intervention for HIV/AIDS awareness among school children and highlight the school management and administrative implications.

Method: A quasi-experimental design was employed. One research question and one hypothesis were postulated for the study. The population of the study was 10,732 students and 3% sample of the population was used which is 300 students. The null hypothesis formulated at 0.05 level of significance was tested with repeated measures ANOVA.

Results: Results show significant increases from pretest to posttest on the level of HIV/AIDS awareness for participants in the treatment group, relative to control group participants.

Conclusion: The video education intervention significantly increased HIV/AIDS awareness of students in the treatment group compared with those in the control group. The implication for school management and administration were highlighted. Conclusion and recommendations were made among which were that the non-governmental organization should assist in re-educating the youths on this global disease called HIV/AIDS.

Keywords: video education, intervention, HIV/AIDS, students

1. Introduction

Human immune deficiency virus (HIV) causes AIDS which is acquired immune deficiency syndrome (AIDS). HIV/AIDS is a spectrum of conditions caused by an infection on the body immune system. The virus attacks the immune system and leaves the body vulnerable to a variety of life-threatening illnesses or infections such as cancers, common bacteria, yeast, parasites and viruses that ordinarily do not cause serious disease in people with fully functional immune system but can cause fatal illnesses on people with AIDS (Nwokedi, 2003). World Health Organisation [WHO] (2013) opined that almost 78 million people have been infected with HIV and AIDS virus and about 39 million people have died of HIV. Globally, 35.0 million people living positive (PLP) with HIV and AIDS worldwide. The official report by the Federal Ministry of Health (2010) indicated that 4.1 per cent of people are HIV positive in Nigeria; although, the high rate of infection is still of great concern in some states of the country. HIV/AIDS could be contacted through unprotected sexual intercourse including oral vaginal and anal sex, unscreened blood transfusion, unsterilized objects, sharing of needle, using the same clipper for barbing of hair with an infected person, using unsterilized razor for nails, tattoo or tribal marks from mother to child or pregnant woman who can passively transmit the virus to her fetus. A nursing mother can equally transmit it to her baby through blood contact (Njoku, 2004). HIV has been found in saliva, tears, nevoid system as well in body tissues. However, only in blood transfusion, semen (including pre-seminal fluid or ‘'pre-cum") vaginal secretions and breast milk have been proven to transmit the infection to others (UNICEF, 2007). In other words, HIV is proven to spread through body fluids, breast milk, other body fluids containing blood, cerebrospinal fluids surrounding the brain and the spinal cord, synovial fluid surrounding bone joints and amniotic fluid surrounding a fetus, thereby multiplied after the acquisition.

WHO and UNAID (2010) defined Acquired Immune Deficiency Syndrome (AIDS) as a condition that weakens

the body's immune system, leaving it venerable to fight off illness. AIDS is the last stage in a progression of diseases resulting from a viral infection known as Human Immune deficiency Virus (HIV or AIDS virus). HIV is a potentially fatal virus affecting all regions of the world. It is a dangerous disease that attacks vital cells of the body causing severe damage to the immune system. AIDS causes immune deficiency and stripes the human body of its defence system, thereby decreasing the level and functions of CD4T lymphocytes (white blood cell). Although it is not everyone who has been infected with HIV that develops AIDS immediately. Very rarely, some individuals can be infected with HIV yet maintain normal immune function and continue to live in good health condition even after twenty years of infection. HIV causes loss of the immune system that results in an immune deficiency disorder, which may eventually result in AIDS (Obionu, 2007).

HIV/AIDS does not have a cure or any vaccine available to prevent infection of HIV/AIDS (USAID 2009). It may not show in the victim's body immediately. AIDS is the fifth leading cause of deaths among people between the ages of 25 and 44 (Federal Minister of Health, 2010). Though, it could be managed and sustained through the taking of drugs like Highly Active Anti-Retroviral Therapy (HAART). People living with HIV may not have any symptoms for 10years or longer. However, it is a long-lasting and deadly illness if not checked and cared for. HIV is not spread by casual contact (such as hugging and touching, that is, touching dishes, doorknobs, or toilet seats previously touched by a person with HIV. Ukachukwu (2005) noted that heterosexual transmission of the HIV virus is the primary mode of spread and the infections appear to be numerous among the youth and young adults who constitute the nation's workforce.

The government of Nigeria has not been able to maintain or sustain a high level of interest in HIV/AIDS rather, they have shifted their interest and campaign to other public health issues affecting the general population forgetting that majority of students in the secondary schools do not know much about the seriousness of this infection and disease called HIV/AIDS (Okolo, 2006). The ages of secondary school students are between 12–19 years. There is a tendency for the risk of being infected irrespective of age. The National Action Committee on AIDS (NACA), State Action Committee on AIDS (SACA) and Local Action Committee on AIDS (LACA) were created in 2000 to coordinate and sustain advocacy by all sectors and at all levels for HIV/AIDS (Adesida, 2012). Education is central and instructive to the individual for the self-sustaining and self-generating process of positive transformation in any community (Ugwu, 2008). Oriajo (2006) noted that education affords human beings the ability and opportunity to explore and exploit their immediate and remote environment from the core of the earth right through to the outer space, for the benefit of the individuals and the society at large. School administrators have an important role to play in ensuring the health of the students by enlightening them on health issues like HIV/AIDS so as to develop health consciousness in them. They should provide medical facilities in the school such as a health Clinic, Sick Bay, First Aid Box, drugs and some medical equipment.

Video education is very pertinent at this point in time. Research has shown that students internalize learning more when they are taught with concrete instructional materials (Nwoji 2013). Awotua-Efebo (2001) established greater achievement evidence of teaching and learning in cognitive and psychomotor skills when visible objects are used. Nwoji (2013) observed that picture presentation that relates to the topics in any lesson or instruction makes the lesson more interesting, vivid and attractive.

HIV/AIDS video education is crucial for an awareness campaign. It is a communication that is not confidential but instructive given that the disease is fast spreading. This instruction is designed to meet desirable public health needs, create awareness, provide needed information and discussion in order to achieve the aim of preventing our youth from indulging in casual sex, use of an unsterilized razor, or unscreened blood for transfusion, so as to prevent more transmission of the virus. Video education may be a reliable awareness intervention for educating secondary school students about HIV/AIDS. Video is the recording and showing of films and events using a video camera, a video recorder, videotapes and a television set (Nwoji, 2013). It can provide excellent result in black and white as well as in colour. It can be played back over and over again for better internalization by the students. Video education is a kind of storytelling intervention with pictures that is necessitated to equip the senior secondary school students with the trends of events that they may experience in tertiary institutions where nobody guides their social, moral and academic life. These young students are the future generation and if not well tutored on their lifestyle, they may fall into disruptive behaviour that ends their lives early. The most devastating aspect of HIV/AIDS is that it is fatal and its infection rate has been very high among the youths who constitute the bulk of the nation's workforce and the future generation parents (Intelligence Community Assessment, 2002).

The HIV highest risk includes men that practice homosexual or bisexual engaging in unprotected sex, intravenous drug users who share needles among themselves, the sexual partners of those who participate in high-risk activities, infants born to mothers with HIV and people who receive a blood transfusion or clothing products (Njoku, 2004).

HIV does not show in one's face or appearance, it is only when one goes for a test that one will discover one's status whether positive or negative. It takes 2–15 years for HIV infection to manifest or progress to full-blown AIDS (USAID, 2009). Symptoms of HIV/AIDS are dry cough, constant fever, headache, spots and rashes, tuberculosis infections, oral or vaginal thrush, skin infections, sweats particularly at night, consist in-health, weakness and weight loss (UNICEF, 2007) prolonged diarrhea, increasing shortness of breath, pneumonia, enlargement of glands in the neck, sex or genital organs, profound fatigue, white coating on the tongue and white lips or yeast infection of the mouth (Njoku, 2006). Highly Anti-Retroviral Therapy (HAART) has been highly effective in reducing the number of HIV particles in the bloodstream (Edikpa, Okeke, Chinyelugo, & Nji, 2016).

Effects of HIV/AIDS are numerous, it conditions the victim frame of reference, the way they think, and they isolate themselves from people. It makes the victim lose weight or even sickly which may lead to loss of the victim's job. Friends and family members may stigmatize or discriminate against the infected person. The high cost of Anti- Retroviral therapy/treatment may also be a problem. Thus, the infected person will eventually die. Considering the fact that there is a very high abuse of sex among young people as well as homosexuals and lesbianism (Okolo, 2006), consequently, it then becomes so vital that video education is adapted for use in the creation of awareness on the dangers of HIV/AIDS. The purpose of the study is to investigate the school management and administrative implications on video education intervention for HIV/AIDS awareness among school children.

2. Research Method

The quasi-experimental research design was adopted to find out the achievement score of students taught with video education and those taught without video education. The population of the study was all the 10,732 senior secondary students in (SS2, and SS3) in Nsukka Education Zone. The population consists of SS2- 5,533, SS3- 5,199 students, total 10,732 students (source: PRS, PPSMB Enugu 2013/2014). The sample consists of 300 students drawn from two secondary schools in Nsukka education zone. One hundred and fifty students were the sample drawn from each school using simple random sampling technique of balloting without replacement. The total sample drawn was 300 students which constitute 3% of the total population. According to Okeke (2011) opined that when the study population runs into thousands, a sample of between 2-10% is ideal. Hence the sample size is 300 students which are 3% of the population. The researchers developed a questionnaire on HIV/AIDS awareness among school children titled HIV/AIDS Awareness Questionnaire (HAQ). Two senior lecturers from Administration and Planning and Guidance and Counseling unit of Department of Educational Foundations, Faculty of Education, University of Nigeria, Nsukka validated the instrument. The reliability coefficient of the HAAQ was .98alpha. Test-rest of the HAAQ showed r=.78. One hundred and fifty students were randomly selected from both schools using balloting written Yes or No to choose those that will receive video education awareness on HIV/AIDS. The same procedure was used for the control group, school A was taught with HIV/AIDS video education intervention awareness that was related to the topic. School B was taught HIV/AIDS with conventional chalkboard and textbook using the same topic and School B served as the control group. The same teacher taught both the intervention and the control group to avoid teacher ''effect syndrome'', two periods of 40 minutes per lesson was used for both groups twice a week for two weeks. The pretest was given after the first week before the teaching with video education on HIV/AID. The teacher announced the topic and wrote it on the chalkboard. The students were set inducted and the lesson introduced. The control group was taught with textbook and writing on the chalkboard without any video. While the teacher was teaching, the students were allowed to ask questions or contribute. At the end of the lesson, the teacher presented 10 questions for the students to answer. Fifteen minutes were given to write and pass their answer scripts. The CD Rom (Floppy Disk) on HIV/AIDS was used for the awareness intervention group. They had five computers stationed at strategic places. The teacher introduced the lesson, the computer presented step by step tutorial on HIV/AIDS, firstly, showing a film on victims, their skinning figure, spots on their body, the white layers on their mouth, constant dry cough, swollen glands causes of HIV/AIDS, dangers of HIV/AIDS, areas of contact, symptoms, effects and prevention methods. Students were allowed to ask questions where necessary and the lesson continued by the end of the lesson, the students were administered 10 questions covering the topic discussed. 15 minutes were given for them to write and pass their scripts. The questionnaire was administered to both intervention awareness and control group (pretest) and given 15 minutes to answer and submit their answer scripts. This was aimed at checking for prior achievement levels. By the end of the second week, they were given the same questions but the numbers were rearranged, some sentences were changed but still remain the same idea for the posttest. Participants' answer scripts were collected separately and scored. Mean and Standard deviation was used to analyze research question 1 and the percentage of both male and female students. The hypotheses were tested using repeated-measures ANOVA.

3. Results

Table 1. Demographic information of participants

Group	N	Age	Gender	
		M(SD)	Male, n(%)	Female, n(%)
Treatment	150	15.10(4.02)	60(40)	90(60)
Control	150	15.26(4.21)	63(42)	87(58)

Table 1 shows that the mean age of participants in the treatment group was 15.10±4.02years, while that of the control group was 15.26±4.21years. The male participants in the treatment group were 60(40%) while the female participants were 90(60%). In the control group, male participants were 63(42%) whereas females were 87(58%).

Table 2. Summary Statistics for Repeated-Measures ANOVA on the Impact of Video Education Intervention on HIV/AIDS awareness among Secondary school students

Outcome	Control group, $n = 150$		Treatment group, $n = 150$		*Df*	*F*	Significance	η_p^2	Observed power
	Pretest *M* (*SD*)	Posttest *M* (*SD*)	Pretest *M* (*SD*)	Posttest *M* (*SD*)					
HAQ	15.44(4.80)	–	15.80 (4.95)	–	1, 299	.390	.533	.002	1.00
HAQ	–	23.53(4.77)	–	35.63(2.51)	1, 299	311.37	.000	.513	

Note. LHAAQ = Level of HIV/AIDS Awareness Questionnaire.

In Table 2, a repeated-measures ANOVA test conducted indicates that there were no pretest differences on the level of HIV/AIDS awareness between participants in the treatment ($M = 15.80$, $SD = 4.95$) and control ($M = 15.44$, $SD = 4.80$) conditions, $F(1, 299) = .390$, $P = .533$, $\eta_p^2 = .002$.

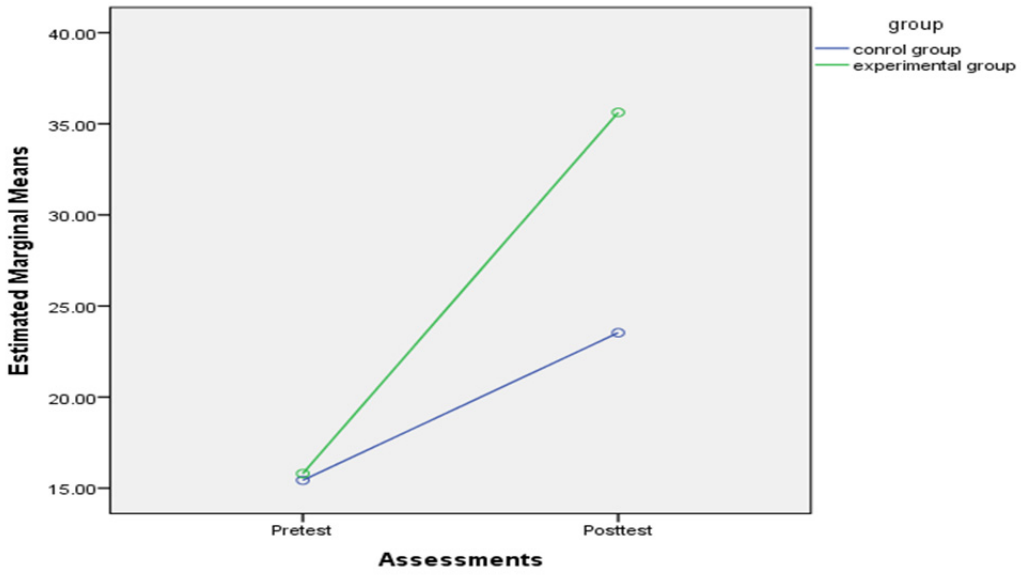

Figure 1. Graph showing the impact of video education intervention on HIV/AIDS awareness

A repeated-measures ANOVA test also revealed a significant treatment by time interaction effect on the level of HIV/AIDS awareness, $F(1, 299) = 311.37$, $P = .000$, $\eta_p^2 = .513$. In line with our hypothesis, video education intervention significantly increased HIV/AIDS awareness of students in the treatment group ($M = 35.63$, $SD = 2.51$) compared with those in control group ($M = 23.53$, $SD = 4.77$). Figure 1 graphically demonstrates the mean differences in HIV/AIDS awareness by group.

4. Discussion

The video education intervention significantly increased HIV/AIDS awareness of students in the treatment group compared with those in the control group. This finding is in line with the discovery made by Olibie (2005) and Ifeakor (2004) who noted that instructional materials aid the performance of students. It is obvious from the above articulation that learning with video as an instructional material improves learning about HIV/AIDS on part of the students. Okolo (2006) reported that up to 60% of new HIV infections are found among youths between 15 and 24 years old. The ability of those taught with video education intervention on HIV/AIDS group can be attributed to the step by step presentation of the video in the topic discussed. The school administratoris placed in a better position to make available the necessary materials or equipment that can aid in continuous video education of the students on HIV/AIDS. The school administrator should have the deepest understanding of the impact, symptoms and causes of HIV/AIDS, this is because school administrator has the power to ensure that both the students and staff are safe and in good health. The school head should not stop them from coming to school rather they will help them since they can live a normal life. The school head should organize yearly awareness campaign on HIV/AIDS like workshops, symposiums, seminars for both students and teachers on the dangers of HIV/AIDS to enlighten them. The school administrator as a fact-seeking authority because of his professional competencies, practical experience, expertise and through consist personal experience can find a solution to the problems of the students even before their parents got to know about it. The school administrator should plan, direct, supervise and evaluate student's health situations to check when it becomes worse.

4.1 Recommendations

1) The government should support the campaign for HIV/AIDS awareness through conferences, seminars, symposia and workshop.
2) NACA, SACA and LACA should intensify effort in their mandate of carrying bout enlightenment campaign on HIV/AIDS.
3) The non-governmental organizations should assist the government in re-educating the youths on this global disease.
4) People should abstain from sexual intercourse before marriage and encourage others to do the same.
5) Young students should beware of the dangers of "sugar daddies and mummies".
6) People should insist on using screened blood during a transfusion.
7) People should avoid the use of already used strings for injection.
8) There is a need for yearly HIV/AID public awareness campaign for secondary schools students.

5. Conclusion

The video education intervention significantly increased HIV/AIDS awareness of students in the treatment group compared with those in the control group. Students exposed to the HIV/AIDS video education intervention benefitted from it positively.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Music Intervention for Perceived Stress Among English Education Students

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Abstract

Objective/Background: This research objective was to examine the effect of music intervention on perceived stress among English education students.

Method: Out of 200 students surveyed, 56 English education undergraduate students who were having high-stress level participated in the study. The 56 eligible participants were randomized into one of two study groups: music intervention group (n = 28) and waitlist control group (n = 28) using computer-generated random numbers. All participants completed baseline evaluation and posttests at 4, 8 and 12 weeks. Participants completed the Perceived Stress Scale. The statistical tool used for data analysis was within and between ANOVA.

Result: There was a significant difference in perceived stress between English education students in the music intervention group and waitlisted group. Significant reduction in the level of perceived stress among English education students was observed in the music intervention group, but the waitlisted group demonstrated no significant reduction in their stress score both at 4, 8 and 12 weeks posttests respectively.

Conclusion: Music intervention is an effective means of handling stress among English education students. Further studies are required to investigate the role of music therapy in burnout reduction among English education students in Nigerian universities.

Keywords: music intervention, perceived stress, therapist, English education students

1. Introduction

Stress is the physiological and psychological response to a situation that affects an individual's overall wellbeing (Yusuf, Olufunke, & Valentine, 2015). Selye (1978) argued that stress is an internal or external event capable of threatening to upset individual's balanced state of living. Nowadays, the situation faced by students can produce stress. According to Jalaluddin et al. (2009), students are being faced with a lot of stress in learning the second language which could be due to their learning behaviour, classroom interaction, unavailability of qualified teachers, and lack of self-confidence. Akinbode (2006) observed that English education students find the learning of English stressful due to the differences in the second language learning structure, rules of grammar, language transfer, faulty use of rules, inadequate instructional materials for teaching and learning among others when compared with the mother tongue. Rivers (1988) opined that stress is being noticed among English education students as a result of their inability to reconcile the differences between rules of grammar in the second language and their native language. Wang (1999) stated that failure and frustration resulting from poor performance among English education students can result in a high level of perceived stress among students. Jayashree (1989) stated that teachers' inability to breathe hope into their students in teaching and learning of English makes it stressful for students. Young (1996) revealed that students get stressed and confused in the area of similarities between native and second language. Wallace, Boynton and Lytle (2017) attributed the stress of students to frequent exposure to an assignment, test, presentations, regular examinations, and other worries, such as financial and social needs.

Horn (2007) stated that music is a form of language, using timbre, pitch, tones and rhythm as a general language. Stansell (2005) noted that the musical method involves having fun with language and letting words come easily to enforce social interaction and group discussion. Weisskoff (1981) stated that music influences learning in core subjects and enables learners to attain the main objective of learning. Mora (2000) asserted that music and

language should be used in the teaching of English as a second Language regularly. Accordingly, Horn (2007) opined that music intervention enables individuals to freely learn from each other using musical approaches such as musical performance, improvisation, vocalization, movement and listening. Jalongo and Bromley (1984) asserted that music intervention improves the learning of English language especially in the area of grammar, spelling, reading, and writing, speaking and listening. Lalas and Lee (2002) found that music therapy is a strong mechanism through which both native and foreign language can be communicated better. McCarthey (1985) reported that music helps English learners to positively improve in listening, reading, writing, vocabulary and grammar. Pelliteri (2000) found that music and music therapy has positive impacts on music and non-music students. Strydom (2011) reported that music and music therapy is effective for improving second language learning among students of various capacities. Schwantes (2009) found that effective use of music enhances the learning of languages. The present study determined the effect of music intervention on perceived stress among English Education students in Nigeria

2. Methods

The study used a group randomized controlled trial design. The study protocol was approved by the Faculty of Education Research Ethics Committee, University of Nigeria Nsukka. The study was carried out in South-East, Nigeria. The study participants were English Education students of federal institutions who had not received any treatment on stress. Fifty-six (56) eligible participants aged 19 years and above, with perceived stress over a year and accept to provide informed consent were selected for the study. A participant was excluded if he/she has no perceived stress symptoms for up to a semester and if he/she is already engaged in another therapeutic exercise. The 56 eligible participants were randomized into one of two study groups: music intervention group (n = 28) and waitlist control group (n = 28) using computer-generated random numbers. Participants completed the Perceived Stress Scale (Cohen et al., 1988) at baseline, 4, 8, and 12 weeks of music intervention. The PSS comprises of 10 items on a 4point scale. The study protocol was described to all participants, and informed consent forms were completed after a clear explanation of the research goal. After completing the baseline evaluation, the participants were exposed to 12-weeks music intervention sessions. The study participants were asked to attend the group intervention session twice weekly. Each music session lasted for 90 minutes. The music intervention activities included singing, dancing exercise, reading among others (Ezegbe et al., 2018). The study participants were also given self-help manuals for home training which complemented the in-session music intervention. All waitlisted participants were scheduled to start the music intervention sessions immediately the music intervention group participants have had their last music intervention session and assessment. Participants in the waitlist group had casual meetings and discussions about perceived stress during the waiting period. The statistical tool used for data analysis was ANOVA Data was normally distributed and there were no missing data. All analyses were conducted using SPSS computer software, version 22.0 (IBM Corp. NY, United States). All p-values ≤ 0.05 were considered to be significant.

3. Result

The study participants were twenty-eight (28) in the treatment group (12 males, 16 females) and twenty-eight (28) waitlisted control group (10 males, 18 females). Table 1 shows the mean stress of each study group according to period of assessment.

Table 1. Descriptive statistics

Group		Baseline	Week4	Week8	Week12
Music Intervention Group	M	31.9643	13.6429	8.1786	8.2143
	N	28	28	28	28
	SD	3.10891	4.84741	3.37807	3.32618
	SEM	.58753	.91607	.63840	.62859
Music Non-intervention Group	Mean	32.2500	32.2500	31.1786	31.5714
	N	28	28	28	28
	SD	3.21599	3.21599	7.92116	2.71387
	SEM	.60777	.60777	1.49696	.51287
Total	M	32.1071	22.9464	19.6786	19.8929
	N	56	56	56	56
	SD	3.13733	10.23438	13.07893	12.16206
	SEM	.41924	1.36763	1.74775	1.62522

M=Mean, N=Number of Respondents, SD=Standard Deviation, SEM=Standard Error Mean.

Table 2. ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig	Eta Squared
Baseline * Group	B/W Groups	(Combined)	1.143	1	1.143			
	Within Groups		540.214	54	10.004	.114	.737	.002
	Total		541.357	55				
Week4 * Group	B/W Groups	(Combined)	4847.161	1	4847.161			
	Within Groups		913.679	54	16.920	286.476	.000	.841
	Total		5760.839	55				
Week8 * Group	B/W Groups	(Combined)	7406.000	1	7406.000			
	Within Groups		2002.214	54	37.078	199.741	.000	.787
	Total		9408.214	55				
Week12 * Group	B/W Groups	(Combined)	7637.786	1	7637.786			
	Within Groups		497.571	54	9.214	828.907	.000	.939
	Total		8135.357	55				

As shown in Table 2 of the investigation, there was no significant difference in the baseline assessment for perceived stress between the music intervention group and the music non-intervention group, $F(1,54) = .114$, $P = .737$. The participants' assessment at 4th week showed a significant decrease of perceived stress among English education university students in the music intervention group compared with those in the music non-intervention group, $F(1,54) = 284.476$, $P = .000$.

Nevertheless, perceived stress among English education students at 8th week showed a significant decrease in the music intervention group compared with those in non-music intervention group $F(1,54) = 199.741$, $P = .000$, $n^2 = .787$.And at the 12th-week assessment of participants showed a more significant decrease in perceived stress among English education students in the music intervention group compared with those in non-music intervention group $F(1,54) = 828.907$), $P = .000$.

4. Discussion

The study investigated music intervention for perceived stress reduction among English education students in Nigeria. The study found that music intervention reduces perceived stress among English education students.

Ezegbe et al. (2018) reported that music intervention provides a positive reduction in the level of psychological distress among individuals. Sutton and De Baker (2009) reported that music intervention is an effective strategy in handling individual emotional state in reducing tension and distress. Lesiuk (2008) found that music intervention enables a stressed person (s) to relax, think among promotes the individual's wellbeing. Smith, Casey, Johnson, Gwede, Riggin (2001) found that music intervention is an effective measure of reducing stress among learners of both native and second language. Clark, Isaacks-Downton, Wells, Redlin-Frazier, Eck, Hepworth, Chakravarthy (2006) reported that music intervention reduces stress among students and offers them comfort in learning vocabulary, grammar, reading and writing among others. Beaulieu-Boire, Bourque, Chagnon, Chouinard, Gallo-Payet, Lesur (2013) reported that music intervention is effective for reducing stress among second language learners of various capacities. Schwantes (2009) found that effective use of music intervention enhances the learning of languages without stress. Willenswaard, Lynn, McNeill, McQueen, Dennis, Lobel and Alderdice. (2016) reported that emotional issues of any kind are easily resolved through music intervention. Langer (1957) reported that music is the language of emotions and therefore performs different functions in individualized and conventional life stress of a wedding, feasts, funerals, war among others. Aguirre, Bustinza and Garvich (2016) found that students are induced to interact freely without stress in class activities when songs are initiated. O'Callaghan, McDermott, Michael, Daveson, Hudson and Zalcberg (2014) found that life stress among adults is dozed off with music intervention. Joyce (2011) reported that students' vocabulary is built better with music intervention as they learn with little or no stress. Thompson (2009) found that individuals perceived stress can be properly managed with music intervention since music intervention balances psychophysical cues and expectancy mechanism of individuals. Hyde et al. (2009) reported that music intervention improves activation and development of neuronal structures of cortex, amygdala, hippocampus, and hypothalamus and improves plasticity and neurogenesis among others. Lemmer (2008) found that music intervention can improve or reduce stress since it has the capacity of boasting and reducing heart rate and blood pressure of an individual. Iwanaga et al. (2005) reported that music intervention is a means through which stressors regain relaxation. Brennan and Charnetski (2000) found that music intervention is the killer of markers of stress. Wachi et al. (2007) reported that music intervention promotes the modulation of the natural killer–cell activity and the level of cytokine IL-10, which are stress markers and stabilize mood. Nelson et al. (2008) found that music intervention may restore some of the distorted homeostasis observed in patients; decrease pain and the need for sedation. Rosova (2007) found that music intervention helps learners to retain information without stress than other learning techniques. Sigurðardóttir (2012) reported that music intervention enables students to learn and pronounce English words correctly with or without stress.

5. Conclusion

This study investigated music intervention for perceived stress reduction among English education students. The music intervention brought about a positive reduction in perceived stress of the recipients compared to participants in a waitlisted control group. Thus, we concluded that music intervention is helpful to students toward overcoming perceived stress. To that end, further studies are needed to continuously determine how students can handle their perceived stress in both public and private universities in Nigeria, using music intervention.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Emotional Self-Regulation as a Predictor of Self-Esteem and Academic Self-Efficacy of Children With Visual Impairment

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Abstract

Background/Objective: Research on the predictive capacity of emotional self-regulation on self-esteem and academic self-efficacy among children with visual impairment is limited. The present study investigated the predictive capacity of emotional self-regulation on self-esteem and academic self-efficacy among children with visual impairment in South-east Nigeria.

Method: A predictive correlational research design was adopted for the study. The participants were 186 students with visual impairment in public schools in the study area. The data was obtained using the Emotional Regulation Questionnaire (ERQ), Rosenberg Self-Esteem Scale (RSES), and Academic Self-Efficacy Scale (ASES). We applied multiple stepwise linear regression analysis for data analysis.

Results: Results show that ERQ reappraisal and ERQ suppression are independent predictors of RSES. The ESRQ combined scores significantly predicted RSES. The standardized β coefficient for the predictive capacity of the ERQ on RSES was -.464 (p=.000). The ERQ total score in collaboration with gender also predicted RSES. The ERQ reappraisal alone was a significant predictor of ASES, but ERQ suppression alone was not. The ERQ combined score did not significantly predict ASES. The standardized β coefficient for the predictive capacity of the ERQ total score on ASES was -.108 (p=.164). The ERQ total score together with age significantly predicted ASES. But ERQ total score with parent's educational background did not significantly predict ASES.

Conclusion: Emotional self-regulation reappraisal and Emotional Self-regulation suppression as independent predictors consequently interact to lower the self-esteem and self-efficacy of children with visual impairment. It is pertinent to focus on and teach emotional self-regulation of students with visual impairment so as to boost their self-esteem and academic self-efficacy. This will help to reduce low self-esteem among the students with visual impairment and will also help to eliminate the negative emotional thoughts concomitant with disability.

Keywords: predictive capacity, emotional self-regulation, self-esteem, academic self-efficacy, visual impairment

1. Introduction

Studies suggest that a child's emotional and behavioural regulation in preschool could predict a child's social and academic competence in kindergarten (Bulotsky-Shearer, Dominguez, Bell, Rouse, & Fantuzo, 2010). Most of the studies on the relationships among emotional self-regulation and children/adolescent's behavioural characteristics have focused mainly on sighted individuals (Meyer, Smeets, Giesbrecht, & Merckebach, 2012; Bebko, Franconeri, Ochsner, & Chiao, 2014) and very few studies have ascertained if emotional self-regulation will predict the self-esteem and academic self-efficacy beliefs of persons with visual impairment in primary and secondary schools.

The birth of a child with visual impairment or the loss of vision at any point in time is usually marked by psychological and emotional grief. The grief may not just be as a result of a loss of vision but due to other factors relating to societal perceptions and expectations, people's attitudes towards them and their experiences with peers and members of the immediate environment. People with visual impairment may become at risk of suffering from social isolation, lower self-esteem, diminished emotional security, depression, low morale, dejection and low level

of social interaction. For instance, research reveals that children with visual impairment may have more trouble building their self-esteem as they learn that they do things a bit differently from other people. Some of them become dependent, passive, lacking in initiative and exhibit undue anxiety. Studies indicate that most children develop emotional regulation in the preschool years when they begin to develop language that allows them to label and express their own emotions as well as the emotions of others. Interventions have been found to be most successful before age seven, although children are still able to develop new skills after this time as well (Macklem, 2010).

Though studies on emotional regulation have provided some valuable information on quality of life, emotion regulation strategies, and heart rate variability (HRV) among people without intellectual disabilities (Geisler, Vennewald, Kubiak, & Weber, 2010), there is paucity of research on emotional self-regulation as predictor of visually impaired children's self-esteem and academic self-efficacy. Considering the Nigerian cultural environment characterized by a negative attitude towards children with visual impairment which places them at risk for low self-esteem and learning problems, there is the need to ascertain the predictive capacity of emotional self-regulation on their self-esteem and academic self-efficacy belief. Carrying out this study is a right issue for children with visual impairment which aligns with the Federal Republic of Nigeria (FRN) (2004:1) clear statement in the National Policy on Education that "every Nigerian child shall have a right to equal educational opportunities irrespective of any real or imagined disabilities each according to his or her ability". This study provides useful information that will enhance the educational/learning opportunities of primary and secondary school pupils with visual impairment. High self-esteem and academic self-efficacy belief have been found to positively correlate with academic achievement. This study has implications for guidance counsellor and special needs educators in providing educational services to children with special needs in school.

Self-regulation is the process applied by individuals to activate and manage their thoughts, behaviours and emotions in order to meet set goals (Zimmermann & Schunk, 2011). Sonnentag and Barnett (2011) refer to emotional self-regulation as the complex process of initiating, inhibiting and modulating the conscious aspects of emotion to effectively achieve one's goals. The two major aspects of emotional self-regulation strategies that have been often explored are cognitive reappraisal and expressive suppression. Cognitive reappraisal refers to a change of thoughts about a situation or circumstance whilst expressive suppression relates to inhibition or suppression of emotional behaviour (Webb, Miles, & Sheeran, 2012). Both are aimed at regulating behaviour. Inability to regulate emotions results in tantrums, impulsive behaviours, inattention, hyperactivity, inability to learn (Shanker, 2010), and emotionally driven conduct problems such as reactive aggression (Frick & Morris, 2004; Marsee & Frick, 2007). It also results in psychological disorders such as anxiety disorders, major depressive disorder, and borderline personality disorder (Amstadter, 2008; Davidson, Putnam, & Larson, 2000; Gross & Munoz, 1995). Conversely, effective emotion regulation techniques can significantly enhance attention, memory recall, comprehension, reasoning ability, creativity, and task performance in adults and children (McCraty, 2009; 2005). Research shows that there is a dynamic and bi-directional interaction between social-emotional development and academic achievement. Also, improving the social-emotional competencies of children with healthy social development positively impacts on their interpersonal and academic skills (Roe, 2008).

Valiente, Lemery-Chalfant, and Swansos (2010) ascertained the relationship between effortful control, emotionality and academic achievement using 300 children in kindergarten classes. The result showed that students' anger, sadness and shyness were negatively related to achievement, and self-control was positively related to achievements, particularly to those who showed lower levels of negative emotions. Meule, Fath, Real, Sutterlin, Vogele, and Kubler (2013) assessed the relationship between quality of life, emotion regulation strategies and Heart Rate Variability (HRV) in a sample of individuals with intellectual disabilities and concomitant impaired vision. The result showed positive relationships between HRV, emotion regulation, and quality of life.

Some studies which focused on the relationship between emotional self-control in form of effortful control and behaviours have shown contradictory findings. For instance, Murray and Kochanska (2002) found that preschoolers with high effortful control had higher mother-reported internalizing problems. On the other hand, Garnefski, Kraaij, and van Etten (2005) found no relationship between internalizing problems and emotion regulation capabilities. In addition, De Castro, Merk, Koops and Veermande (2005) found that reactive and proactive aggressions were similarly negatively related to effortful control. Most of the studies have been conducted among normal developing children. There is a scarcity of research studies that established the relationship among emotional self-regulation, self-esteem and academic self-efficacy belief in students with visual impairment. The present study investigated the predictive capacity of emotional self-regulation on self-esteem and academic self-efficacy among children with visual impairment in South-east Nigeria

2. Method

Following approval by the ethical committee at the authors' institution, a predictive correlational research design was used to investigate the predictive capacity of emotional self- regulation on self-esteem and academic self-efficacy of children with visual impairment. The State Education Boards, parents of the students, the head teachers of the schools and the students used for the study completed the consent forms. The State Universal Education Board in the following states in the area of the study such as Ebonyi, Anambra, Enugu, Abia and the five schools for the visually impaired in south-East Nigeria were contacted. The study was conducted in all the primary and secondary schools in Enugu, Anambra, Abia and Ebonyi States in South-East Nigeria. The entire population (N=168) of the children with visual impairment in primary school classes five and six and those in the secondary schools in South-East Nigeria were used for the study as the number was adequately manageable by the researchers, therefore, there was no sampling. Participants' mean age was 14.57±.302. The researchers read out the statements/questions of the instruments to the students and also checked the responses they selected.

The participating students completed the Emotional Regulation Questionnaire (ERQ) (John & Gross, 2003), Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965), and Academic Self-Efficacy Scale (ASES) (Morgan & Jinks, 1999).

The ERQ measures individuals' control or regulation of their emotions. It has ten items with two subscales: cognitive reappraisal and expressive suppression. Six out of the ten items (1, 3, 5, 7, 8 and 10) constitute cognitive reappraisal emotional regulation while four of the items (2, 4, 6 and 9) relates to expressive suppression. Example of items in expressive suppression is: "I keep my emotions to myself." Whilst an example of items in cognitive reappraisal is, "When I want to feel less negative emotion (such as sadness or anger), I change what I am thinking about. The instrument is structured on a four-point Likert scale ranging from strongly disagree (1 point) to strongly agree (4 points). Alpha reliabilities average of .79 was recorded for reappraisal and .73 for Suppression. Test-retest reliability across 3 months was .69 for both scales (Gross & John, 2003). For this study, Cronbach' alpha reliability estimate was 0.82 for both scales.

The RSES is a ten-item scale which is structured on four-point Likert-type response options of Strongly Agree (4 points) to Strongly Disagree (1 Point). Five of the items were positively skewed while five were negatively skewed. The negatively skewed items were reverse-scored. It is used to determine the general feeling one has about oneself. The scale ranges from 0-30. Scores between 15 and 25 are within normal range; scores below 15 suggest low self-esteem. The scale generally has high reliability: test-retest correlations that are typically in the range of .82 - .88, and Cronbach's alpha for various samples are in the range of .77-.88 (Blascovich & Tomaka, 1993; Rosenberg, 1986). For this study, a Cronbach alpha reliability estimate was 0.84.

The ASES was used to determine the academic self-efficacy of the participants. It is a 30-item questionnaire with four response options of Really Agree (1point) to Really Disagree (4 points). Examples of items include, I could get the best grades in class if I tried enough; Sometimes I think an assignment is easy when the other kids in the class think it is hard. Higher scores indicate a higher level of academic self-efficacy. For this study, Cronbach' alpha reliability estimate was 0.85.

The data from the study were analyzed using the IBM SPSS, version 22. Continuous variables were reported as mean and standard deviation. We conducted multiple stepwise linear regression analysis to ascertain if emotional self-regulation (measured via ESRQ) is a predictor of self-esteem (measured via RSES) and academic self-efficacy (measured via ASES) of students with visual impairment. In the current study, $p \leq .05$ was considered significant.

3. Results

Table 1 shows the means, standard deviations and statistical significancevalues of ERQ, RSES, and ASES across students' demographic characteristics which include age, gender, type of visual impairment (VI), time of onset of VI, family type, parent's educational background, and family size.

Table 1. Means, standard deviations and F-tests of ERQ, RSES, and ASES across students' demographic characteristics

Characteristics		**n**	**ERQ reappraisal M±SD**	**ERQ suppression M±SD**	**ERQ total score M±SD**	**RSES M±SD**	**ASES M±SD**
Age (range)	8–12years	82	19.84±4.99	12.48±3.30	32.32±8.19	28.77±3.77	87.33±7.69
	13–18years	86	18.60±4.45	11.22±3.11	29.83±4.46	29.38±2.92	89.37±6.51
	F-test statistic	–	$F(1,167)=2.802$, $p=.096$	$F(1,167)=6.570$, $p=.011$	$F(1,167)=4.244$, $p=.041$	$F(1,167)=1.030$, $p=.312$	$F(1,167)=3.929$, $p=.049$
Gender	Male	50	19.36±4.97	11.74±3.51	31.10±8.37	28.30±3.60	89.34±6.82
	Female	118	19.14±4.68	11.87±3.16	31.02±7.73	29.42±3.21	87.97±7.29
	F-test statistic	–	$F(1,167)=.013$, $p=.911$	$F(1,167)=.234$, $p=.629$	$F(1,167)=.017$, $p=.896$	$F(1,167)=3.530$, $p=.062$	$F(1,167)=1.765$, $p=.186$
Type of Visual Impairment(VI)	Low Vision	155	19.17±4.77	11.79±3.25	30.90±7.91	29.14±3.39	88.26±7.23
	Blindness	13	20.31±4.57	12.38±3.45	32.69±7.91	28.38±2.98	89.77±6.42
	F-test statistic	–	$F(1,167)=.792$, $p=.375$	$F(1,167)=.543$, $p=.462$	$F(1,167)=.704$, $p=.403$	$F(1,167)=.371$, $p=.543$	$F(1,167)=.326$, $p=.569$
Time of Onset of VI	Congenital	58	19.00±4.69	11.55±3.20	30.55±7.79	29.76±3.06	89.12±6.53
	Adventitious	110	19.32±4.79	11.98±3.29	31.30±7.98	28.73±3.47	87.98±7.47
	F-test statistic	–	$F(1,167)=.273$, $p=.602$	$F(1,167)=.547$, $p=.461$	$F(1,167)=.383$, $p=.537$	$F(1,167)=8.450$, $p=.004$	$F(1,167)=.316$, $p=.575$
Family Type	Nuclear	108	18.84±4.92	11.65±3.33	30.49±8.15	29.19±3.20	87.64±7.57
	Extended	31	21.08±4.11	13.15±3.21	34.23±7.21	28.23±3.39	88.38±5.56
	Fragmented	16	21.00±3.97	13.00±2.89	34.00±6.70	28.88±4.21	90.75±5.19
	Reconstituted	13	18.77±4.55	11.32±3.07	30.09±7.50	29.16±3.53	89.71±6.94
	F-test statistic	–	$F(1,167)=1.546$, $p=.205$	$F(1,167)=1.498$, $p=.217$	$F(1,167)=1.559$, $p=.202$	$F(1,167)=.263$, $p=.852$	$F(1,167)=1.110$, $p=.347$
Parent's Educational Background	Primary School Graduate	93	18.41±4.81	11.28±3.22	29.69±8.01	29.28±3.25	88.06±7.32
	Secondary School Graduate	18	20.11±5.09	12.11±3.92	32.22±8.93	28.17±3.15	90.17±4.66
	Postsecondary School Graduate	57	20.23±4.19	12.65±2.95	32.88±7.03	29.05±3.61	88.32±7.56
	F-test statistic	–	$F(2,167)=2.726$, $p=.068$	$F(2,167)=3.224$, $p=.042$	$F(2,167)=2.974$, $p=.054$	$F(2,167)=.284$, $p=.753$	$F(2,167)=.530$, $p=.590$
Family Size	Small	108	19.72±5.10	12.24±3.59	31.96±8.61	28.24±3.36	87.72±6.72
	Moderate	25	19.83±4.67	12.31±3.32	32.14±7.89	28.54±3.72	89.23±6.99
	Large	35	18.89±4.70	11.58±3.16	30.47±7.75	29.45±3.21	88.25±7.35
	F-test statistic	–	$F(2,167)=.439$, $p=.646$	$F(2,167)=.747$, $p=.475$	$F(2,167)=.568$, $p=.568$	$F(2,167)=.678$, $p=.509$	$F(2,167)=.303$, $p=.739$

Table 2. Means and standard deviations for ERQ, RSES and ASES

	Mean ± SD	Skewness	Kurtosis
ERQ total score	31.04±7.90	–.537	–1.011
ERQ reappraisal	19.21±4.75	–.702	–.899
ERQ suppression	11.83±3.26	–.239	–1.113
RSES	29.08±3.36	–.796	.375
ASES	88.38±7.16	–.631	–.481

ERQ=Emotional Regulation Questionnaire; RSES=Rosenberg Self-Esteem Scale; ASES=Academic Self-Efficacy Scale.

In the current study, the students had a mean score of 19.21±4.75 (ERQ reappraisal), 11.83±3.26 (ERQ suppression), 31.04±7.90 (total ERQ), 29.08±3.36 (RSES), and 88.38±7.16 (ASES). (see Table 2).

Table 3. Results of Multiple Stepwise Linear Regression Analysis between ERQ, RSES, and ASES

Dependent variables	Step	Predictor variables	B	Standardized$\boldsymbol{\rho}$	ρ	95% CI for B	R^2	F	ρ
RSES	1	Constant	35.214	–	.000	33.364, 37.065	.215	45.535	.000
		ERQ total score	–.198	–.464	.000	–.255,–.140			
	2	Constant	33.33		.000	30.847, 35.821	.238	25.272	.000
		ERQ total score	–.197	–.463	.000	–.254, –.140			
		Gender	1.099	.150	.029	.115, 2.083			
ASES	1	Constant	85.339	–	.000	80.916, 89.762	.012	1.955	.164
		ERQ	.098	.108	.164	–.040, .236			
	2	Constant	77.115	–	.000	70.548, 83.681	.072	6.386	.002
		ERQ total score	.130	.144	.060	–.005, .266			
		Age	.572	.248	.001	.227, .917			
	3	Constant	85.378	–	.000	80.850, 89.907	.012	.975	.379
		ERQ total score	.099	.109	.168	–.042, .240			
		Parent' educational background	–.035	–.007	.933	–.841, .772			

ERQ=Emotion Regulation Questionnaire; RSES=Rosenberg Self-Esteem Scale; ASES=Academic Self-Efficacy Scale, VI=Visual Impairment.

Table 3 shows that we carried out a multiple stepwise linear regression analysis to determine if ERQ is a predictor of RSES and ASES among students with visual impairment. We included only students' demographic characteristics which had a significant correlation with RSES and ASES respectively in the regression equation as in Hiçdurmaz, İnci, and Karahan (2017). Other demographic characteristics were excluded in the regression equation since they showed a nonsignificant association with ERQ, RSES, and ASES scores respectively.

The results of our study indicated that when the ERQ scales were considered separately, we found that ERQ reappraisal was a significant predictor of RSES (R^2 = .214, F = 45.305, p = .000, $\boldsymbol{\rho}$ = –.463, p = .000), and ERQ

suppression was also a significant predictor of RSES (R^2 = .203, F = 42.162, p = .000, $\boldsymbol{\rho}$ = –.450, p = .000). Overall, the ERQ combined scores significantly predicted RSES (R^2 = .215, F = 45.535, p = .000). The standardized $\boldsymbol{\rho}$coefficient for the predictive capacity of the ERQ on RSES was –.464 (p = .000). ERQ total score together with gender also predicted RSES (R^2 = .238, F = 25.272, p = .000).

To find out if ERQ predicts academic self-efficacy, the ERQ scales were first considered separately, and we found that ERQ reappraisal alone was a significant predictor of ASES (R^2 = .026, F = 4.452, p = .036, $\boldsymbol{\rho}$ = .162, p = .000), but ERQ suppression alone was not a significant predictor of ASES (R^2 = .001, F = .113, p = .738, $\boldsymbol{\rho}$ = .026, p = .000) . Also, our regression results showed that the ERQ combined score did not significantly predict ASES (R^2 = .012, F = 1.955, p = .164). The standardized $\boldsymbol{\rho}$coefficient for the predictive capacity of the ERQ total score on ASES was –.108 (p = .164). The ERQ total score together with age significantly predicted ASES (R^2 = .072, F = 6.386, p = .002). But, ERQ total score together with parent's educational background did not significantly predict ASES (R^2 = .012, F = .975, p = .379).

4. Discussion

The results of our study indicate that ERQ reappraisal and ERQ suppression independently predicted RSES. ERQ combined score also significantly predicted RSES. Visual impairment has been associated with low self-esteem, however, this finding has added to the growing body of knowledge by showing the relevance of emotional regulation on the self-esteem and academic self-efficacy of students with visual impairment.

This result further showed that an increase in the ability to self regulate emotions results in increased self-esteem. This finding is expected as individuals who use cognitive reappraisal which is an integral part of emotional self-regulation engage in cognitive reframing, reinterpreting situations and circumstances in order to decrease their negative emotional reactions and reduce their negative emotional response such as low self-esteem while expressive suppression enables individuals to subdue emotional expression without reducing emotional experience (Gross & Thompson, 2007). Other relevant research studies have shown that individuals who self regulate their emotions through cognitive reappraisal tend to experience less depression, anxiety (Gross, Richards, & John, 2006) reduced negative effect and increase positive effect (Augustine & Hemenover, 2009) and have long term effect on individuals' wellbeing and interpersonal functioning (John & Gross, 2004). This finding on emotional self-regulation is important since it has shown that improvement in self-regulation will handle the self-esteem of individuals with visual impairment. Hence, teachers, parents, social workers, guidance counsellors and rehabilitation staff should make an effort to help students with visual impairment to develop emotional self-regulation strategies that will improve their self-esteem. The findings of this study are consistent with the literature which indicates that inability to self-regulate emotions by individuals with visual impairment is a good explanation for their psychological problems as well as their low self-esteem (Eniola, 2007). Similarly, another important study has also shown that inability to self regulate emotions leads to impulsive and aggressive behaviour, difficulty in paying attention and learning, procrastination, which could affect academic self-efficacy (Schore, 2003).

In this study we also found that the ERQ combined score significantly predicted ASES, however, ERQ reappraisal alone was a significant predictor of ASES whereas ERQ suppression alone was not a significant predictor of ASES. In order words, the academic self-efficacy of the students is dependent on the extent the students use either emotional cognitive reappraisal or emotional suppression. One risk factor following visual impairment is their academic self-efficacy beliefs and those with positive academic self-efficacy beliefs tend to perform better academically (Bandura, Babaraneli, Caprara, & Pastorelli, 1996) and are more resilient in accomplishing tasks (Pajares & Schumk, 2001). The finding of this study agrees with previous studies which show that child's emotional and behavioural regulation in preschool could be a predictor of a child's academic competence (Bulotsky-Shearer, Dominguez, Bell, Rouse, & Fantuzo, 2010). This study has extended this finding to students with visual impairment. This finding is in line with the assertion of Lipsett (2011) that emotional regulation can affect a child's ability to learn new material, persevere to complete tasks, and take tests. In the same vein, Woolfolk (2013) noted that emotional competencies and self-regulation are critical for academic and personal development. Positive academic self-efficacy beliefs have been associated with high academic achievement Pajares & Miller, 1997) and since emotional self-regulation predicts academic self-efficacy intervention programs that will increase their emotional self-regulation will be appropriate as it will have an effect on their academic achievement.

4.1 Limitations of the Study

The instruments could have been brailed for the students to read independently, however, some of the students cannot read Braille. They could also have used screen readers but the facilities were not available in schools. Another limitation of this study is the use of self-report measures in generating data used for the study. Self-report

measures which were used to assess self-regulation, self-esteem and academic self-efficacy and such self-reports are prone to bias due to social desirability, however, such self-reports are imminent especially when an attempt is made to ascertain an individual's innate tendencies.

4.2 Implications of the Study

Several studies have shown that students with visual impairment scored lower on their self-esteem in comparison with their counterparts without visual impairment (Lopez-Justicia, Pichardo, Amezcua, & Fernandez, 2001; Soulis, & Christodoulou, 2010; Soulis, Andreou, & Xristodoulou, 2012) and based on the present investigation which found that emotional self-regulation significantly predicted self-esteem of students with visual impairment, the finding has implication for the education of students with visual impairment. To make them acquire good self-esteem and academic self-efficacy beliefs, they need to be exposed to cognitive reappraisal strategies. It will also be proper to have a good understanding of the psychological and emotional grief they go through so that they will be well trained to regulate their emotions. It will help to improve their self-esteem and academic self-efficacy and consequently enhance their psychological wellbeing as well as their academic achievement. Training students with visual impairment on emotional self-regulation strategies would likely improve their self-esteem. It is, therefore, imperative for the special educators, rehabilitation officers, caregivers, parents and significant others who are involved in the provision of education to persons with visual impairment to train the students to acquire emotional self-regulatory strategies early in life as research has shown that it could be acquired early in life. This will also help to boost their confidence.

5. Conclusion

Emotional self-regulation components - reappraisal and suppression are independent predictors of self-esteem level of children with visual impairment. Emotional self-regulation combined scores significantly predicted the self-esteem of these children in South-East Nigeria. Emotional self-regulation total score together with gender also predicted self-esteem level of children with visual impairment. However, the reappraisal component of emotional self-regulation alone was a significant predictor of academic self-efficacy beliefs of children with visual impairment, but suppression component alone was not. Emotional self-regulation combined score did not significantly predict academic self-efficacy beliefs of these children with visual impairment in South-East Nigeria. Emotional self-regulation total score together with age significantly predicted academic self-efficacy beliefs. But, emotional self-regulation total score together with parent's educational background did not significantly predict academic self-efficacy beliefs. Studies are required to further validate these findings among students with vision loss.

6. Recommendations

It is pertinent to focus on and teach emotional self-regulation of students with visual impairment so as to boost their self-esteem and academic self-efficacy. This will help to reduce low self-esteem among the students with visual impairment and will also help to eliminate the negative emotional thoughts concomitant with disability. Reappraisal training could neutralize or reduce any differences in regulation success. A longitudinal study would also be appropriate so as to further understand the relationship among the variables this study investigated. Further studies may improve on the method of administering the instruments by making the students use alternative means of answering the research measures through the use of computer and screen reading software.

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Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Child Rearing Patterns as Predictors of In-School Adolescents' Maladaptive Behaviours in Very Low-Income Rural Communities in Nigeria

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Abstract

Background/Objective: The debate about the interaction between the individual student and learning environment (home) is still ongoing and inconclusive. Parents are modelled and they establish basic patterns at home which may never stop as teens develop. This study investigated child-rearing patterns as predictors of in-school adolescents' maladaptive behaviours in very low-income rural communities in Nigeria.

Method: The study was a cross-sectional correlational survey. Two hundred and sixty-one parents and teachers in Enugu and Ebonyi States of Nigeria participated in the study. Teachers identified the students with Conners' Comprehensive Behavior Rating Scales (CBRS). Parents whose children were identified answered the Child Rearing Pattern Questionnaire (CRPQ). The validity of the instruments was ascertained by three experts. Pearson Product Moment Correlation was used to address the research questions, while the null hypotheses were analyzed using regression at an alpha level of significance of 0.05.

Results: Results revealed in-school adolescents in very low-income rural communities in Nigeria exhibit maladaptive behaviours. It was found that 4.7% of in-school adolescents' maladaptive behaviours can be attributed to the authoritarian child-rearing pattern while 12% of maladaptive behaviours among in-school adolescents can be attributed to the authoritative child rearing pattern. Authoritative and authoritarian child-rearing patterns did not significantly predict the maladaptive behaviours of in-school adolescents from very low-income rural communities.

Conclusion: The findings of this study highlight the need for researchers to check out whether and how several other factors in the school that may contribute significantly to in-school adolescents' maladaptive behaviours such as peer influence, disciplinary measures, school environment and even curriculum and pedagogy.

Keywords: child-rearing patterns, in-school adolescents, maladaptive behaviours, authoritarian, authoritative

1. Introduction

1.1 Overview of Very Low-Income Rural Communities in Nigeria

Rural communities in Nigeria are experiencing poverty and this seems to be on the increase with devastating effects on the citizens (Anger, 2010). The Vision 2010 Committee Report revealed that 80% of Nigerians still live below the poverty level with no access to safe drinking water, adequate nutrition, or even primary health care. This unsatisfactory condition has been noticed through visits and initial interactions and interviews by members of this research team in Nigeria. This situation is not easy for parents and their children. The parents mainly engage in agricultural cultivations especially rice and sometimes the headship of the households are under the females. All these have an effect on the in-school adolescents they are rearing. Of more concern is that the number of poor people is on the increase in Nigeria. In an appraisal of poverty reduction strategies in Nigeria, Ogwumike (2002) found that 27% was recorded in 1980, while in 1985, it was 46%. There was a decline in 1992 when it was 42%. But, in 1996, it skyrocketed to 67%. Since then, the situation has not changed from the look of things with lower

educational level appearing to be linked to the higher rate of poverty.

In Nigeria, there are three major communities. They are the completely modernized communities-these are located in the centre of urban areas; those that combine the characteristics of traditionalism and modernity situated in border areas between urban areas and rural areas and those situated in predominantly rural areas. The latter is largely traditional in outlook and may not enjoy the luxuries of modernity. Very low-income rural communities may apply to the lower income residential districts in rural areas. The schools in those areas are often neglected due mainly to location and distance from urban centres especially the centre of government. Most of the inhabitants are farmers and petty traders. Majority of the dwellers are very poor by income status and are poorly educated. Their shelter may be inadequate, in addition to poor health conditions. The adolescents in such areas may be poorly motivated to learn, may take to apathy and the tendency is to start exhibiting maladaptive behaviours.

Statistics have shown that over 70% of the Nigerian population is classified as poor with 35% living in abject poverty (Kama, 2015). The report from the study (Kama, 2015) noted that it is especially severe in rural areas where social services and infrastructure are limited and sometimes non-existent. Majority of rural dwellers are poor and depend on agriculture and petty trading for food and income. Up to 90% of the country's food is produced by them. Rural poverty tends to be evenly distributed across the country. Rural infrastructure as earlier noted in Nigeria has long been neglected while investments in health, education and water supply have largely been focused on the cities. For this, they have extremely limited access to services such as schools. Limited education tends to perpetuate the poverty cycle.

Animashaun (2005) reported a high rise of in-school maladaptive behaviours among rural communities in the Ibadan area. Bolu- Steve and Sanusi (2013) noted that in Nigeria where the study was carried out, the family background has an influence on the academic background of the adolescents. Other researchers have also stated that the families and the area adolescents reside may positively or negatively lead to maladaptive behaviours (Teasdale and Silver, 2009). Such behaviours are harmful to the student, other students, parents, siblings, school system, and society at large. The students concerned may drop out of school, use drugs, may not be employed or enter the wrong career and become social misfits. They have less educational competence, limited educational objectives, have more delinquent friends, maintain poor interpersonal relationships and are often rejected by peers (Nwokolo, 2003). Sadly, the school system seems not to be equipped or prepared to effectively intervene or prevent these behaviours. Conventional means of handling the situation such as suspension, expulsion or corporal punishment, ostracism and segregation (Worthington & Gargiulo, 2003; Obiyo, 2017) have become very inadequate. How a child is raised can go a long way to explain his behavioural pattern, later in life. This is what necessitated this study. Special interest was on in-school adolescents in very low-income rural communities in Nigeria.

1.2 In-School Adolescent Maladaptive Behaviours

Earlier, Freud noted that adolescents left at the care of their mothers have the tendency to be rude, arrogant and proud with delinquency problems. Okeke (2001) and Aboh, Nwankwo, Agu and Chinwendu (2014) found that broken and parental projections can enhance adolescent maladaptive behaviours. Naturally, adolescents undergo a period of changes physically and emotionally. The systematic and rapid changes make them self-conscious, sensitive and worried about their body changes. They make unhealthy comparisons about themselves with their peers emotionally, physically and otherwise. These may occur in unsmooth and irregular circumstances. They may go through awkward stages. For example, girls may be anxious if they are not ready for the beginning of their menstrual periods, while boys may worry if they do not know about nocturnal emissions (Lahey, 2003). According to the author, these may predispose them to maladaptive behaviours. Maladaptive behaviours are acts of indiscipline among students who work against the aims and objectives of any educational system (Bonaffice, 2003). They include lateness to school, absenteeism, fighting, intimidation, extortion of money from fellow students or parents, stealing, bullying, examination malpractice, violent protests, riots, cybercrime, disobedience to school authority, flouting of rules, certificate forgery and alcoholism among many others (Eke, 2002; Okorodudu, 2010).

The problem of in-school adolescents' maladaptive behaviours is considered the most disturbing and heart-aching difficulties confronting Nigerian society. It is reaching epidemic proportion and retarding current development efforts (Denga, 2001). This category of students tends to have negative employment outcomes, difficulties with substance abuse and high need for mental health services (Walker, 2004; Bullies &Yovanoff 2006). There is a growing trend of killing and maiming fellow students among rival cultists in schools. There is a threat to the life of examination invigilators by students during internal and external examinations (Awam, 2004). All these threaten order in the whole system and pose danger to development. In 2003, the Edo State police command in Benin City

Nigeria, according to Onyemuze (2008), reported that 1, 245 youths between ages 17-22 years were arrested for armed robbery related offences; 3,415 were arrested for cultism while 885 young girls were arrested for loitering and soliciting for sex customers. Animashaun (2005) also in a study observed that Nigeria suffers a lot from crime and violence. Nwankwo, Nwoke, Chukwuocha, Obanny, Nwoga, Iwuagwu and Okereke (2010) in their study on the prevalence and sectional survey of adolescents in secondary schools in Owerri municipal, South East Nigeria and its environs found that cultism was 69%, smoking 13.3%, alcoholism 3.0%, drug abuse 2.6%. In a study by Adejumo (2011), on the impact of family type on the involvement of adolescents in premarital sex, it was found that parental involvement is paramount in adolescents' premarital sexual behaviours.

During adolescence, individuals tend to separate from their parents to establish their own identity. This may occur when they have problems with their parents and other family members. In some families, the relationship may lead to conflict as parents try to be in charge. As the adolescent pulls away, to search for his identity, the friends and other features in the immediate social environment become more important to them. The peer group may provide a better alternative for them to meet their needs. This makes child-rearing pattern vital and a relevant predictor to equip the adolescent properly to be able to perform the expected adult roles in the family and society. Such may be lacking when the adolescent finds himself in a poor rural community. The school may not be well equipped as those in major cities. Due to poor roads, teachers may reject appointments and transfers to such schools, thus widening the already existing lack the adolescent may be getting from parents in such communities. Child-rearing patterns adopted may be more for survival than actual training.

1.3 Child-Rearing Patterns

From their classification, experts (Baumrind, 1991; Chan and Koo, 2008) noted that authoritarian/democraticparents are those who are attentive and forgiving. They teach their adolescents to behave properly and have a set of rules that if the child refuses to follow is punished. Compliance also meant a reward. Authoritarian parents employ strict parenting style. Authoritative child-rearing parents tend to understand their children's feelings and teach them how to regulate them. They encourage them to be independent but still place limits and control on their actions. They explain the reasons for any punishment they give to their children (Tim, 2007). The types of relationships adolescents form with their peers have been consistently linked with their parents' child-rearing patterns (Kama, 2015).

Authoritative child rearing has to do with how parents understand their children which involves how they feel. They teach them to regulate such feelings. They help their children identify appropriate outlets to be able to solve their problems. They encourage their children to be independent but still place control and limitations over their actions. According to Chan and Koo, the children are allowed to extensively explore. This gives them opportunities to decide wisely and reason properly. Due to all these, the children grow into independent and self-reliant adults. Furthermore, the parents set clear standards for their children and allow them to develop a reasonable sense of autonomy. They are cautious about their children's needs and concerns. They forgive their children when necessary. These enable them to grow into well behaved and confident adolescents. Baumrind noted that in-school adolescents of authoritative parents have more positive relationships with their peer groups. The support these adolescents get from making their own decisions, provide them with the experience they need to engage in thoughtful and responsible behaviours during an interpersonal relationship with peers and other people. According to Hart, Newell and Olsen (2003), the behavioural controls exercised by their parents promote their adolescent abilities. This child-rearing pattern is related to in-school adolescent behaviours that show empathy and altruism (Auriola, Stattn, & Nurmi, 2000).

For authoritarian/ strict child-rearing pattern, parents make rules and expect their children to conform and comply with them. There is little or no dialogue between parents and children. The parents are too demanding and not responsive to their children's feelings. The parents tend to demand obedience without orientation (Ajuzie, 2005). For this, the adolescent may have few competencies. Consequently, he may break down, rebel against parents and may even run away from home. He may end up with other adolescents who exhibit maladaptive behaviours (Odebunni, 2007). Studies have shown that adolescents from the authoritarian/strict child-rearing pattern are less socially adept (Auriola et al., 2000). They are more at risk for behaviour problems. Their social problems are attributed to their parents being strict and often, they use harsh disciplinary measures. They rely on physical punishments when disciplining their children. The findings from Lansford, Dodge, Malone, Bacchini, Zelli, Chaudhary, Manke, Chang, Oburu, Palmareus, Pastorelli, Bombi, Tapanya, Deater- Deckard and Quinn (2005) indicated that physical discipline has a negative impact on the children's development. In the interviews of parents of school-age children in China, India, Korea, the Fillipines and Thailand, the authors found that greater use of physical punishment has been associated with anxiety and aggression in adolescents.

The child-rearing pattern chosen by a family can be rooted in the group the person belongs to. It may also be linked to the area of residence. Differences such as discipline, expectations regarding the acceptance of responsibilities and transmission of values vary among families. Chinese parents in China and diaspora start early to indoctrinate their children about the importance of educational success. Many Asian and African parents include grandparents in their child-rearing patterns. Hassidic Jews insulate their children from external influences to isolate them from factors that may corrupt them. The children were encouraged to speak Yiddish at home and even in schools. Some families even ban their children from having access to the internet, radio and television (Rappeport, 2013).

The chances of turning into a victim of one maladaptive behaviour or another are more likely to grow out of the family childrearing patterns. This is because it forms the basis upon which other cultural values are built as a microcosm of the society (Osgood & Amy, 2004). On the demographic causes of crime in South-Eastern Nigeria, Anyanwu and Obiyo (2011) found that drug use, poverty, frustration as a result of dropping out of school among others are the root causes. From the report cited above by Rural Poverty in Nigeria, one can deduce that poverty and maladaptive behaviours are closely interconnected. The parents have limited access to schooling and training which affect their income and consequently, child rearing patterns. From the study, it was found that women and households headed by women are frequently the most chronically poor within the rural communities and tend to have unruly or even violent in-school adolescents who may become such in a bid to survive and reject adult influence which is part of adolescent growing up. Onyechi and Okere, (2007) stated that behavioural problems of most adolescents are rooted in the home. This may be due to the fact that a parent is a model to the children and the child-rearing pattern adopted by any family goes a long way to shape the behaviours of adolescents. A warm relationship creates a healthy environment for the development of the adolescent who requires parental warmth, love, careful attention to adequately adjust and adapt to the larger society.

In another study, Okorodudu (2010) researched the influence of parenting styles on adolescents' delinquency in Delta State, Nigeria. The study was guided by six research questions and six hypotheses. 404 adolescents were randomly selected for the study. From the study, it was found that the various parenting styles affected the students differently.

In a related study, Anyanwu and Obiyo (2012) did research on a survey of the home environment on the academic performance of children with an emotional behavioural disorder. It was guided by six research questions. The design of the study was a descriptive survey. 150 pupils were randomly selected for the study. The area of study was Owerri municipal, Imo State. The instrument for data collection was a questionnaire. The research questions were answered using descriptive statistics- mean and standard deviation. Among other things, the findings of the study show that the authoritative parenting style is the most prevalent in the homes of the children. Kama (2015) did a study on family factors as determinants of deviant behaviours among primary school pupils in Awgu education zone of Enugu State, Nigeria. The result of the study revealed that primary school pupils exhibited these deviant behaviours- examination malpractices, not devoted to studies, bullying weaker pupils among others.

This study was anchored on the social learning theory by Bandura (1977). The theory stipulates that learning is a product of the environment. By implication, the interaction between the individual student and learning environment (home) determine to a large extent the behaviours of the student. The theorist explained that successful socialization results from students modelling adult behaviours. In other words, adolescents can learn maladaptive behaviours as they learn soccer games. They tend to model parents (Okoye, 2007). In turn, parents establish basic patterns at home which may never stop as the youth develops (Kalgo, 2001). Based on the theory, the behaviours of an adolescent reflects the child-rearing pattern he grew up with. Deficiency in any of the patterns can lead to maladaptive behaviours, thereby making the adolescent a special education case.

People from very low-income rural communities in Nigeria are more concerned with survival in their locality (Ogwumike, 2002). Their source of livelihood is agriculture and petty trading. Sometimes the harsh conditions lead to broken homes where the adolescents are left to be cared for by their mothers. Okeke (2001) noted that the effect of the conditions mentioned is maladaptive behaviours. From the Vision 2010 Committee Report, poverty in Nigeria rural communities is real and needs to be addressed. From empirical studies reviewed, some factors such as parenting styles were identified as leading to deviant behaviours. None of the researches reviewed looked at in-school adolescents' maladaptive behaviours from very low-income rural communities. There is no known research to the authors' knowledge that has shown the predictive nature between child-rearing patterns adopted by very low-income rural communities in Nigeria and maladaptive behaviours exhibited by in school adolescents. Therefore, the main purpose of this study was to examine the predictive nature between child-rearing patterns adopted by very low-income rural communities and maladaptive behaviours exhibited by in school adolescents in south-east Nigeria. To guide the study, we hypothesized that authoritarian and authoritative child rearing patterns

do not significantly predict maladaptive behaviours among in-school adolescents in very low-income rural communities.

2. Methods

2.1 Ethical Consideration

Approval for conducting this research was gotten from the Faculty of Education at the University of Nigeria, Nsukka. Official permission was granted by the school principals. Parents granted their willingness before they participated. Their verbal consent was obtained. Thus, the researchers complied with the ethical principles of psychological research with human subjects (American Psychological Association, 2010).

2.2 Participants

A total of 261 participants were used for the study. They were 169 teachers and 92 parents. They were limited to public secondary schools in Uzo-uwani local government area, Enugu State and Onueke local government area in Ebonyi State, both in South East of Nigeria. The content covered child-rearing patterns used which were authoritarian and authoritative. The study was delimited to parents and teachers of in-school adolescents in the areas of study. Teachers used a standardized rating scale to identify the students with maladaptive behaviours, while the parents identified the child-rearing patterns they used on the students identified by the teachers that may have led to their maladaptive behaviours. The sample for the study is 261. It was made up of 169 teachers and ninety-two parents. Multi-stage sampling technique was used to get the sample. The teachers were randomly sampled from the schools. In the first stage, a simple random sampling technique was used to get two states from the five states of the South East geopolitical zones of Nigeria. It was also used to draw out two education zones and two local government areas from the two states. Two rural communities were then randomly sampled from the local government areas of the study. Two secondary schools were randomly selected each from the communities. Eighty-four teachers were randomly selected from two schools in Uzo-uwani local government area and eighty-five teachers from two schools in Onueke local government area. Likewise, forty-six students were identified by teachers from two schools from Uzo-uwani local government area and forty-six students were identified by teachers from Onueke local government area as having maladaptive behaviours with the adapted standardized rating scale. The parents were parents of the identified students. The participants were males and females, randomly chosen.

2.3 Design

The researchers adopted a correlation survey research design. It compared the relationship between authoritarian and authoritative child rearing patterns and in-school adolescents' maladaptive behaviours. This design is suitable because it helped to find out the magnitude and direction of the relationship between an independent variable and dependent variable. According to Nworgu (2006) and Nwagu (2005), it will help to find out how the status of one variable can be predicted from the known status of another variable.

2.4 Measures

Instruments for data collection were rating scale and questionnaire. An adapted standardized Conners Comprehensive Behavior Rating Scales (CCBRS) (Conners, 2015) for ages 6-18 was used by teachers in the local government areas to identify in-school adolescents with maladaptive behaviours. It was a four-point rating scale of Very Often (VO = 4 points), Often (O = 3 points); Rarely (R = 2 points); Never (N = 1 point). The items were 45 in number. The questionnaire titled Child Rearing Pattern Questionnaire (CRPQ) was a four-point rating scale of Very Great Extent (VGE - 4 points); Great Extent (GE – 3 points); Little Extent (LE - 2points); Very Little Extent (VLE-1 point). It was developed by the researchers through review of literature and consultations with experts in test development in science education. CRPQ is made up of two sections. Section A contains demographic information of the respondents while section B contains 33 items of four clusters. The questionnaire was given to the parents of the identified students. It was used to find out the relationship between their children's maladaptive behaviours and their child-rearing patterns.

The questionnaire and rating scale were validated by three experts in Special Education, Sociology of Education and Measurement and Evaluation, all from the Faculty of Education, University of Nigeria, Nsukka. They scrutinized the instruments in terms of clarity of item statement and purpose of the study. Their corrections helped in modifying the instruments. A trial testing of the instruments was done using forty teachers for the adapted rating scale and thirty parents for the CRPQ from a community school in Obollo Eke, outside the study areas. Data generated were analyzed using the Cronbach alpha method to determine the internal consistency of the questionnaire. Reliability estimates for adapted Conners' Comprehensive Behavior Rating Scales was .95, while the Child Rearing Pattern Questionnaire was .85.

2.5 Procedure

The rating scale was administered to the teachers by the researchers on the spot. The teachers identified the students with a rating scale. The questionnaire was given to the parents of the identified students. The research assistants used direct questioning from items in the questionnaire to elicit information from parents on the child-rearing pattern they were using for their children. They were given an explanation of the item questions and the options. Their options were ticked for them by the research assistants because of their level of education. The research questions addressed the major purpose of the study. Research question one was answered with mean and standard deviation. The other research questions were answered using the Pearson Product Moment Correlation Coefficient, while the hypotheses were tested using multiple regression at 0.05 level of significance. Values ranging from 0.00–0.20 was considered a very low extent. Values from 0.21–0.40 were considered low extent. Values from 0.41–0.60 were considered as high extent, while values from 0.61 and above were considered as very high extent for research questions 2–5. The benchmark for research question one was 2.50.

3. Results

The results of the data collected were analyzed in line with the research questions and hypotheses that guided the study.

Research Question 1: What are maladaptive behaviours exhibited by in-school adolescents in very low-income rural communities?

Table 1. Mean and standard deviation showing maladaptive behaviours exhibited by in-school adolescents in very low-income rural communities in the study area

S/N	Maladaptive behaviours	Mean	S/D
1	Interrupts or intrudes on others (eg, conversations or games).	2.22	1.04
2	Has run away from home overnight at least twice while living in parental or parental surrogate home (or once without returning for a lengthy period).	1.5	0.85
3	Argues with adults.	2.14	1.05
4	Lies to obtain goods or favours or to avoid obligations.	2.15	1.01
5	Initiates physical fights with classmates.	2.01	0.94
6	Has been physically cruel to people.	2.02	1.04
7	Talks excessively.	1.92	0.99
8	Has stolen items of non-trivial value without confronting a victim.	1.68	0.82
9	Engages in physically dangerous activities without considering possible consequences.	1.75	1.92
10	Is easily distracted by extraneous stimuli.	2.17	1.06
11	Truant from school.	1.74	0.93
12	Fidgets with hands or feet or squirms in seat.	1.94	0.91
13	Is spiteful or vindictive.	1.96	0.98
14	Swears or uses obscene language.	1.82	0.91
5	Blames others for his or her mistakes or misbehaviours.	1.75	0.92
16	Has deliberately destroyed others' property.	1.81	0.75
17	Actively defies or refuses to comply with adults' requests or rules.	1.92	0.86
18	Does not seem to listen when spoken to directly.	1.81	0.85
19	Blurts out answers before questions have been completed.	1.81	0.94
20	Initiates physical fights with peers.	1.88	0.82
21	Shifts from one uncompleted activity to another.	1.82	0.82
22	Has difficulty playing or engaging in leisure activities quietly.	1.82	0.89
23	Fails to give close attention to details or makes careless mistakes in schoolwork, work or other activities.	1.97	1.10

24	Is angry and resentful.	2.04	0.91
25	Leaves seat in classroom or in other situations in which remaining seated are expected.	1.85	0.76
26	Is touchy or easily annoyed by others.	2.02	0.91
27	Does not follow through on instructions and fails to finish schoolwork chores or duties.	1.84	0.84
28	Loses temper.	2.01	0.96
29	Has difficulty sustaining attention in tasks or play activities.	2.00	0.86
30	Has difficulty waiting for his turn.	1.98	0.96
31	Has forced someone else into sexual activity.	1.91	1.16
32	Bullies threaten or intimidate others.	1.80	0.86
33	Is “on the go” or acts as if “driven by a motor”.	1.94	0.95
34	Loses things necessary for tasks or activities.	2.03	0.95
35	Runs about or climbs excessively in situations in which it is inappropriate.	2.07	0.99
36	Has been physically cruel to animals.	1.94	0.97
37	Avoids dislikes or is reluctant to engage in tasks that require sustained mental effort.	1.85	0.89
38	Stays out of the class.	1.67	0.79
39	Deliberately annoys people.	1.64	0.81
40	Has stolen while confronting a victim.	1.67	0.78
41	Has deliberately engaged in fire setting with the intention of causing serious damage.	1.69	0.89
42	Has difficulty organizing tasks and activities.	1.85	0.79
43	Has broken into someone else’s locker.	1.68	0.75
44	Is often forgetful in daily activities.	1.74	0.77
45	Has used a weapon that can cause physical harm to others.	1.58	0.70

Data from Table 1 shows the maladaptive behaviours exhibited by in school adolescents in very low-income rural communities in the study areas. All the values showed that in-school adolescents exhibit maladaptive behaviour. From this teachers were able to identify ninety-two students from the study area. This was made up of forty-six students respectively from the study area. Parents of these students were the other participants.

Research Question 1: To what extent does authoritarian child-rearing pattern predict maladaptive behaviours among in-school adolescents from very low-income rural communities?

Table 2. Pearson Product Moment Correlation on the extent authoritarian child-rearing pattern predicts maladaptive behaviours among in-school adolescents from very low-income rural communities

	Maladaptive	**Authoritarian**
Pearson: Maladaptive behaviours	1.000	0.047
authoritarian	0.047	1.000
Correlation: Authoritarian		
Sig. (1-tailed) Maladaptive behaviours	0.3	0.3
Authoritarian	29	29
Maladaptive behaviours Authoritarian	92	92
	92	92

Data presented in Table 2 shows the extent authoritarian child-rearing pattern predicts maladaptive behaviours among in-school adolescents from very low-income rural communities. The analysis above shows that the correlation (R) between the predictor variable (authoritarian child-rearing pattern) and the criterion variable

(maladaptive behaviours among in-school adolescents from very low-income rural communities) is 0.047. This implies that 4.7% of students' maladaptive behaviours can be attributed to the authoritarian child-rearing pattern.

Research Question 2: To what extent does authoritative child rearing pattern predict maladaptive behaviours among in-school adolescents from very low-income rural communities?

Table 3. Pearson Product Moment Correlation on the extent authoritative child rearing pattern predicts maladaptive behaviours among in-school adolescents from very low-income rural communities

	Maladaptive behaviours	**Authoritative**
Pearson: Correlation Maladaptive behaviours:	1.000	0.120
Authoritative	0.120	
Sig. (1- tailed) Maladaptive behaviours:Authoritative	0.128	0.128
N Maladaptive behaviours	92	92
Authoritative	92	92

Data presented in Table 3 shows the extent authoritative child rearing pattern predict maladaptive behaviours among in-school adolescents from very low-income rural communities. The analysis above shows that the correlation (r) between the predictor variable (authoritative child rearing pattern) and the criterion variable (maladaptive behaviours among in-school adolescents from very low-income rural communities) is 0.120. This implies that 12% of maladaptive behaviours among in-school adolescents can be attributed to the authoritative child-rearing pattern.

$H0_1$: Authoritative child rearing pattern does not significantly predict maladaptive behaviours among in-school adolescents in very low-income rural communities.

Table 4. ANOVA of the significant difference on the extent authoritative child-rearing pattern predict maladaptive behaviours among in-school adolescents in very low-income rural communities

Variable	**X^2**	**df**	**Mean Square**	**F**	**Sig.**
Regression	0.387	1	0.387	1.312	0.255^b
Residual	26.523	90	0.295		
Total	26.910	91			

α= 0.05;

Dependent variable: Maladaptive behaviors;

Predictors: (Constant), authoritative child rearing pattern.

The result from Table 4 shows ANOVA result of the significant difference in the mean scores of respondents on the extent authoritative child rearing pattern predicts maladaptive behaviours of in-school adolescents' in very low-income rural communities. The result shows the F- ratio of 1.312 with an associated probability value of .255. This probability value was compared with 0.05 and it was found not significant because .255 was greater than 0.05. The null hypothesis of no significance was therefore accepted and inference drawn is that authoritative child-rearing pattern does not significantly predict maladaptive behaviours of in-school adolescents from very low-income rural communities.

$H0_2$: Authoritarian child rearing pattern does not significantly predict maladaptive behaviours among in-school adolescents from very low-income rural communities.

Table 5. ANOVA of the significant difference on the extent authoritarian child-rearing pattern predict maladaptive behaviours among in-school adolescents from very low-income rural communities

Variable	X^2	df	Mean square	F	Sig.
Regression	0.59	1	0.059	0.197	0.659[b]
Residual	26.851	90	0.298		
Total	26.910	91			

a. Predictors: (Constant), Authoritarian;

b. Dependent Variable: Maladaptive behaviours;

α= 0.05.

Table 5 shows the ANOVA result of the significant difference in the mean scores of respondents on the extent authoritarian child-rearing pattern predict in-school adolescents' maladaptive behaviours. The result from the table shows the F – ratio of .197 with an associated probability value of .659. The probability value of .659 was compared with 0.05 and it was found not significant because .659 was greater than 0.05. The null hypothesis of no significance was therefore accepted. This implies that the authoritarian child-rearing pattern does not significantly predict maladaptive behaviours of in-school adolescents from very low-income rural communities.

4. Discussion

Our finding showed that maladaptive behaviours were exhibited by in school adolescents in very low-income rural communities in the area of study. This is in line with the findings of Teasdale and Silver (2009) and Kama (2015). They noted that the families and the area they reside may positively or negatively lead to adolescent maladaptive behaviours. It is also supported by the findings of Nwankwo et al. (2010). These go to show that in-school adolescents have the tendency to exhibit maladaptive behaviours as a result of their areas of residence - very low-income rural communities. Also, the findings of this study lend credence to the findings of Animashaun (2005). The author reported a high rise of in-school maladaptive behaviours among rural communities in the Ibadan area. The findings of Bolu- Steve and Sanusi (2013) and Anyanwu and Obiyo (2012) and Adejumo (2011) in their separate studies were supported by the findings of the present study. The reason may be attributed to the fact that people from very low-income rural communities in Nigeria are more concerned with survival in their locality according to Ogwumike, (2002). From the report by Rural Poverty in Nigeria cited by Kama (2015), and the findings of this study, one can deduce that very low-income earning and maladaptive behaviours are closely interconnected.

Results also showed the extent authoritarian child-rearing pattern predict maladaptive behaviours among in-school adolescents from very low-income rural communities. The study showed that authoritarian child-rearing pattern does not significantly predict maladaptive behaviours of in-school adolescents from very low-income rural communities in the study area. This is a departure from the findings of Odebunni (2007), Auriola et al. (2000) and Lansford et al (2005) and Okorodudu (2010). The reason could be that the adolescents in these rural areas may not really bother with the harsh treatment meted to them by their parents. They are already toughened by the harsh environment they found themselves.

Results further showed the extent authoritative child rearing pattern predict maladaptive behaviours among in-school adolescents from very low-income rural communities. Findings from the study showed that authoritative child rearing pattern does not significantly predict maladaptive behaviours of school adolescents in very low-income rural communities. This is also a departure of the findings of Baumrind (1991), Hart et al. (2003), Auriola et al. (2002) and Okorodudu (2010). The reason could be on the nature of authoritative child rearing pattern. The parents teach their children to regulate such feelings. They help them identify appropriate outlets to be able to solve their problems. They encourage their children to be independent but still place control and limitations over their actions. All these may not make one exhibit maladaptive behaviours.

Generally, one can infer from the findings that the child-rearing patterns adopted by the parents did not significantly affect maladaptive behaviours of in-school adolescents in very low-income rural communities in Nigeria. The reasons could be that the adolescents by their very nature may be asserting themselves instead of actually succumbing to the training at home (Lahey, 2003). Moreover, their peers and the internet are other factors that may reduce the effect of parental training in their lives. The findings of this study have important educational implications. The findings will have an effect on stakeholders in the education of school adolescents, especially

those in very low-income rural communities. For the teachers, they will be properly informed that adolescents' behaviour is not only a product of the family. They need to check out the effect of peer pressure, the internet among others. The parents would be more equipped by knowing that as they train their children, they will also remember extraneous factors such as the school. The school would also involve the parents may be through the parents' forum to collaborate with training the students. The school should map out enriching programs that would gainfully help educate the students and at the same time be utilized for leisure.

4.1 Limitations

This study has some limitations. We acknowledge that the size of the sample was somewhat small. It only included parents and teachers from southeastern states of Nigeria. We recommend that students be involved in subsequent studies. Further study should investigate the relationship between the responses of students with their parents. It can also determine the effect of academic achievement of the students.

5. Conclusion

School adolescents exhibit maladaptive behaviours in very low-income rural communities. Authoritarian child rearing pattern did not significantly predict maladaptive behaviours of in-school adolescents from very low-income rural communities. Authoritative child rearing pattern did not significantly predict maladaptive behaviours of in-school adolescents from very low-income rural communities. The findings of this study highlight the need for researchers to check out whether and how several other factors in the school that may contribute significantly to in-school adolescents' maladaptive behaviours such as peer influence, disciplinary measures, school environment and even curriculum and pedagogy. It equally highlights the need for the schools to map out enriching programs that would gainfully help educate the students on the essence of positive student-home interaction. Such programs would at the same time be utilized for promoting leisure and the importance of school-home collaboration in adolescent upbringing to stem the tide of in-school adolescents' maladaptive behaviours.

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Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Parenting Stress in Families of Children With Autism Spectrum Disorder: The Roles of the Extended Family

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Abstract

Objective: This study focused on the role of extended family in mitigating the stress experienced by parents of children with autism and the possible challenges of involving them, especially in modern Nigerian society. The study identified the sources of stress for parents of children with autism, and considered location and family size factors in stress experienced by parents, the role of the extended family in mitigating the stress and the challenges that may inhibit the involvement of the extended family.

Method: The study adopted a descriptive survey research design and was carried out in South East, Nigeria. All parents and guardians of children with autism in the three special needs schools that cater for children with autism in the two selected states were used for the study. Data was collected using a self-report questionnaire with 36 items to elicit information on the sources of stress for parents and the role of the extended family in mitigating the stress. A semi-structured 26 items interview schedule adapted from Smithfield's (2011) parents of children with autism questions covering the child's behaviour, parent's feelings, and role of the extended family was also used to generate firsthand information on the issues raised and to complement data collected through the self-report questionnaire. There was a researcher observation guide for monitoring progress in the study. Mean and standard deviation was used to answer the research questions while regression analysis, t-test and Analysis of variance were used to test the null hypotheses at 0.05 level of significance.

Results: The findings revealed that parents of children with autism experience stress that is hinged basically on the behaviour of the children. Family size does not influence parents' stress experience but location does. Some parents receive child care and/or financial help sometimes from extended family members.

Conclusion: Parents of children with autism face a lot of stress that is hinged basically on the behaviour of the children. Some of the rural parents, however, have the opportunity of getting help sometimes from extended family members since special need schools are not located in their area or even nearby. The extended family relations sometimes offer financial help but from all indications, the modern urbanization has really eroded their help. Family size does not influence parents' stress experience and role of extended family but location does.

Keywords: autism, parenting stress, family size, location, extended family

1. Introduction

Parenting is the act of taking care of or nurturing children both biological and adopted. It is a stressful task and parenting children with autism is more stressful. Autism spectrum disorder has been defined as a group of disorders that include autistic disorder, pervasive developmental disorder not otherwise specified (PDD-NOS), and Asperger's Disorder (The American Psychiatric Association, 2000). Mayo Clinic (2013) defined autism as a neurodevelopment disorder characterized by early onset (before 3 years of age) of significant impairment in social interaction and communication and unusual, stereotyped behaviours. The term "spectrum" implies that these disorders affect each child differently and involve delays in the development of basic skills like the ability to socialize or form relationships with others and to communicate effectively (The Autism society, 2013).

Autism spectrum disorder goes with concomitant disabilities such as developmental and intellectual disabilities

and behavioural challenges (Newschaffer et al., 2007). Other symptoms vary in severity and include the inability to participate in a conversation in spite of the fact that the child is able to speak, difficulty with non-verbal communication like gestures and facial expressions, social interaction, repetitive body movements or patterns of behaviour such as hand flapping, spinning and head banging (Heward, 2013). These may constitute a stress to parents. A study by Hodapp and Dykens, (1997) revealed that parents of children with developmental disabilities experience higher levels of stress than parents of typically developing children. Webster and colleagues (2008) reported that over 40% of parents of children with developmental delay had scores above the 85th percentile in the Parenting Stress Index indicating significant parenting stress.

Studies on parents of children with ASDs found that children's behaviour and conduct problems were strongly related to parental stress (Lecavalier, Leone, & Wiltz, 2006; Hastings, Kovshoff, Ward, Espinosa, Brown, & Remington, 2005). Bulldogrocks (2010) reported a mother's view that screaming fits that may lead to pulling the hair, scratching and banging the head among others are difficult to handle, heartbreaking and sometimes discouraging especially when it is obvious that one cannot help. Bowman (2012) opined that trying to sort out what the child's true needs are and how to meet them is stressful for parents. The difficulty in getting interventions and the level of professionals' knowledge about autism spectrum disorders equally frustrate parents, according to Osborne and Reed (2008). Plant and Sanders (2007) however, attributed the stress to the challenges of going through a number of educational, medical, and behavioural services. This condition is known to be financially and emotionally challenging and may be too difficult for parents without adequate mental preparation and readiness to cope.

Stress would vary based location and family size. For instance, Gona et al. (2015) reported that most parents and the professionals from rural and urban settings interviewed reported that parents of children with autism are being stigmatized and sometimes blamed for their child's condition and behaviour. These parents are disregarded and even banned from church services especially in urban areas when their children are seen moving about and disturbing people.

For working mothers and families with other children to care for, their frequent moves to get a medical and spiritual diagnosis and interventions are sources of cumulative stress. This Ayers (2012) opined, predispose families to the adverse effects of caregiver burnout.

Several studies have reported increased depression, anxiety, decreased family cohesion, increase in somatic complaints and burnout among parents of children with autism spectrum disorders (ASDs) (Higgins, Bailey, & Pearce, 2005; Sivberg, 2006). According to Patterson,(2005); Turnbull, Turnbull, Erwin, and Soodak (2006), the stress encountered in parenting a child with autism has been shown to be capable of causing emotional distress leading to a variety of physiological changes that affect health such as increased heart rate, elevated blood pressure, and a dramatic rise in hormone levels.

In the traditional Nigerian society where child care use to be a collective duty of both immediate and extended families, such situations outlined above are alleviated by extended family in terms of encouragement, financial support and sometimes, caregiving to enable the parents to face other issues of the home. Extended family according to Adinlofu (2009) structurally comprises a number of joint, large compound, elementary and nuclear families occupying separate but nearby homesteads and is one institution in Nigeria and Africa that has stood the test of time especially in rural communities. Adinlofu (2009) observed that traditionally, the extended family provides emotional succour to all members, acts as a basic economic unit, ensures early care and training of children among others. Thoits (2011) reported that grandparents are likely to be the main source of support for many parents, providing emotional as well as financial and instrumental assistance.

Report from studies on the role of the extended family on parental stress varies. In a survey of 2,600 grandparents of children with autism, the Interactive Autism Network (IAN, 2009) investigated how having a grandchild with autism changed their lives and their role in meeting the emotional and economic needs of their adult children and grandchildren. The result showed that about 30% of grandparents were the first to notice their grandchild's developmental challenge; nearly 90% felt closer to their adult child and grandchild due to their experience, while 72% of grandparents involve themselves in making treatment decisions for their grandchild, more than 7% had actually come to live with their grandchild's family to help them cope with the stress of raising a child with autism. Fourteen per cent had moved closer (but not into the same home) for the same reason. The result also showed that over 34% take care of their grandchild at least once a week; about one in five grandparents provide regular transportation for the child, about 6% of grandparents had taken the role of the parent since the family situation had become so untenable.

Financially, a quarter of grandparents reported spending up to $99 a month on their grandchild's autism-related

needs, some contributed more than $500 or $1,000 monthly. Overall, the major concern for grandparents is the well-being of their adult children since a child's autism diagnosis can lead to emotional, financial, and marital stress. Levinson in Ime and Ukpong (2013) stated that parents and grandparents are expected to guide during tough times due to their wealth of experience in enduring and surviving economic challenges and marital troubles. Extended family members not only serve as mentors and role models, they aspire and inspire their later generation to work, but often as emergency caregivers.

A study of families of children with a developmental disability according to Trute, (2003), found that the effects of grandparent support on maternal stress varied based on the type of support received, and which grandparent was responsible. While Hastings and Johnson, (2001), Bishop et al. (2007), and Ekas, Lickenbrock and Whitman (2010) showed that parents reported lower parenting stress with increased informal (extended family) support, which Bromley, Hare, Davison & Emerson, 2004attributed to the fact that parents receive more informal support, Wellard, (2011); IpsosMORI and Department for Education (2013) reported that almost two thirds of grandparents provide some form of childcare, with grandmothers playing a larger role than grandfathers.

The main purpose of this study, therefore, was to investigate the role of the extended family in mitigating the stress of parents of children with autism. Specifically, the study identified the sources of stress for parents of children with autism, explored the location and family size factors in stress they experienced, investigated the role the extended family can play in mitigating the stress and the challenges that may inhibit the involvement of the extended family.

The following research questions guided the study

1) What are the sources of stress for parents of children with autism?
2) What is the mean difference in sources of stress for parents of children with autism based on location?
3) What is the mean difference in sources of stress for parents of children with autism based on family size?
4) What roles does the extended family play to mitigate parental stress?
5) What are the challenges that inhibit the involvement of the extended family?

The following hypotheses were tested at 0.05 level of significance

1) Location will not significantly influence the stress experienced by parents.
2) Family size will not significantly influence the stress experienced by parents.

2. Method

The study adopted a descriptive survey research design in exploring the roles of the extended family in mitigating the stress parents of children with autism experience. The study was carried out in South East, Nigeria. Enugu and Abia states were randomly chosen because of the availability of special needs schools. The population consisted of all parents of children with autism in the special needs schools these states. Data was collected using a 36 items self-report questionnaire for parents of children with autism to elicit information on the sources of stress for parents and the role of the extended family in mitigating the stress. A semi-structured,26 items interview schedule adapted from Smithfield's (2011) parents of children with autism questions covering the child's behaviour, parent's feelings, challenges and role of the extended family in mitigating the stress was equally used to elicit information on the issues raised and compliment the self-report questionnaire data. Mean and standard deviation was used to answer the research questions while regression analysis and Analysis of variance were used to test the null hypotheses at 0.05 level of significance. The qualitative data collected were first transcribed, then, coded before interpretation and discussion of results. The discussion was based on identified themes.

3. Results

3.1 Research Question One: What Are the Sources of Stress for Parents of Children With Autism?

Table 1. Descriptive Statistics of Mean and Standard deviation showing the sources of stress for parents of autistic children

Items		N	Mean	SD
1.	The aggressiveness of the child	39	3.26	.59
2.	A child always banging the head and have self-inflicted injuries	39	3.44	.75
3.	The inability of the child to make friends with other children of the same age.	39	3.31	.77
4.	Constant cries and refusal to be comforted.	39	3.10	.82
5.	Community isolation of the parents	39	3.31	.86
6.	Destructive tendency of the child	39	3.10	.97
7.	Inability of the child to babble or coo by 12 months of age.	39	3.44	.75
8.	Inability of the child to wave or point at a thing by 1 year of age.	39	3.56	.72
9.	Inability of the child to say single words by 16 months of age.	39	3.13	.55
10.	Inability to establish eye contact or make facial expressions.	39	3.38	.59
11.	Inability to respond to others' facial expressions.	39	3.33	.81
12.	Inability to participate in a conversation in spite of the fact that the child is able to speak.	39	3.56	.68
Overall		39	3.33	.35

The result in Table 1 shows the inability of the child to wave or point at a thing by 1 year of age and participates in a conversation in spite of the fact that the child is able to speak as the highest source of parental stress. Other sources of parental stress include child banging the head and have self-inflicted injuries and inability of the child to babble or coo by 12 months of age, aggressiveness of the child, inability of the child to make friends with other children of the same age, constant cries and refusal to be comforted, community isolation of the parents, destructive tendency of the child, inability of the child to say single words by 16 months of age, inability to establish eye contact or make facial expressions and inability to respond to others' facial expressions.

3.2 Research Question 2: What is the Mean Difference in Sources of Stress for Parents of Children With Autism Based on Location?

Table 2. Descriptive statistics for sources of stress by location

Place of Residence		Sources of Stress
Urban	Mean	3.34
	N	27
	Std. Deviation	.36
Rural	Mean	3.29
	N	12
	Std. Deviation	.35
Total	Mean	3.33
	N	39
	Std. Deviation	.35

Result in Table 2 shows that urban respondents had a mean score of 3.34 for sources of stress, compared to rural

respondents' means scores of 3.29 on sources of stress.

3.3 Research Question 3: What Is the Mean Difference in Sources of Stress for Parents of Children With Autism Based on Family Size?

Table 3. Descriptive statistics for sources of stress by family size

Family size		**Sources ofStress**
1-3 (Small)	Mean	3.36
	SD	.356
	N	17
4-6(Moderate)	Mean	3.23
	SD	.356
	N	13
7-9(Large)	Mean	3.39
	SD	.35
	N	9

Table 3 shows that small family has mean scores of 3.36, 3.43 and 3.55 in sources of stress. Moderate family size has mean of 3.23 in sources of stress, while large family size has mean of 3.39 in sources of stress.

3.3 Research Question Four: What Roles Does the Extended Family Play to Mitigate Parental Stress?

Table 4. Mean responses on the role of the extended family in mitigating the stress for parents

Items: The role of the extended family in relieving the stress.	**N**	**Mean**	**SD**	**Dec.**
1. They provide social support by being available to spend time with the children both indoors and outdoors.	39	3.05	.69	A
2. They provide emotional support by being available to listen and encourage the parents.	39	3.26	.79	A
3. Act as advocates in the community or be a source of information about their grandchild with ASD.	39	3.59	.72	SA
4. Help with household tasks	39	3.72	.51	SA
5. Help manage behaviour problems.	39	3.44	.72	A
6. Help financially sometimes.	39	3.44	.59	A
7. Provide care for their grandchild with ASD.	39	3.28	.69	A
8. Go to therapy sessions to learn more about how the child learns and responds to other people.	39	3.23	.67	A
Overall	39	3.37	.28	A

Table 4 indicates that they help most with household tasks, being advocates in the community or a source of information about their grandchild with ASD, manage problem behaviours and give financial help sometimes beside all other assistance listed as shown by the results of data analysis.

3.4 Research Question 4: What Are the Challenges that Inhibit the Involvement of the Extended Family?

Table 5. Mean responses on the challenges that inhibit the involvement of the extended family

	The challenges that inhibit the involvement of the extended family in mitigating the stress.	N	Mean	SD	Decision
1.	The impact or demands of being a caregiver, which can be a big commitment.	39	3.72	.51	SA
2.	Fear of the future and new crises that might develop	39	3.21	.73	A
3.	Not knowing whether they should wait to be asked for help or just 'jump in'	39	3.62	.54	SA
4.	Lack of understanding of children with ASD	39	3.41	.49	A
5.	Poor relationship with their extended family members.	39	3.39	.63	A
	Overall	39	3.33	.81	A

Table 5 shows that the respondents agreed to all the items while items 1 and 3 appear to be the major challenges that inhibit the involvement of the extended family.

3.5 Hypothesis One

There is no significant difference in the mean ratings of urban and rural parents of children with autism on the stress they experience.

Table 6. t-test on the influence of location on stress experienced by parents of children with autism

Location	N	Mean	SD	df	t	P
Urban	25	3.06	.39	37	.727	.069
Rural	14	2.97	.28			

Result in Table 6 shows that t-value of .727 with an associated probability value of .069 was obtained. Since the probability value of .069 was greater than the level of significance set at .05, the null hypothesis was accepted implying that location has no significant influence on the stress parents of children with autism experience.

3.6 Hypothesis Two

There is no significant difference in the mean ratings of stress experienced by parents of children with autism based on family size.

Table 7. One-way Analysis of variance of influence of family size on the stress experienced by parents of children with autism

Sources	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.592	2	.296	3.732	.534
Within Groups	2.857	36	.479		
Total	3.450	38			

The result in Table 7 shows that an F-ratio of 3.732 with an associated probability value of .534 was obtained which is greater than the level of significance set at .05. Thus, the null hypothesis was accepted implying that family size does not significantly influence the stress experienced by parents of children with autism.

4. Discussion

The study investigated the role of the extended family in mitigating the parental stress of families of children with autism. To achieve this aim, sources of stress for parents of children with autism, the role the extended family play in mitigating the stress and the challenges that inhibit the involvement of the extended family were identified.

Location and family size were intervening variables in the stress of the parents. The result shows that behaviours such as aggressiveness, banging the head and having self-inflicted injuries, the inability of the child to make friends with other children of the same age, constant cries and refusal to be comforted among others, stressed parents of children with autism. Community isolation of the parents equally constituted a source of stress. The findings corroborate Lecavalier, Leone and Wiltz (2006) and Hastings and Bulldogrocks (2010) who reported that the behaviour and conduct problems of children with ASD were strongly related to parents' stress. Previous research by Plant and Sanders (2007) attributed the stress to the financial and emotional challenges of going through a number of educational, medical, and behavioural services which may be too difficult for parents without adequate mental preparation and readiness to cope. The resultant effects according to Weiss (2002), Higgins, Bailey and Pearce (2005), and Yirmiya and Shaked (2005), Sivberg (2006) includes increased depression, anxiety, decreased family cohesion, increase in somatic complaints and burnout among parents of children with autism spectrum disorders.

An interview with parents of children with autism revealed that their most challenging experiences include taking them to the hospital regularly and the high cost of medication. According to them, each test conducted on the children cost up to N40, 000 which is quite tasking in view of the economic downturn. A parent reported that urinating on the bed at 17 years of age and carelessness which nearly resulted in the burning of the house but for the intervention of family members was quite traumatic. The stress of medical attention is felt more by the rural parents who have to travel to the towns with better hospitals and staff to care for their child. This is aggravated by the fact that they do not have anybody to stay within the town when the visit ends late. The extended family (which is a source of informal support) to some extent mitigate parental stress. While Pottie et al. (2009) reported that both formal and informal sources of social support have been found to increase positive mood in this population of parents, Boyd (2002), Bishop et al. (2007), and Ekas, Lickenbrock and Whitman (2010) found that parents reported lower parenting stress with increased informal but not necessarily formal social support. Bromley, Hare, Davison and Emerson (2004) stated that this can be attributed to the fact that parents receive more informal than formal support.

In an interview with urban and rural parents of children with autism, only a few urban parents reported that they take their children to their parents' house or extended family members who live near to help take care of the children when they are away. Although rural parents have more access to extended family members since they live close by and sometimes visit the family, only a few parents reported receiving some help from them.

Another intervening variable on the stress experienced by parents with autistic children was the location. Result shows that urban respondents had a mean score of 3.34 on sources of stress, 3.44 on role of the extended family and 3.42 on challenges mitigating the involvement of the extended family members compared to rural respondents' means scores of 3.29, 3.24 and 3.50 for sources of stress, role of the extended family and challenges mitigating the involvement of extended family members respectively. Hypothesis testing result revealed a t-value of .727 with an associated probability value of .069 which is greater than the level of significance set at 0.05. Consequently, the null hypothesis was accepted implying that location has no significant influence on the stress parents of children with autism experience. Studies (Tomanik et al., 2004; Gona et al., 2016) reported that behavioural deficits, sociability and health, physical or behaviour of a child with ASD are great sources of parental stress. Considering the fact that behavioural deficits are hallmarks of autism, the finding of no significant difference in stress experienced is not surprising. Besides, a stigma which is manifested by social isolation is common with both urban and rural parents. Parents in Kenya reported non-acceptance of the child with autism by peers, family members, relatives, and the wider community resulting in the social exclusion of the child. The parents are disregarded, blamed and even banned from church services especially in urban areas when their children are seen moving about and disturbing people.

On the role of extended family in mitigating the stress, Result indicates that they help most with household tasks, manage problem behaviours and give financial help sometimes beside all other assistance such as providing social support (being available to spend time with the children and providing emotional support among others). The findings lend credence to the report of the Interactive Autism Network (IAN, 2009) survey of 2,600 grandparents of children with autism which investigated their role in meeting the emotional and economic needs of their adult children and grandchildren. The result showed that about 30% of grandparents were the first to notice that there was a problem with their grandchild's development; nearly 90% felt closer to their adult child and grandchild due to their experience, while 72% of grandparents said they get involved in making treatment decisions for their grandchild, more than 7% said they had actually come to live with their grandchild's family so they could help them cope with all that is involved in raising a child with autism. Fourteen per cent had moved closer (but not into the same home) for the same reason. The result also showed that over 34% said they take care of their grandchild at

least once a week; about one in five grandparents provide regular transportation for the child, about 6% of grandparents said that they had taken the role of the parent since the family situation had become so untenable. The finding also corroborates Thoits, (2011) report that grandparents are likely to be the main source of support for many parents, providing emotional as well as financial and instrumental assistance. Wellard, (2011); Ipsos MORI and Department for Education, (2013) also found that almost two-thirds of grandparents provide some form of childcare, with grandmothers playing a larger role than grandfathers. Overall, the major concern for grandparents is the well-being of their adult children who are parenting a child with autism their reason being that a child's autism diagnosis can lead to emotional, financial, and marital stress. Contrary to the findings of this study, some parents who were interviewed said that the extended family pretends to care for the child when a family member is around but cannot accept to care for the child alone. Some agreed to receive occasional financial help and occasional help in house chores from the extended family. A male parent declared "they are hypocrites, I am the pillar and provider for my family".

When the family size is taken into consideration on the source of stress, roles of the extended family and challenges militating against the involvement of extended family, the respondents had mean scores above 2.50 on all items.The result of hypothesis testing shows that an F-ratio of 0.18 with an associated exact probability value of 0.67 was obtained and found not to be significant. The null hypothesis was therefore not accepted indicating that, family size does not significantly influence the stress experienced by parents of children with autism. Family size does not significantly influence the role of the extended family in mitigating the stress of parents since the mean scores of the small, moderate and large family sizes were above the benchmark of 2.50. They are all in the same range although moderate family had the highest mean score. The finding on the role of the extended family is not expected. One would have expected that small family would be helped significantly since, in the African and Nigerian setting, the extended family helps in taking care of children especially when they are tender but the care decreases as more children are born and they help in taking care of their younger ones. The current trend whereby the extended family relationship is being eroded may have created the situation of no significant family size influence on parental stress, and the role of extended family.

The challenges that may inhibit the involvement of the extended family in mitigating the stress for parents include fear of the future and new crises that might develop, their understanding of ASD, relationship with their children who are involved with their grandchild and the impact or demands of being a caregiver among others. This is in line with the findings of Parkes, Sweeting and Wight (2015). Interview responses show that some of the parents have not involved their extended family because of what they called "their attitudes generally", some parents reported that they are living in the town with no relations around so they are not involved, while just one parent said that she sends her son to her extended family members who live in the same town with her when she has to go shopping or any other chore that will take her away most of the day. She even confessed that it was her elder sister who first noticed that her son was different barely three weeks after birth.

5. Conclusion

Parents of children with autism face a lot of stress that is hinged basically on the behaviour of the children. Some of the rural parents, however, have the opportunity of getting help sometimes from extended family members since special need schools are not located in their area or even nearby. The extended family relations sometimes offer financial help but from all indications, the modern urbanization has really eroded their help. Family size does not influence parents' stress experience and role of extended family but location does. One implication of the findings is that parental stress will continue to be a problem especially for rural dwellers if special needs schools and hospitals are not established by the government to alleviate the stress. The schools used are all private and organization owned. Therefore, the government should establish special needs schools and hospitals in both the rural and urban areas to cater for the special needs children to alleviate their parents' stress. The cost of treatment in these hospitals should also be subsidized to accommodate the low-income parents of these children with autism.

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Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Rational-Emotive Behavior Therapy Program for Trauma-Specific Beliefs Among Undergraduate Students: Testing the Effect of A Group Therapy

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Abstract

Background/Objective: The identification of trauma and posttraumatic stress disorder and its treatment is critically important in contemporary society. This preliminary research aimed to investigate the effect that rational-emotive behavior therapy (REBT) had on trauma-specific beliefs.

Method: This study used a randomized controlled trial design. The study participants were 182 undergraduate students. A self-report questionnaire which measures trauma-specific irrational beliefs was used for data collection. A trauma-focused REBT manual guided the group intervention. Within x Between-subjects and paired *t*-test statistic were used for data analysis.

Results: The results show that REBT brought about a significant reduction in trauma-specific irrational beliefs among the students in the treatment group compared to their counterparts in the waitlist control group. Finally, the results indicate that the positive gains were significantly maintained by the treatment group at four months follow-up.

Conclusion: The current study suggests that an REBT program can be helpful in altering trauma-specific irrational beliefs. The authors employed this model of psychological intervention in an African society in which trauma is significant. The authors demonstrated a model for evaluation and a model of intervention that appears to be of a significant and enduring impact as reported in this study.

Keywords: undergraduate students, group psychotherapy, rational-emotive behavior therapy, trauma, trauma-specific beliefs, Nigeria, posttraumatic stress disorder

1. Introduction

1.1 Trauma and Posttraumatic Stress Disorder

Several authors and researchers indicate that the recognition of trauma and posttraumatic stress disorder (PTSD) and its management is critically important in contemporary society (e.g. Bryant-Davis, Ellis, & Edwards, 2013; Cacciatore, 2007; Courtois & Ford, 2016; Giles et al., 2007; Harvey, 2007; Karatzias, Ferguson, Gullone, & Cosgrove, 2016; Kuriansky & Nemeth, 2013;Liotta, Springer, Misurell, Block-Lerner, & Brandwein, 2015; Lynch, 2011; Mendelsohn, Herman, Schatzow, Kallivayalil, Levitan, & Coco, 2011; Tummala-Narra, Kallivayalil, Singer, & Andreini, 2012; Quiros & Berger, 2015; Wöller, 2010). According to van der Kolk (1997), trauma is the consequence of exposure to an unavoidably stressful occasion that engulfs an individual's coping mechanisms. Quiros and Berger (2015) noted that trauma experiences are intrinsically complex and exposes victims to a wide array of responses that affect all facets of their lives. Trauma often leads the victims to question their beliefs whilst destroying their assumptions of trust (Counselling Directory, 2017). Trauma-exposed individuals exhibit feelings of shame, self-blame, and powerlessness, which contribute to difficulties in self-care and associating with others (Tummala-Narra, Kallivayalil, Singer, & Andreini, 2012). According to Horowitz (2015), traumatic events can result in numerous responses such as disturbances of conscious sensations that span from intrusive thoughts and images to emotional numbing. The most frequently used term to depict the symptoms of psychological trauma is

PTSD, which include distressing thoughts and maladaptive beliefs following exposure to an extremely traumatic event (Counselling Directory, 2017; Dawne, Shipherd, & Resick, 2010; Tran, Moulton, Santesso, & Rabb, 2016). PTSD can affect any person who has personally experienced a life-threatening event, witnessed the event, or learnt about it (American Psychiatric Association, 2013; Onana, 2016).

Several studies from Nigeria confirm the existence of PTSD among the student population (e.g. Busari, 2014; Nwoga, Audu, & Obembe, 2016; Onyencho, Omeiza, & Wakil, 2014; Tagurum et al., 2014). Among a Nigerian sample, Busari (2014) found that the lifetime occurrence of assaultive violence was 62.5% in males and 33.6% in females. Busari reported that females had a higher risk of PTSD than males. Nwoga et al. (2016) showed that the prevalence of PTSD among university students was 23.5%. Using a sample of 351 undergraduate students, Onyencho et al. (2014) found a prevalence of 17.8% for PTSD. Furthermore, Tagurum et al. (2014) found that the personal experience of ethnoreligious violence, loss of property or means of livelihood, and death of a family member/friend were all significantly associated with the presence of PTSD in a Nigerian sample. The evidence from these previous studies suggests that PTSD is present in Nigerian student populations. However, less is known about the impact of any group psychotherapeutic interventions designed to assist trauma-exposed Nigerians, particularly, the students.

1.1 Application of Group Therapy in the Treatment of Trauma

Cooper, Hudson, Kranzberg, and Motherwell (2017) noted that trauma is best treated in groups since it occurs in both large (community, society) and small (family, couples) groups. Several authors are of the opinion that group therapy enables victims of trauma to connect with others who really understand what they have been through (e.g. Mendelsohn, Zachary, & Harney, 2007; Pearlman & Saakvitne, 1995). According to Ulman (2004), the capability of groups to offer support and reconnections for members is very essential for trauma treatment. Groups can also provide the victims a safe, nurturing and accepting atmosphere to talk about their traumatic experiences, feelings, and behaviors without fear of judgment from others who have not been through a similar experience (American Group Psychotherapy Association [AGPA], 2004). Thus, the benefits of group therapy include its effectiveness in provision of treatment and the potential of group members to offer social support to each other, which is crucial for clients who have PTSD (Brewin, Andrews, & Valentine, 2000; Committee on the Assessment of Ongoing Effects in the Treatment of Posttraumatic Stress Disorder & Institute of Medicine, 2012; Ozer, Best, Lipsey, & Weiss, 2003). Furthermore, the rationale for using group therapy to assist victims of trauma is based on the need and benefit for them to join with others in therapeutic work when coping with victimization consequences such as social isolation, alienation, and diminished feelings (Foy, Unger & Wattenberg, 2004).

In addition, groups provide an opportunity for therapists to help members understand their unrealistic and maladaptive thinking, defenses, and behavior as impacted by traumatic experience (Schermer, 2004). Groups offers unique opportunities for therapists to address the areas in which traumatized people have been the most affected (Klein & Schermer, 2000). The special characteristics and curative factors that groups bring in general to psychotherapeutic treatment also apply to the treatment of trauma (Klein & Schermer, 2000; Foy et al., 2000; Ulman, 2004). Groups can foster curative factors such as instillation of hope, universality, imparting of information, altruism, corrective recapitulation of primary family groups, development of socializing techniques, imitative behavior, interpersonal learning, group cohesiveness, catharsis, and existential factors among victims with traumatizing experiences (Behenck, Gomes, & Heldt, 2016; Diefenbeck, Klemm, & Hayes, 2014; Kageyama, Nakamura, Kobayashi, & Yokoyama, 2016; Rice, 2015; Santos, Oliveira, Munari, Peixoto, & Barbosa, 2012; Ulman, 2004; Yalom & Leszcz, 2005). Groups can help members deal with social isolation and cultural barriers that often occur as a result of trauma, in that it provides multiple opportunities for shared experiences, mutual support and validation, learning from one another, and altruism that group members can provide to one another (Substance Abuse and Mental Health Administration, 2012; Yalom & Leszcz, 2005). Thus, groups can be helpful in providing and enhancing therapy for clients suffering from PTSD.

1.2 Efficacy of Group Therapy in the Treatment of Trauma

Group therapy remains a popular treatment modality for trauma-exposed individuals (Heindel, 2011; Kar, 2011; Tran et al., 2016; Wöller, 2010).However, to our knowledge,only one Nigerian study has used group therapeutic intervention to successful mitigate the multiple effects of complex trauma including irrational thoughts and beliefs among adult participants (Eseadi, Anyanwu, Ogbuabor, & Ikechukwu-Ilomuanya, 2015). The study participants were 26 adult Nigerians who provided retrospective reports about their traumatic childhood experiences. It was a 12-weeks manualized group intervention with a two-week follow-up (see Eseadi et al., 2015). Among the available group therapy methods, cognitive behavior therapy (CBT) approach is considered the first choice of treatment for PTSD sufferers due to its efficacy in alleviating PTSD symptoms arising from various types of trauma (see Beck &

Coffey, 2005; Cottraux et al., 2008; DuHamel et al., 2010; Hien et al., 2004; Kar, 2011; Mueser et al., 2008; Shemesh et al., 2011; Sijbrandij et al., 2007; Van Emmerik, Kamphuis, & Emmelkamp, 2008; Wagner, 2003; Zoellner, Rabe, Karl &, Maercker, 2011). Systematic reviews of effectiveness studies which compared several psychological treatments for traumatized individuals found that CBT was efficacious in the reduction of PTSD symptoms at posttreatment (Bisson& Andrew, 2007; Kar, 2011; Mendes et al., 2008). At present, trauma-focused CBT is recommended for managing PTSD symptoms by various treatment guidelines and expert consensus panels due to its evidence-based efficacy (Bisson et al., 2010; Expert Consensus Panels for PTSD, 1999; Forbes et al., 2007; Garakani, Hirschowitz & Katz, 2004; National Institute for Clinical Excellence, 2005). These research outcomes, existing guidelines, and expert recommendations informed our choice of the CBT approach to assist Nigerian clients suffering from PTSD.

CBT refer to a directive, time-constricted, structured treatment approach used for the treatment of a wide variety of mental health disorders. CBT is used to examine the links between client's thoughts, emotions and behaviors and to alleviate distress by helping the client to develop more adaptive cognitions and behaviors (Fenn & Byrne, 2013). Thus, the principle underlying the utilization of CBT is that the client's affect and behaviors are chiefly determined by the way they imagine and structure the world around them (Kar & Misra, 2008). The use of groups in CBT provides an opportunity for members to construct and tell their trauma narratives in the presence of witnesses, to give meaning to the trauma and to begin the process of mourning in the context of a supportive social environment (Ulman, 2004). Improvements in PTSD symptoms and changes in the behaviors of victims usually begin as soon as they begin to think and act more realistically and adaptively with respect to their situational and psychological difficulties (Kar, 2011). There are various types of CBT for PTSD, such as rational-emotive behavior therapy (REBT), which was the earliest type of CBT.

1.3 Rational Emotive Behavior Therapy Group and Trauma

REBT, created by Albert Ellis in 1955, can be applied in group therapy. According to REBT, responding to a traumatic life event with a set of irrational beliefs can play a key role in predicting the development of PTSD (Ellis, 2001). REBT's proposition is that individuals face undesirable activating events, about which they have rational and irrational beliefs. These beliefs can result in emotional, behavioral, and cognitive consequences. Whereas rational beliefs lead to functional consequences, the irrational beliefs lead to dysfunctional consequences (Turner, 2016; Wood, Turner, Barker, & Higgins, 2017). Therefore, REBT clients are encouraged to vigorously dispute their irrational beliefs and to learn to develop rational beliefs, which can positively impact their emotional, cognitive, and behavioral responses (David, Lynn, & Ellis, 2010; Ellis, 1994; 1962; Walen, DiGiuseppe, & Dryden, 1992). REBT groups are usually didactic, philosophical, skills-oriented, directive, experiential, and supportive in nature (Northwest Frontier Addiction Technology Transfer Center [NFATTC], 2004). The REBT groups can allow members to share problems and enable them and the group leader to give feedback and suggestions (Eseadi, Ezurike, Ossai, & Obidoa, 2017).

The REBT groups are leader-centered groups, and the leader encourages rational thinking among group members, encourages members to act as auxiliary counselors for other members, and serves as a model for group members (NFATTC, 2004). Apart from concentrating on the tendencies of people to construct and create their own emotional difficulties, REBT group therapy fully recognizes the interactions of human thoughts, feelings, and actions and active-directively makes use of a variety of cognitive, emotive, and behavioral group therapy techniques (Ellis, 1992) in helping individuals deal with traumatizing experiences. According to Corey (1991), REBT is suitable for group therapy in that it allows both members and group leaders to observe individual members' behavior and give feedback, provide opportunities for members to practice new behaviors involving risk-taking activities, do homework assignments, and experience role-playing activities.

1.4 REBT and Trauma-Specific Beliefs

REBT is based on the ABCDE framework, where A stands for activating events, B for beliefs, C for a range of psychological outcomes, D for disputation and E for efficient rational beliefs. REBT approach states that psychological outcomes are not created by A (the activating events), but by how an individual cognitively processes them (beliefs about A). REBT practitioners categorize beliefs into two major aspects, namely, rational beliefs (RBs) and irrational beliefs (IBs) (Addis & Bernard, 2002; Bond & Dryden, 2000; Choudhury, 2013; David, 2014; David, Lynn, & Ellis, 2010; Ellis & Dryden, 2007; Gavit, David, DiGiuseppe, & DelVecchio, 2011; Koopmans, Sanderman, Timmerman, & Emmelkamp, 1994; Martin, & Dahlen, 2004; Turner, 2016). According to REBT experts, RBs refer to beliefs that have empirical, logical, and/or pragmatic backing. When RBs interacts with A, they create functional psychological consequences. On the other hand, IBs refer to beliefs that do not have empirical, logical, and/or pragmatic backing. When IBs interacts with A, they create dysfunctional psychological

consequences (David, 2014; David, Lynn, & Ellis, 2010). In other words, IBs are unrealistic thinking processes by which an individual interprets external events. Therefore, REBT clients are encouraged by the therapist to therapeutically dispute (D) their IBs, and to adopt more efficient (E) RBs (David, Lynn, & Ellis, 2010; Onyechi, Eseadi, Okere, &Otu, 2016).

In this study, trauma-specific irrational beliefs are seen as dysfunctional beliefs that are caused by the experience of one or more traumatic situations or events. Trauma-specific irrational beliefs can be regarded as posttraumatic cognitions. Posttraumatic cognitions are dysfunctional trauma-related beliefs which are capable of affecting posttrauma adaptation (Blayney, Read, & Colder, 2016). Using an REBT approach, Hyland, Shevlin, Adamson, and Boduszek (2013) examined the role of trauma-specific irrational beliefs in the prediction of posttraumatic stress responses, while controlling for a range of important sociodemographic factors, in a sample of 313 trauma-exposed military and law enforcement personnel. The authors found that trauma-specific irrational beliefs significantly predicted belonging to the group reporting strong symptoms of PTSD rather than belonging to the group reporting mild symptoms of PTSD. In a recent study, Hyland, Shevlin, Adamson, and Boduszek (2015) also showed that an REBT-based model provided a satisfactory model fit and explained 89% of the variance in posttraumatic stress symptomatology, and general-level irrationality indirectly affected posttraumatic stress responses through a set of trauma-specific irrational beliefs. The binary logistic regression results also showed that trauma-specific beliefs significantly predicted belonging to the group reporting strong symptoms of PTSD compared to those reporting mild symptoms of PTSD. A total of 313 trauma-exposed military and law enforcement workers participated in the study and were categorized into two groups based on the intensity of reported PTSD symptomology.

Several studies indicate that exposure to traumatic events can result in significant distortions in an individual's beliefs about himself, others, and the world in major areas like safety, control, trust, intimacy, and esteem (e.g. Foa et al., 1999; Kaysen, Scher, Mastnak, & Resick, 2005; McCann, Sakheim, & Abrahamson, 1988; Messman-Moore & Resick, 2002; Owens & Chard, 2001; Owens, Pike, & Chard, 2001; Wenninger & Ehlers, 1998). According to Kira (2001), a person's belief system about life, death, and destiny adds to regulating the processing of traumas and managing the terrors activated by them. Thus, a traumatized individual may become a suicide bomber if he develops a specific belief system concerning death, life, and destiny that justifies this action. On the contrary, such an individual can cope in a different and helpful way with his trauma using different belief systems about life, death, and survival. In this regard, Orosa, Brune, Huter, Fischer-Ortman, and Haasen (2011) stated that belief systems serve as coping factors for traumatized individuals. According to Orosa et al. (2011), traumatized individuals who had strong belief systems demonstrated better improvement in therapeutic process, and their preceding level of traumatization did not impede the effectiveness of the therapeutic assistance given to them. According to Substance Abuse and Mental Health Services Administration (SAMHSA) (2014), the effects of trauma on an individual may depend on a number of factors such as characteristics of the individual, the type and characteristics of the event, the meaning of the trauma, and sociocultural factors.

1.5 Cultural Considerations in Trauma-specific Beliefs

Given that Nigeria is a multicultural society, many individuals frame their reactions to trauma based on collectivist cultural beliefs, practices, and local vocabularies of distress symptoms (see Erinosho 2015; Omololu, Ogunlade, &Alonge, 2002). Many Nigerians might view trauma from a sociocultural lens that will likely lead to the creation of an adaptive or maladaptive cultural meanings of traumatic events. Some of the factors which may determine the way Nigerian people understands trauma include familial and cultural norms, mores, beliefs, values, and practices, religion, gender orientation, extent of acculturation, level of social support, social network, ethnicity, socioeconomic status, family types, and level of literacy among others (Anugwom & Anugwom, 2016; Anum, Zawua, & Sar, 2016; Dada-Adegbola, 2004; Jegede, 1981; Lasebikan, Owoaje, & Asuzu, 2012). Oluwabamide, & Umoh, 2011). Historically, in our cultures, many individuals also frame their reactions to trauma within the context of religion, with clergies, priests, diviners and herbalists interpreting the causes and meanings of traumatic events, while also serving as trauma-informed traditional healers (Ademuwagun, 1969; Dada, Yinusa, & Giwa, 2011; Herbert & Forman, 2010; Jegede, 1981; Oluwabamide & Umoh, 2011; Osuji, 1993; Oyebola, 1980; Udosen, Otei, & Onuba, 2006). Since culture-related beliefs could be possible antecedents of mental illness, the need for cultural sensitivity in healing trauma cannot be overemphasized (Cooper et al., 2017; Erinosho, 2015; Eseadi & Ikechukwu-Ilomuanya, 2015). According to Cooper et al. (2017), treatment can be successful when therapists are open to non-traditional approaches and learn from the practices of other cultures.

From an REBT perspective, according to David and DiGiuseppe (2010), RBs and IBs derive from our social-cultural environment. That is, the environment infuses rational and/or irrational meanings into our

understanding of us and the world. Therefore, the human mind comprises mainly of representations of social/cultural information (e.g., RBs and IBs) and representations. In this regard, a person exposed to an environment rich in IBs will probably endorse IBs, while a person exposed to an environment rich in RBs will mostly endorse RBs. Thus, people become rational and irrational largely due to their education and learning history and the social/cultural environment they live in (David & DiGiuseppe, 2010). If so, it is possible that these beliefs might be quite different in the Nigerian sample as compared to other samples used in previous research of REBT and PTSD. However, Dryden, David, and Ellis (2010) argued that disturbance-creating IBs that are present in one's society could also be present in other social and cultural groups. Conversely, one can infer that RBs present in our society might also be present in other sociocultural groups.

Therefore, REBT therapists need to be familiar with the clients' culture, being able to know whether they identify with collectivist or individualistic perspectives. Also, recognizing clients' "social legacy" and their "social narrative" is important (Volkas, 2014). The social legacy is the instruction parents pass on to their offspring about how to get along in the world (Cooper et al., 2017). The social narrative is the story behind the teaching. For instance, a story of communal defeat or triumph (Cooper et al., 2017). This is feasible given that societies bond around a "chosen trauma" or "chosen glory" (Mojovic, 2011). According to Nicolas, Arntz, Hirsch, and Schmiedigen (2009), therapists have to be open to leaving their offices and modifying treatment in order to reconnect clients with their supportive community.

1.6 Developmental Processes within the Context of Trauma

The importance of highlighting ongoing developmental processes within the context of trauma cannot be overemphasized in this population. According to SAMHSA (2014), how traumatic event(s) affects a person is also dependent on developmental processes. As a result, each age group is susceptible in distinctive ways to the stresses of a traumatic event. Early adults may display depression and social withdrawal, increased risky activities such as sexual acting out, rebelliousness, yearning for revenge and action-oriented reactions to trauma, sleep and eating disturbances (Hamblen, 2001). In this regard, SAMHSA (2014) also noted that common upheavals observable in trauma-exposed individuals who are in their early adulthood stage include sleep problems, increased agitation, hypervigilance, isolation or withdrawal, and increased use of alcohol or drugs. According to the American Psychological Association Presidential Task Force on Posttraumatic Stress Disorder in Children and Adolescents (2008), many of the debilitating responses displayed by such individuals who have been exposed to traumatic events may include development of new fears, sleep disturbance, nightmares, sadness, loss of interest in normal activities, reduced concentration, decline in schoolwork, anger, somatic complaints and irritability. The individual's ability to effectively function in the family, peer group, or school may be impaired due to these symptoms.

1.7 Study Objective and Hypotheses

To our knowledge, interventional studies on the effect of an REBT program on trauma-specific beliefs of traumatized individuals in the Nigerian setting is limited, despite increasing research evidence on the consequences of exposure to traumatic situations and events. Therefore, the main objective of the current study was to examine the effect of an REBT program on trauma-specific irrational beliefs in a sample of undergraduate students in tertiary institutions in Southeast Nigeria. This was considered necessary given that the unhelpful consequences of trauma go beyond the healthcare system to educational sectors (Sypniewski, 2016). It was hypothesized that an REBT program would lead to a reduction in trauma-specific irrational beliefs in this student sample. Finally, the study hypothesis aimed to verify whether the treatment group would sustain the effects at follow-up.

2. Method

2.1 Ethical Approval

The approval for carrying out the present study was granted by the Research Ethics Committee, Faculty of Education at the University of Nigeria, Nsukka. The participants' written informed consent was obtained after explaining the aim of the research to them. The authors adhered to the guidelines for research with human participants by the American Psychological Association (2010).

2.2 Participants

This study was conducted using a sample of 182 traumatized undergraduate students in public tertiary institutions (i.e., higher education institutions which include universities, polytechnics, monotechnics, and colleges of education) in Southeast Nigeria who met the study inclusion criteria. The inclusionary criteria for the study were as follows: being a student in a tertiary institution situated in southeast Nigeria, being able to understand and speak

Igbo language, having an extreme level of trauma-specific irrational beliefs based on categorization of traumatization in previous studies (Brune et al., 2002; Orosa et al., 2011), having experienced, witnessed or heard of one or more of the following traumatic events, such as the sudden death of a family member/friend, a fatal accident or injury, a natural disaster such as a flood, childhood sexual or physical assault/abuse, rape, childhood neglect, ethno-religious crisis, combat exposure, or torture. Any potential participant who did not meet all of the inclusionary criteria was excluded from the study.

The statistical power of 0.93, which was considered enough for sample determination, was achieved using *GPower* 3.1 software (Faul, Erdfelder, Lang, & Buchner, 2007; Faul, Erdfelder, Buchner, & Lang, 2009). Thus, the sample size was computed as a function of the required significance level ($\alpha = .05$), the desired power ($1 - \beta = 0.93$), and the estimated effect size in the population ($f^2 = 0.21$). The mean age of the REBT group was 23.07years, SD = 3.57, while that of the control group was 23.33years, SD = 4.82. Of the 182 participants who took part in the study, those in the REBT group comprised 56 (30.8%) male participants and 34 (18.7%) female participants, while the waitlist control group comprised 59 (32.4%) male participants and 33 (18.1%) female participants. All participants were of Igbo ethnic origin.

2.3 Measure

2.3.1 Trauma-Specific Beliefs Questionnaire (TBQ)

This is a 25-item questionnaire developed by the authors, specifically for this study based on previous studies on belief systems, trauma-specific events and experiences of traumatized individuals (Bride, Hatcher, & Humble, 2009; Davidson & Colket, 1997; Dawne, Shipherd, & Resick, 2010; Horowitz, Wilner, & Alvarez, 1979; Hyland et al., 2015; Hyland, Shevlin, Adamson, & Boduszek, 2013; Kira, 2001; Kira et al., 2008; Tedeschi & Calhoun, 1996; Vogt, Shipherd, & Resick, 2010). To develop the TBQ, the researchers followed the guidelines for test construction and adaptation (Dawne, Shipherd, & Resick, 2010; Jackson, 1971; Nunnally, 1978). The TBQ assesses participants' exposure to, and level of, irrationality and/or rationality regarding trauma-specific events or situations. The TBQ assesses the participants' beliefs and experiences that are trauma-based in the REBT approach. Sample items include, "It is awful to lose a loved one suddenly to death. I can't stand it," "I must stay away from other people because they are very dangerous," "It is a terrible thing to depend on humans when in trouble," and "It is worthless living in this threatening world". The TBQ uses a 5-point scale ranging from completely disagree (1) to completely agree (5). The minimum score is 25 and the maximum score is 125. Higher scores indicate more extreme levels of trauma-specific irrational beliefs. The reliability of the TBQ using the data obtained from the current study participants is shown in Table 1. The content and face validity of TBQ was checked by three experts in psychiatric science and two experts in educational research and statistics. These validators had doctoral degrees in their areas of specialization.

Table 1. Factor loadings, means, and standard deviations of each item

Items	Mean	SD	Skewness	Kurtosis	Factor Loading			Cronbach's α
					1	2	3	
Item 1	3.19	1.59	-.241	-1.43	.934			.916
Item 2	2.94	1.38	-.076	-1.10	.920			.918
Item 3	3.26	1.57	-.337	-1.37	.918			.917
Item 4	2.84	1.40	.037	-1.19	.917			.917
Item 5	2.78	1.39	.239	-1.22	.917			.916
Item 6	3.20	1.59	-.213	-1.47	.903			.918
Item 7	2.86	1.58	-.013	-1.59	.895			.915
Item 8	3.16	1.54	-.285	-1.40	.884			.917
Item 9	3.31	1.37	-.309	-.983	.864			.918
Item 10	3.21	1.64	-.220	-1.61	.817			.917
Item 11	3.59	1.19	-.117	-1.28		.971		.919
Item 12	3.77	1.02	-.166	-.745		.927		.919
Item 13	3.81	.99	-.304	-.486		.898		.919

Item 14	3.87	.95	-.138	-1.20	.876		.918
Item 15	3.96	1.02	-.513	-.530	.855		.920
Item 16	3.73	1.02	-.138	-.726	.855		.920
Item 17	3.72	1.00	-.037	-1.20	.854		.920
Item 18	3.58	1.22	-.212	-1.23	.822		.918
Item 19	3.98	.94	-.171	-1.43	.796		.921
Item 20	3.77	1.13	-.420	-.925	.737		.919
Item 21	3.89	1.06	-.490	-.835	.637		.919
Item 22	4.31	.79	-.743	-.638		.863	.921
Item 23	4.48	.77	-1.71	-.361		.828	.922
Item 24	4.50	.69	-1.04	-.182		.756	.922
Item 25	4.21	.99	-1.16	.545		.682	.919
KMO Measure of Sampling Adequacy.						.924	
Overall Cronbach's α							.922
Bartlett's Test of Sphericity, p-values						< 0.001	

2.4 Procedure

Pretest, posttest, and follow-up assessments were administered to two study groups (experimental and waitlist control). At the onset, we displayed information about the research on bulletin boards in tertiary institutions within the study area. We further advertised the intervention in students' social and religious gatherings, as well as students' association meetings for up to three months. At baseline (pretest), a total of 278 undergraduate students who indicated that they had experienced or witnessed one or more traumatic events in focus group discussions were invited by the researchers, and their levels of trauma-specific irrational beliefs were measured using the TBQ. A total of 182 undergraduate students who first met the study criteria were selected for participation in the study. A computer-generated random list that was created by random allocation software was used for the allocation of participants (Saghaei, 2015). 90 participants were allocated to the experimental group and 92 participants were allocated to the waitlist control group by means of this simple randomization as in Ogbuanya et al. (2017a, 2017b).

Two of the researchers who are mental health counselors, group REBT practitioners, and counselor educators delivered the trauma-focused REBT intervention in group sessions which were attended in small groups of 8-10 participants. A trauma-focused REBT program manual developed by the researchers guided the intervention. All the participants in the experimental and waitlist control groups completed the TBQ posttest. We conducted follow-up assessment after four months for the treatment group participants. According to Eseadi, Obidoa, Ogbuabor, and Ikechukwu-Ilomuanya (2017), a waitlist control group is used as an untreated comparison group during an interventional study, but afterward, receives the treatment intervention. Thus, the waitlist control group participants in the current study were scheduled to start the trauma-focused REBT intervention immediately it ended for the treatment group.

2.5 Intervention

2.5.1 Trauma-focused REBT Treatment Manual

The trauma-focused REBT program manual was developed by the researchers specifically for this study to enable them to increase participants' awareness of their trauma-specific irrational beliefs and to aid the traumatized participants in overcoming these irrational beliefs. The trauma-focused program also aimed to build the participants' resilience and hardiness against traumatic events and posttraumatic cognitions. To develop the REBT manual, the authors followed existing guidelines for reporting behavioral interventions including the Standards for Quality Improvement Reporting Excellence (SQUIRE; Davidoff et al., 2008), Template for Intervention Description and Replication (TIDieR; Hoffmann et al., 2014), and the theory-based intervention development process by Heath, Cooke and Cameron (2015). Following the procedures described in these guidelines helped to ensure fidelity to the model and that the treatment that was delivered was the treatment intended.

During the development of the trauma-focused REBT program, the researchers adapted the techniques associated with earlier REBT-based manuals, trauma-focused group intervention modules and practice guidelines for group

psychotherapy (American Group Psychotherapy Association Science to Service Task Force, 2007; Aronson & Kahn, 2004; Beck, 2004; David, Kangas, Schnur, & Montgomery, 2004; Eseadi, Anyanwu, Ogbuabor, & Ikechukwu-Ilomuanya, 2015; Foy, Unger, & Wattenberg, 2004; Layne, Murray, & Saltzman, 2004; Rice, 2004; Sypniewski, 2016; Ulman, 2004) to aid participants in the modification of their trauma-specific beliefs and posttraumatic cognitions. Thus, the program involved the application of various therapeutic techniques, such as disputation, reframing, cognitive rehearsal, use of rational self-talk, use of traditional humorous songs, Socratic questioning and role-play. The intervention also consisted of direct teaching about the application of cognitive restructuring, relaxation, and desensitization techniques of REBT for the management of trauma-specific beliefs and emotions. The program consisted of ten home-based assignments given at the end of each therapeutic session. Overall, the trauma-focused program consisted of 20 therapeutic sessions of 80 minutes held over ten weeks, and a two-week follow-up was conducted after four months.

Cultural adaptations considered important in the delivery of this intervention were made. For example, at the start of therapy, the group leader uses a Nigerian proverb to reiterate the rule of confidentiality by saying "what is the heart of each member should not go beyond our neck," meaning members should learn and/or be able to keep all that each member shared in the group session secret.

According to Mulago in Magesa (1997), the life of a person can be grasped as it is shared. This worldview is also shared by majority of Nigerians. Also, a Nigerian language (Igbo) was used intermittently to better clarify certain points during therapy sessions. Furthermore, Nigerian traditional humorous songs considered culturally relevant to the intervention were used to help the participants. During each session, cultural factors influencing individual participants' interpretation of their traumatic experiences and posttraumatic cognitions were considered. According to Herbert and Forman (2010), an understanding of such cultural factors is important when treating clients' posttrauma and helping them in a culturally responsive manner.

The content of this manual was validated by three REBT practitioners with expertise in trauma-informed care and counseling and are familiar with Nigerian culture through expert-consensus validation procedure as used in previous studies (e.g. Eseadi, Anyanwu, Ogbuabor, & Ikechukwu-Ilomuanya, 2015). The three REBT experts cross-checked the relevance and appropriateness of content of the program in terms of the group phases, activities, session goals and specific techniques. Their constructive comments were addressed by the researchers in terms of the agreement among them, and the revised version was returned to each of these experts for their final comments and review. Each of these REBT experts holds a doctoral degree in counseling studies.

2.6 Design and Data Analysis

This study used a randomized controlled trial design. We conducted Within x Between-subjects ANOVA with control vs. treatment as the between factor and time (pretreatment vs. posttreatment) as the within factor. This analysis gave results on three (3) sources of variance: main effect of treatment, main effect of time (pretreatment vs. posttreatment), and the time x group interaction effect. In this regard, the eta squared (η^2) was reported as effect size measure. Given that we did not follow-up with the control group, we performed paired *t*-test analysis to determine whether the posttest and follow-up assessment scores differed between the students in the treatment group and/or whether the positive changes were sustained. Because of the t-test statistic, we calculated the Cohen's *d*, with magnitudes of effect sizes interpreted as follows: small ($d \geq 0.20$), medium ($d \geq 0.50$), and large ($d \geq 0.80$) (Cohen, 1988). Before analysis, we screened for missing values and assumptions violation with the help of SPSS 20 (IBM Corp., 2011).

3. Results

Table 2. Participants' scores by treatment condition and time

Assessment	Group	*N*	*M*	*SD*	95% CI	Significance	Effect size
Pretreatment	Treatment	90	95.30	13.0	93.67–101.71	.403*	$.012^{\eta 2}$
	Waitlist control	92	97.68	8.90			
Posttreatment	Treatment	90	52.97	5.56	94.35–99.19	<.001*	$.814^{\eta 2}$
	Waitlist control	92	98.71	9.29			
Follow-up	Treatment	90	51.48	6.91	48.95–54.02	<.001**	$.502^{d}$

N=number of participants; *M*=mean; *SD*=standard deviation; CI=confidence interval; η^2=eta squared; *Significance value from ANOVA test; **Significance value from t-test; ^{d}Cohen's *d*.

Table 2 shows the results for the participants in the treatment group compared to the waitlist control group. With the TBQ, the results of the ANOVA test showed that there were no baseline differences in trauma-specific irrational beliefs between participants in the treatment and waitlist control conditions, $F(1, 181) = .708$, $p = .403$, $\eta^2 = .012$. The ANOVA test conducted also revealed the main effect of treatment group, main effect of time (pretreatment vs. posttreatment), and the interaction effect. As measured by TBQ, we observed significant main effect of treatment group, $F(1,181) = 141.15$, $p < .001$, $\eta^2 = .702$. The results revealed that main effect of time (pretreatment vs. posttreatment) on trauma-specific beliefs was significant, $F(1, 181) = 261.909$, $p < .001$, $\eta^2 = .814$. (see Table 2). With the TBQ, our ANOVA results showed that time x group interaction effect for trauma-specific irrational beliefs was significant, $F(1, 181) = 238.99$, $p<.001$, $\eta^2 = .799$. Figure 1 is a graphical presentation of this time x group interaction effect (see Figure 1). The paired sample *t*-test analysis of the intervention group's posttreatment scores, $t(89) = 4.768$, $p < .001$, $d = .502$, was also significant, which is an indication of the REBT program's sustainability effect on trauma-specific irrational beliefs over time (see Table 2).

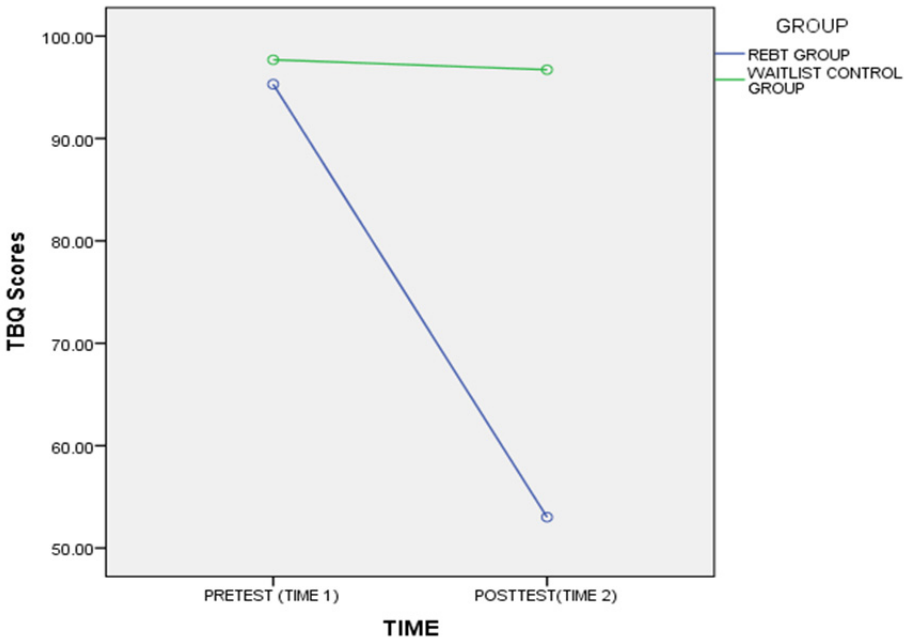

Figure 1. Time x Group interaction effect

4. Discussion

The aim of the present study was to investigate the effects that an REBT program had on trauma-specific irrational beliefs in a sample of undergraduate students in tertiary institutions in Southeast Nigeria. It was found that REBT brought about a significant decrease in the trauma-specific irrational beliefs of the students in the treatment group compared to those in the waitlist control group. Furthermore, the results showed that the positive gains were significantly sustained for the treatment group at four months follow-up. Our results support the assertion that clients who engage in an REBT program are able to dispute and overcome their irrational beliefs (Ellis, 1994; 1962; Walen, DiGiuseppe, & Dryden, 1992). Our results also support a recent study in which the technique of the REBT model has been successful in mitigating the multiple effects of complex trauma including irrational thoughts and beliefs (Eseadi, Anyanwu, Ogbuabor, & Ikechukwu-Ilomuanya, 2015).

Targeting and modifying trauma-specific irrational belief systems is an important area of trauma research that requires attention in the therapeutic treatment of traumatized individuals. Hyland et al. (2015) observed that general-level irrationality influences PTSD responses through a set of trauma-specific irrational beliefs. Thus, REBT practitioners need to focus on employing evidence-based strategies for identifying and challenging clients' trauma-specific dysfunctional beliefs and constructing more adaptive beliefs, emotions, and behavior. REBT practitioners must realize that a client's response to a traumatic life event with a set of irrational beliefs may play a critical role in predicting the progression of PTSD (Ellis, 2001), and thus provide an insight into what kind of

REBT treatment process will be suitable for traumatized clients considering the different facets of the irrational beliefs of people suffering from PTSD. Given that the unhelpful consequences of trauma go beyond the healthcare system to educational sectors (Sypniewski, 2016), trauma-focused interventions based on the principles and practice of REBT are also very much warranted to assist those students and their families who have experienced one or more traumatic situations both in Nigeria and in other countries. Besides, in a recent study, Orosa et al. (2011) reported that traumatized individuals who had strong belief systems demonstrated better improvement in therapeutic process, and their preceding level of traumatization did not hamper the efficacy of the therapeutic assistance given to them.

Furthermore, trauma can negatively affect an individual's belief systems about the self, the world, and the future, but cultural context has a role to play in determining how well the individual is affected (SAMHSA, 2014). Therefore, in order to treat victims of trauma in future studies using the REBT approach, it is important to be familiar with their culture. More culturally responsive efforts should be directed at adaptation of culturally-appropriate contents and themes to facilitate the healing process of traumatized individuals in group therapy. For instance, their "social legacy" and their "social narrative" (Volkas, 2014) should be adapted into an REBT-based group intervention. The social legacy is the prescription parents pass on to their children about how to get along in the world. Some examples are: don't deviate from the norm, hate our enemy, take revenge, be happy, find what is self-fulfilling, love your enemy, and make the world a better place (Cooper et al., 2017). The social narrative is the story behind the prescription. For instance, a story of communal defeat or victory (Cooper et al., 2017). This is possible given that societies bond around a "chosen trauma" or "chosen glory" (Mojovic, 2011). Social legacies and social narratives should be clearly conveyed in the group therapy. Above all, community needs to be considered. That is, therapists have to be open to leaving their offices and adapting treatment in order to reconnect clients with their supportive community (Nicolas, Arntz, Hirsch, & Schmiedigen, 2009).

4.1 Limitations

In spite of the positive outcomes, this study has some limitations. The study sample size consisted of only undergraduates in tertiary institutions in Southeast zone of Nigeria. Future research should include samples of undergraduates in various specialties. This will help researchers to determine whether the findings are generalizable to undergraduates in the different specialties. Furthermore, lack of data on the moderating effect of certain demographics of the study participants such as gender, marital status, age, religiosity, and place of residence, socioeconomic status also limits the contribution of this study. Future research should, therefore, investigate the moderating role of participants' demographics, such as their gender, marital status, age, religiosity, place of residence, and socioeconomic status on trauma-focused REBT program outcomes and posttraumatic cognitions.

Another limitation is that the effect of the REBT program was assessed using a measure (i.e., the TBQ) which is newly developed and has not been widely validated. We suggest that future research should make use of clinician-rated validated measures. There is also need to consider sociocultural factors and living conditions of trauma victims as they could impact on their recovery (see Orosa et al., 2011). Given the evidence on the role of irrational beliefs in posttraumatic stress responses (e.g. Hyland et al., 2015), REBT clinicians should take cognizance of context-specific variants of the irrational belief process while working with traumatized individuals. A more indirect, yet reliable estimate for the effectiveness of the treatment would be testing whether this program would have an effect on the levels of resilience and cognitive hardiness of individuals, which has been stated to be crucial for the treatment of trauma. The authors suggest that future studies should use a measure of depression or anxiety in order to test the effectiveness of the treatment.

In addition, not measure of PTSD symptoms and/or severity was used, so the benefits of REBT in the treatment of PTSD can only be inferred. The group leaders are also the evaluators of the study introducing a potential for bias. But evidence suggests that competent therapists produce better outcomes (Barber et al., 1996, 2006; Kuyken & Tsivrikos, 2009). Another major limitation is that the scale's construct validity had never been tested. However, the results of the study point to some evidence of construct validation inasmuch as the scores improved as a result of intervention. Another major limitation of this study is that we had the waitlist control group do nothing. Thus, some experts may argue that the results of the study could be simply explained by the several weeks of intense contact with the treatment group and the participants figuring out what the researchers were looking for. The current study is also limited because even if the waitlist control was scheduled to receive the treatment at a later date, the results of such treatment are not presented.

Another limitation is the lack of any data on homework that is relevant to the outcome. Every member of the group completed the cognitive homework, however, there was no subjective evaluation of the treatment effectiveness.

Nevertheless, the study can be viewed as a preliminary approach to introduce a model of psychological intervention in this area of high need. This very preliminary approach enabled the authors to provide this brief report regarding the effectiveness of an REBT group therapy on reduction of trauma-specific beliefs. Other limitations are group size and lack of information about attendance. Finally, we did not test whether there are any statistically significant differences between the treatment and control groups in terms of demographic differences or drop-out. Future researchers are encouraged to address the limitations of the current report.

5. Conclusion

This study of the impact of REBT treatment offers a useful initial investigation of how REBT can be used to alter trauma-specific beliefs. Specifically, the study examined the effectiveness of an REBT program on the reduction of undergraduate students' trauma-specific irrational beliefs. Based on the findings of the current study, the researchers concluded that the REBT program offered to the undergraduate students in Nigeria significantly decreased their trauma-specific irrational beliefs, relative to a waitlist control group. Overall, an REBT program can be helpful in altering trauma-specific irrational beliefs among undergraduate students in Nigeria. We hope that the report will add to the extant literature on emerging flexibility in group work, especially in developing countries such as Nigeria. Further clinical assessments with student populations are warranted.

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Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Effect of Cognitive-Behavioural Group Guidance on Entrepreneurial Intention Among University Sandwich Education Students

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Abstract

Objective: The study objective was to determine the effects of cognitive-behavioural group guidance on entrepreneurial intention among university sandwich education students.

Materials and Method: The design of the study was a group randomized trial involving pretest and posttest, while the area of the study was a federal university in South-East Nigeria. Entrepreneurial Intention Questionnaire (EIQ) was used for data collection while the data collected were analysed through analysis of covariance with repeated measures.

Results: The results indicated that there was no significant difference between the participants' entrepreneurial intention in the treatment and no-treatment control groups at the initial measure; and that after cognitive-behavioural group guidance intervention, there was a significant increase in entrepreneurial intention among the participants in the treatment group comparing to their counterparts in the no-treatment control group.

Conclusion: Cognitive-behavioural group guidance was effective in increasing entrepreneurial intention among university sandwich education students. It was therefore concluded that counsellors should adopt the techniques used in the study to help individuals increase their entrepreneurial intention, and that cognitive-behaviour group guidance should be adopted as counselling approach for helping university students develop intentions to venture into entrepreneurial business.

Keywords: cognitive-behavioural, entrepreneurial business, university students

1. Introduction

Despite the high rate of unemployment in society today, it seems like many young individuals are not willing to get into entrepreneurship. Entrepreneurship is the totality of self-asserting attributes that enable a person to identify business opportunities, organize the needed resources and determines to undergo risks and uncertainties (Essien, 2006). Thus, entrepreneurship involves identifying interest, passion, potentials and opportunity in an environment. According to Arunwa (2004) entrepreneurship requires the education which equips the learners with the skills, ideas, attitude to make a mature judgment and to be in the position to create goods and services. But it seems that the education given at the various tertiary institutions in Nigeria and other developing countries has not made graduates self-reliant in creating jobs for themselves and others. However, there is increasing evidence that Nigerian university students are lacking entrepreneurial intention due to numerous factors influencing such intention (Ekpoh & Edet, 2011; Muhammad, Aliyu, & Ahmed, 2015). Hence, the rate of graduates who are not employed in Nigeria is still high despite all the effort made by the federal government to provide jobs for the youths. Meanwhile, the challenge of unemployment can be resolved if the graduates develop entrepreneurial intention.The entrepreneurial intention involves thinking that emphasizes opportunities over threats.

Bhaskar and Garimella (2017), conducted a study on predictors of entrepreneurial intentions and found that the challenges faced by masters students of business administration appear to be a major reason to become an entrepreneur, followed by ambition, financial gain, comfort and opportunity to help others. Gorgievski, Stephan, Laguna and Moriano (2017) investigated the mechanisms through which individual values are related to entrepreneurial career intentions and found that openness and self-enhancement values relate positively to

entrepreneurial intentions. Almeida, Ahmetoglu, and Chamorro-Premuzic (2014) earlier conducted a study to investigate associations between vocational interests, entrepreneurial potential, and entrepreneurial activity, both within and outside organizations, and found that vocational interests predict entrepreneurial activity even when entrepreneurial potential and demographic variables are taken into account. However, the process of identifying opportunities is plainly an intentional process, and, therefore, entrepreneurial intentions are important for the implementations of entrepreneurship (Krueger, Reilly, & Carsrud, 2000). There is evidence that a variety of intention models have been developed. However, Peterman and Kennedy (2003) indicated that some models of entrepreneurial intention focus on the pre-entrepreneurial event and make use of attitude and behaviour theory (Ajzen, 1991), and self-efficacy and social learning theory (Bandura, 1997). Other studies present entrepreneurial intention as a variable within larger psychological models (Davidsson, 1995). Thus, intentional elements, such as expectations, attention, and belief, appear to have a strong impact on people's behaviour.

In line with the previous evidence, the researchers of the current study determined the effect a cognitive-behavioural group guidance programme could have on entrepreneurial intention among students. Cognitive-behavioural group guidance programme was developed by the principal researcher to help the participants develop entrepreneurial intention. The programme was informative, educative and therapeutic, and designed based on the principle of cognitive-behavioural coaching (CBC). The core principle of CBC is that people may have insufficient problem-solving skills or may not use their skills in a contextually suitable way, and that peoples' thoughts, emotions, and behaviours are keys to understanding their perception of problems and situations (Onyechi et al., 2016; Eseadi et al., 2017). The cognitive-behavioural group guidance could enable the individuals to acquire positive thoughts, emotions and behaviours that support entrepreneurship. In addition, the cognitive-behavioural group guidance can help individuals to identify, examine, and change unhealthy thoughts and beliefs, develop productive behaviours, become more interested in entrepreneurship (Gladeana, 2016). The research focused on university sandwich students because they stand at one of life's vantage points, one at which they think about careers. It is an appealing setting from the basic and the applied research points-of-view (Shinnar et al., 2009). To this end, the prime focus of cognitive-behavioural group guidance was on the participant's current concerns and the ultimate goal was for the participants to be able to handle their own present and future entrepreneurial challenges. Thus, the researchers hypothesized that cognitive-behavioural group guidance will be effective in increasing entrepreneurial intention among university sandwich education students.

2. Method

2.1 Ethical Compliance

The researchers complied strictly with the ethical standards for conducting research with human subject set by the American Psychology Association and the Research Ethics Committee of the Faculty of Education, University of Nigeria, Nsukka.

2.2 Design of the Study

The design used for the study was a group randomized trial.

2.3 Area of the Study

The study was carried out in a federal university in South-East Nigeria.

2.4 Sample and Sampling Technique

The sample of the study was 250final year university sandwich education students from a federal university in South-East Nigeria. The sample was selected through purposive and voluntary sampling. Out of the 250 students who volunteered to participate in the study, 89 students met the study's inclusion criteria, which include: being ready and willing to attain all the sessions of the study; having a low entrepreneurial intention, and being able to speak English Language fluently (See Figure 1).

2.5 Procedure

The researchers used one month to create awareness for the cognitive-behavioural group guidance programme. The researchers also talked to the students about the importance of attending the programme and encouraged them to participate in the programme. Interested participants were requested to give their informed consent and register with their class representatives. The 89 students who met the inclusion criteria in the study were randomized into two groups –experimental (n = 44) and no-treatment control group (n = 45). The G*Power 3.1.1 statistical software and computer-generated numbers were used in the randomization process. Both participants at the experimental and no-treatment control group were exposed to pretest measure.

Thereafter, the participants in the experimental group were made to attend cognitive-behavioural group guidance

programme while the participants in the no-treatment control group did not attend any guidance programme within the period of the study. After the cognitive-behavioural group guidance programme, the researchers conducted posttest measure in the two groups. All the data collected at the pretest and posttest measures were subjected to analysis by expert data analysts who did not take part in intervention and assessment processes.

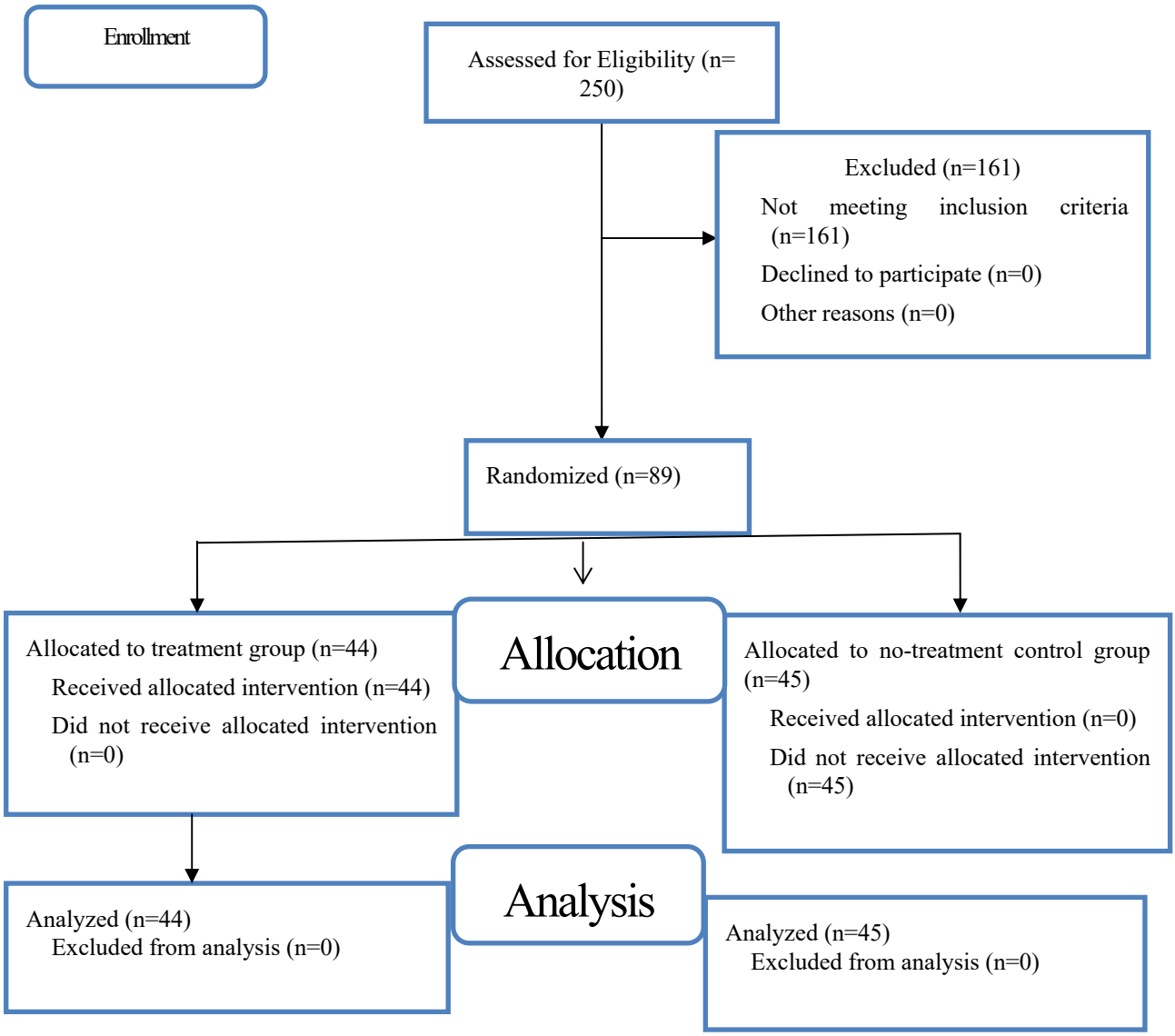

Figure 1. Flow Chart

2.6 Intervention

Cognitive-Behavioural Group Guidance: The cognitive-behavioural group guidance was designed to increase the participants' entrepreneurial intention. The intervention programme was implemented in three phases. The first phase of the programme featured entrepreneurship education which was anchored by experts in vocational and business education. The entrepreneurship education covers direct teaching on the general concept of entrepreneurship; how to start a business, how to manage a business; barriers to business establishment and how to deal with them; different types of business and how to raise fund for business. In addition, the facilitators exposed the participants to certain business opportunities which they can start with little income such as soap making, cream making, water production, food production/processing, international business agency service, laundry, agricultural production/processing, transportation, exportation and importation, among others. The facilitators also discussed networking opportunities with the participants and encourage the interested ones to indicate interest for subsequence follow up. Also, the facilitators enlightened the participants on the availability and accessibility of business fund from various national and international agencies. Also, the participants were given opportunities to

ask questions and get clarifications. The second phase of the cognitive-behavioural group guidance featured group guidance intervention anchored by professional counsellors who were experts in cognitive-behaviour coaching/therapy (CBC/T). The focus of the second phase of the programme was to help the participants acquire positive thoughts, emotions and behaviours that support entrepreneurship. In line with previous evidence (Onyechi et al., 2016), strategies and techniques such as goal setting, motivational interviewing, cognitive restructuring, and coping imagery were used by the counsellors to confront the psychological blocks to entrepreneurial intention and reducing unsupportive emotions. The last phase featured practical skill training on liquid soap making and hair cream production. The aim of this phase was to demonstrate the reality of venturing into a small production business that requires little materials and fund. The demonstrations were facilitated by four experts among the researchers. The participants were made to practically learn how liquid and hair cream is being produced. The participants wrote the production tips –in terms of steps to follow, materials to use, how to measure the materials and other procedures, among others. The participants asked questions for clarification and practiced the skills after a period of learning.

2.7 Measure

Entrepreneurial Intention Questionnaire (EIQ): The EIQ had 18 items developed by the principal researcher based on a four-point scale of strongly agreed (4 points), agreed (3 points), disagreed (2 points) and strongly disagreed (1 point). The EIQ had a reliability coefficient of 0.84 alpha in the current study.

2.8 Data Analysis

The ANCOVA with repeated measures was used to analyse data in the current study. The ANCOVA was used to compare one or more mean scores with each other and tests for the significant difference in mean scores. Partial Eta Squared was used to determine the effect size of the intervention. In line with Cohen's method for interpreting effect size of an intervention(Cohen, 1988), value of 0.00-0.19 indicated very small effect size, 0.20-0.49 indicated small effect size, and 0.50-0.79 indicated medium effect size while 0.80 and above implied large effect size.

3. Results

Table 1. Results on the Effect of Cognitive-Behavioural Group Guidance on Entrepreneurial Intention among University Sandwich Education Students by EIQ

Assessment	Measures	Group	Mean(SD)	F	Sig.	η_p^2	ΔR^2	95% CI
Pretest	EIQ	Treatment	18.26(1.26)	.112	.738	.001	.-010	18.59-19.36
		Control	19.06(1.25)					18.69-19.44
Posttest	EIQ	Treatment	62.54(4.89)	3285.31	.000	.974	.974	61.05-64.03
		Control	19.06(1.38)					18.64-19.48

EIQ: Entrepreneurial Intention Questionnaire; M: Mean; SD: Standard Deviation; η_p^2 *: Effect size; df: Degree of Freedom; Sig: Significant value.*

From Table 1, the researchers observed that there was no significant difference between the entrepreneurial intention of participants in the treatment and no-treatmentcontrol groups, $F(1,88) = .738$, $P = .789$, $\eta_p^2 = .001$, $\Delta R^2 = .-010$. After cognitive-behavioural group guidance intervention, it was observed that there was a significant increase in entrepreneurial intention among the participants in the treatment group, comparing to their counterparts in the no-treatment control group, $F(1,88) = 3285.31$, $P = .000$, $\eta_p^2 = .974$, $\Delta R^2 = .974$. Based on the results, it was observed that cognitive-behavioural group guidance was effective in increasing entrepreneurial intention among university sandwich education students.

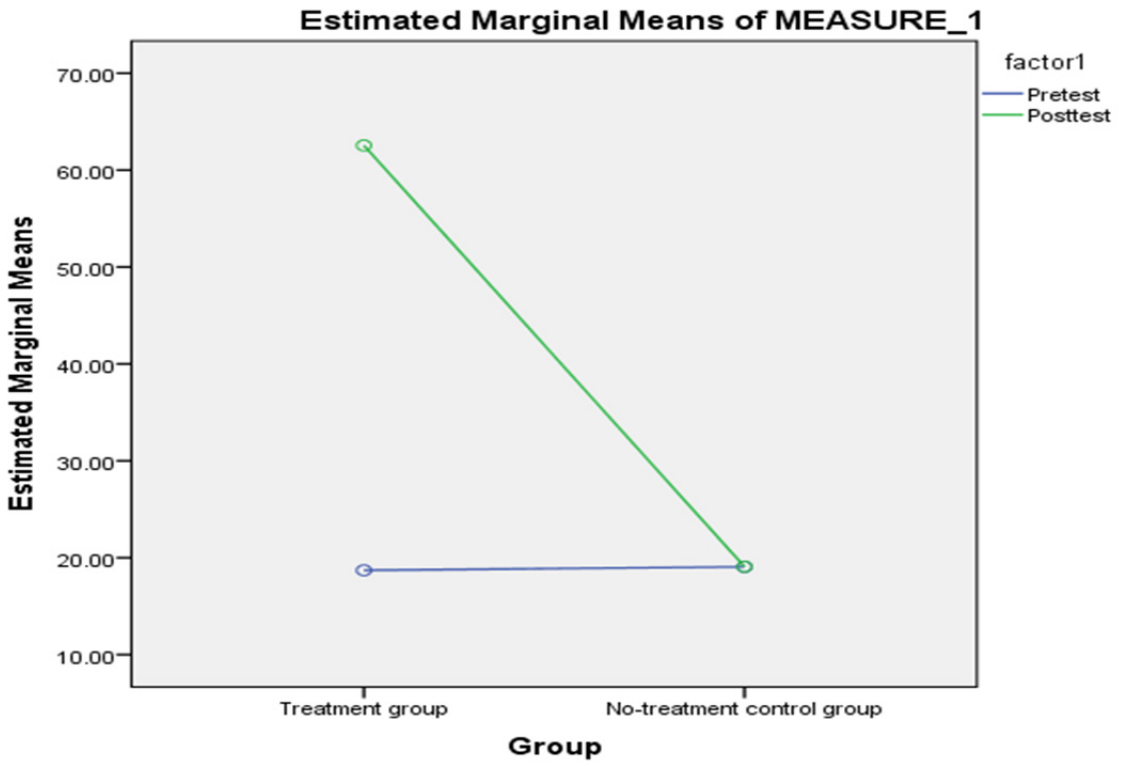

Figure 2. Estimated marginal mean

4. Discussion

The objective of the study was to determine the effect of cognitive-behavioural group guidance on entrepreneurial intention among university sandwich education students. The initial measure showed no significant difference between the participants' entrepreneurial intention in the treatment and no-treatmentcontrol groups. This finding supports previous studies that Nigerian university students are increasingly lacking entrepreneurial intention (Ekpoh & Edet, 2011; Muhammad, Aliyu, & Ahmed, 2015). After cognitive-behavioural group guidance intervention, there was a significant increase in entrepreneurial intention among the participants in the treatment group comparing to their counterparts in the no-treatment control group. The finding supports the previous prediction that intervention that has the cognitive-behavioural components could effectively increase entrepreneurial intention among individuals.

The low rate of entrepreneurial intention among Nigerian university students may have contributed to the high rate of unemployment in Nigeria. Therefore, if cognitive-behavioural group guidance is to be utilized adequately many Nigerians could acquire high intention to venture into entrepreneurship. Again, there is a need for researchers in Nigeria and other parts of the world to replicate the study in different settings in order to validate or invalidate the findings generated in the study. If more studies validate the current findings, it would be necessary for cognitive-behavioural group guidance intervention to be adopted as the best approach for increasing entrepreneurial intention among individuals.

4.1 Limitation

Despite the findings, some limitations were recorded. First, the sample of the study comprised of only sandwich education students. It would be better for subsequent studies to include other categories of university students. Secondly, the demographic information of the participants is missing in the study. Future studies should endeavour to describe and analyze demographic information of the participants. The third limitation of the findings is that qualitative research data is missing in the results. It may be good for future researchers to consider reporting the results of both qualitative and quantitative data. Lastly, one may argue that the sample size was too small in the study. However, the researchers of the current study suggest that subsequent versions of the study should increase the sample size to at least 300.

5. Conclusion

The researchers of this study conclude that cognitive-behaviour group guidance was effective to increase entrepreneurial intention among Nigerian university sandwich education students. Therefore, counsellors should adopt the techniques used in the study to help individuals increase their entrepreneurial intention. Also, cognitive-behaviour group guidance should be adopted as a counselling approach for helping university students develop intentions to venture into an entrepreneurial business.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Family Variables as Predictors of Self-Concept and Academic Achievement of Secondary School Students in Benue State, Nigeria

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Abstract

Objective: The study investigated family variables as predictors of self-concept and academic achievement of secondary school students in Benue state, Nigeria.

Methods: The study adopted a correlational research design. The sample of the study consisted of seven hundred and twenty (720) SS II students. The study research questions were analyzed using the Pearson product moment correlation coefficient, while the hypotheses were tested using regression analysis at 0.05 probability level.

Results: The findings revealed a strong positive relationship among family structure, self-concept and academic achievement of secondary schools students. It also revealed that family leadership style like Authoritative, Authoritarian, Permissive and Neglectful family leadership style had a strong relationship on secondary school students, self-concept and academic achievement. Again, it was discovered that family size had a strong relationship on secondary school students' self-concept and academic achievement in Benue state, Nigeria.

Conclusion: It is concluded that there exists a strong relationship between family structure and self-concept of secondary school students; family structure predicts students' academic achievements; family size has a low positive relationship with self-concept of secondary school students; low relationship with student's academic achievement; there is a positive relationship between family leadership styles and self-concept of secondary school students.

Keywords: family, self-concept, academic achievement, secondary school, students

1. Introduction

In this era of globalization and technological advancement, education is considered as the first step for every human activity in any society. Family is a fundamental unit in the society and the first pot of call for every child where educational and moral training of children take place. In support of the above statement, Idah (2012) described the family as the society's primary social group, the foundation of which individuals have their beginning and through which they experience the major portion of life. Akubue and Okolo (2008) conceptualized family as a social group characterized by common household, economic co-operation among members, reproduction of new members of the society and the socialization of the young ones. The researchers view the family as the first platform of a social unit on which the society anchors her future. It is an institution that has the capacity to make or mar children's self-concept and academic achievement. This is because the family socializes its members to internalize the values, norms, beliefs, morals and ethics and cultural heritage of the society before going to formal school. Ugwanyi (2011) noted that it is within the family that most children first learn how to behave in socially acceptable ways, to develop close emotional ties and to internalize the values and norms of the society. The author believes that experiences within the family help to shape the personality of individuals, which in turn helps to produce a society of individuals who share in the pattern of larger culture.

In line with the above claim, Akubue and Okolo (2008) agree that during the formative years of the child, the family exerts tremendous and far-reaching influences on the child's habit and attitude formation. Succintly put, the child's physical growth, cognitive, moral, emotional and spiritual development is dependent on his/her family support, training and care. In other words, the child obtains his/her status and class position from the family. The

child builds up self-concept based on the status of the family in society. The child, therefore, learns rudimentary skills which include how to talk, walk, eat, and acceptable behavioural patterns such as greetings, respect for elders, obedience and honesty from the family.

The elderly members of the family socialize the younger ones to learn the moral code of the society they belong to by performing certain activities in the home. For example, the child learns the habits of greeting, way of dressing, eating, keeping the home clean, feeding animals, running errands, praying, caring for the younger children, farming, carving, fishing, painting, roofing and other related activities. Osunloye (2008) opined that family affects the individual since the parents are the first socializing agent in an individual's life. This is because the family factors in the context of a child, affect his/her reaction to life situations and his/her level of achievement.

Family factors refer to all the conditions and the circumstances in the family which influence the child physically, intellectually, and emotionally. Omeh (2010) sees family factors as key variables playing significant roles in the family setting that tend to encourage or discourage a child's self-concept and academic pursuit. It makes or mars the morale of a child in his/her academic pursuit. Family factors are those influences in the family that can transform a child either positively or negatively and portray the family as good or bad background. These factors include good morals, obedience, societal ethics, values, and beliefs. These are some of the factors that can predict a child's self-concept and academic achievement. The researchers see family factors as those influences in the family that can predict both child's self-concept and academic achievement. Such factors include family size, family structure or family types, and family child rearing practices which contribute to a child's personality worth that can make him/her compete favourably with his/her counterparts in the school environment. Family size in this context refers to the total number of children in the child's family which can be small or about two to six or a large family of seven and above. It determines the parenting of the children.

Parenting styles which are also interchangeably called child rearing practices are approaches adopted by families to train their children. Family parenting is a factor that contributes to the development of the child. Saleh (2009) described single parenting families as families in which either the father or mother is involved in the training of the children. The author noted that this situation could arise as a result of death, divorce or unwanted pregnancy from single ladies before marriage. On the other hand, the author stated that both parent families are those in which both father and mother are involved in the training of the children. The third parent type which the author mentioned is the stepparent families where the parent of the children might have died and relatives of the deceased take over the training of the children.In this case, either the nuclear or extended family members can parent the children.

Parental involvement is a necessary impetus for child upbringing. Jeynes (2008) examined the importance of parental involvement in a child's training in relation to a child's self-concept and academic achievement. The author found out that parental involvement had a positive impact on a child's academic achievement across diverse populations of children. The author also revealed that children who received proper parenting excel both in developing positive self-concept and achieving high academically. Baumrid (1966) identified three parenting styles most families adopt. These include authoritarian, authoritative and permissive styles.

The author opined that the authoritarian parenting style suggested that children were expected to be submissive to their parent's demands, while parents were expected to be strict, directive, and emotionally detached. Permissive parenting style like the name implied connotes less parental restrictions or limits on the child. The implication of this was that children were expected to regulate their own activities.

Authoritative parenting style is similar to authoritarian parenting except that it entails clear and firm direction to children. The conceptualization of parenting styles as a child rearing method to categorize and measure the worth and form of relations between parents and children began with the research of Baumrid who identified three parenting styles after her study however, identified that the difference between the two similar parenting styles lies in moderating discipline with warmth, reason, and flexibility as ensued by authoritative parenting.

In the context or the study, family factors such as family size, structure, and parenting styles predict self-concept and academic achievement of secondary school students in Agatu Local Government Area of Benue state.

Conversely, when a child is trained or parented by the extended family such as stepfather, mother, uncle, niece or any other extended relation, the predictor of self-concept and academic achievements are dependent on family factors such as family size, the structure and family parenting styles. In support of the above sentence, Mahmoud and Usama (2014) asserted that family functioning was a contributory factor of self-concept for both children with and without learning disabilities. Momolafe and Olorunfemi (2011) also opined that family type has a positive relationship with the academic achievement of secondary school students. Clark (2008) described the extended family as a common African culture where groups of blood-related people live together and share certain things in

common especially in the parenting of children. Idah (2012) noted that extended family relationship is part of the culture among Benue State indigenes and remarked that large family size and complex family structure in addition to different parenting practices have both positive and negative effects on children's self-concept and academic performance. The author noted that in terms of farm work and other cultural activities that require a sizable number of people that extended family relationship is at an advantage, but at a disadvantage when it comes to a matter of proper parenting both for self-concept and academic performance. Joel (2011) remarked that the more the family is extended the less proper parenting of the children and the low self-concept and academic achievement. Slake (2009) reported that the negative effect of family size on self-concept and educational attainment persists after the socio-economic characteristics of the family is statically controlled. Yagi and Kaur (2001) further asserted that family size either large or small predict self-concept of secondary school students either positively or negatively. Kamaui (2011) observed that family size can predict students' academic achievement of secondary school either positive or negatively. Hoffer (2007) remarked that parents who have many children invest less money, time, emotional and psychic energy, and attention on each child. The author revealed that from the previous studies on family influences on children's self-concept and academic achievement, those children who live with single–parents or step-parents receive less parental encouragement and attention with respect to self-concept and academic achievement than their counterparts who live with both biological parents. The researchers also feel that this revelation from the author indicates that children from non- intact families report lower educational expectations on the part of their parents, less monitoring of school work and less over supervision of social activities than children from intact families.

Self-concept and academic achievement are important yardsticks to measure success in students. In recent time, it has been generally observed that students perform poorly academically. This poor performance in examinations at all levels has attracted criticisms from all quarters. Onu (2012) noted that some accusing fingers pointed at the family upbringing of children, while other accusing fingers point at teachers and government policies and programme.

Closely related to family parenting style is the family structure which plays a crucial role in strengthening or devastating student's self-concept and academic performance. There are different types of family structures, the structures are based on whether both parents are involved in children's training or whether only one of the parents is involved in the training of the children. Family can be classified into nuclear family and extended family. The researchers feel that when parents model the child towards good attitude, such a child stands the chances of being obedient in the classroom, participate in classroom activities and understands the value of education. The researchers see family structure as the embodiment of family types through which a child is nurtured which include nuclear and extended families.

The researchers intend to dwell much on nuclear and extended families in the study. Clark (2008) described the nuclear family as that which consists of husband, wife and the children. Ogbonna (2014) sees the nuclear family as the family that is made up of husband, wife, children and other house-help occupying the same roof. The nuclear family has been acknowledged as the smallest unit of the family. Tutel (2004) defined nuclear family as an institution which comprises father, mother and children under a common roof. The researchers opined that nuclear family is a composition of one man, his wife or wives and children.

The extended family, on the other hand, is a family system consisting of the husband, wife, children, grandparents, uncles, aunts and cousins from both sides (Anyanwu, 2012). In corroboration, Ugwanyi (2011) posit that extended family is the family type that involves father, mother, children, grandparents, uncles, aunties and others. The researchers also view the extended family as the family which consists of two or more nuclear families.

Self-concept has been part of human development and as such, starts from the family. Onu (2012) describes self-concept as the way and manner an individual value him/herself through attitude, aptitude, and interest which guide his future development. The researchers view self-concept as the personal worth of an individual that controls his/her emotion, attitude and perceptions. These beliefs about oneself act as a guide to to evaluate an individual either positively or negatively. It is determined by family factors such as family size, parenting styles, and family structure of both nuclear and extended families which are also the determinant of self-concept and academic achievement.

The attainment of academic achievement of children is dependent on their parenting styles for instance, if parent should rear their children, limit the number of children they can maintain, that is, the size of the family to a small unit of one to six, it is most likely that they can pay attention to their children on an individual basis and provide necessary educational materials, interact with them, assist them in their assignments and develop their self-concept. In this case, children brought up in this manner are most likely to excel in the classroom activities and even beyond.

On the other hand, if a parent has about ten children in the family, their academic achievement can be marred because the parenting of ten children cannot be as effective as a family parenting two children as it will be difficult if not impossible for a parent to pay adequate attention to their children on individual basis and eat together, assist them in their assignment and develop their self-concept. In this way, it is most likely that their academic performance may be low except for any one of them who is naturally a genius. In the context of this study, secondary school students in Agatu Local Government Area of Benue State are expected to have high academic achievement if these family factors are maintained by various families.

It may be posited that the poor performance of students in external examination like West African School Certificate Examination (WAEC) in 2011 to 2013 and National Examination Council (NECO) the same period might be due to poor parenting, large family size and precarious family structure. The researchers limited the study to family factors such as family size, structure and parenting styles. The main thrust of this study is to investigate how family factors can predict self-concept and academic achievement of secondary school students in Agatu Local Government Area of Benue State.

2. Research Method

The study used a correlational research design. The study was conducted in secondary schools in Agatu Local Government Area of Benue State. Agatu Local Government Area of Benue State is predominantly inhabited by farmers, petty traders and local craftsmen and women. It is located in the lower Benue River basin. The location of the local government with rich fertile soil provided an enabling environment for commercial crop production and fish farming. Agatu is made up of semi-urban and rural communities. In farming season 70% of the rural schools close down for farm work. There are thirty public secondary schools in Agatu Local Government Area of Benue State. The choice of the local government is borne out of the fact that Agatu Local Government is made up of families with multi-cultural background adopting different family structures and family parental styles that may predict or influence their children's' self-concept and academic achievement.

The population of the study comprised all the SS II students in the thirty (30) public secondary schools in Agatu Education zone. The population of the study was two thousand, nine hundred and twenty-three (2, 923) SS II students of secondary schools in the Education Zone (Source: Benue state education zone, Agatu).

The sample of the study was 720 students. Multi-stage sampling technique was adopted, two out of three local government areas namely: Agatu North and South were sampled; twenty secondary schools out of thirty were sampled; that is, ten each from the sampled local government areas were used. Seven hundred and twenty (720) male and female students of SSII that is, 720 (360 males and 360 females) were sampled from each school for the study. For example, a multistage sampling technique was used, in the first instance, 2 out of the 3 local government areas were sampled. From these 2 sampled areas, 20 secondary schools were randomly selected that is, 10 schools from each local government area. A sample of 720 SSII students made up of 360 males and 360 females totalling 720 students were randomly selected from each and the ten schools.

The instruments that were used for data collection are the Family Factor and Self Concept Questionnaire (FFSCQ), the Student's Academic Achievement Result (SAAR). The family factor and self-concept questionnaire were divided into two sections. The students' academic achievement result (SAAR) which is concerned with students' academic achievement and students' annual result for four years in five compulsory subjects was used.

The instrument was face validated by three experts one in Measurement and Evaluation, two in the Sociology of Education and Special Education in the Faculty of Education.

The questionnaire was trial tested using five public secondary schools in Agatu East Local Government that is not covered in the process of sampling. The data collected through the trial testing of the instrument was used to determine the internal consistency estimate in each cluster of the instrument and the overall estimate of the entire instrument. The internal consistency reliability estimate obtained using Cronbach Alpha method are 0.82, 0.76, 0.80, 0.75 and 0.81 for cluster A,B,C and D respectively. The internal consistency reliability estimate for overall items is 91 implying that the consistency reliability is high enough to consider the instrument reliable.

The questionnaire was prepared in clusters and sections to measure the purpose of the study. After effecting the suggestions of the experts who validated the instrument, copies of the questionnaire were made in numbers according to the sampled size of the population of the study. To ensure maximum returns of the questionnaire the instrument was administered to the students of SSII with the help of their teachers. The research questions were answered using Pearson's product correlation coefficient while the hypotheses were tested using regression statistic at 0.05 probability level.

3. Results

Research Question One: What is the relationship between family structure and self-concept of secondary school students?

Table 1. Regression analysis of the relationship between family structure and the self-concept of secondary school students

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.338[a]	.114	.021	6.48948

a. Predictors: (Constant), Extended Family Structure, Nuclear Family Structure

Table 1 showed the regression analysis of the relationship between family structure and the self-concept of secondary school students. It revealed that the correlation between family structure and self-concept of secondary school students was 0.338 with a coefficient of determination of 0.114. This indicated that 11.4 per cent variation in students' self-concept can be attributed to family structure.

Research Question Two: What is the relationship between family structure and academic achievement of secondary school students?

Table 2.Regression analysis of the relationship between family structure and the academic achievement of secondary school students

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.451[a]	.204	.120	13.52318

a. Predictors: (Constant), Extended Family Structure, Nuclear Family Structure.

Analysis of data in Table 2 revealed the regression analysis of the relationship between family structure and academic achievement of secondary school students. It showed that the correlation between family structure and academic achievement of secondary school students was 0.451 with a coefficient of determination of 0.204. This implied that 20.4 per cent variation in students' academic achievement can be attributed to family structure.

Research Question Three: What is the relationship between family size and self-concept of secondary school students?

Table 3. Regression analysis of the relationship between family size and the self-concept of secondary school students

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.065[a]	.004	-.019	7.43832

a. Predictors: (Constant), Family Size.

Table 5 showed the regression analysis of the relationship between family size and self-concept of secondary school students. It indicated that the correlation between family size and self-concept of secondary school students was 0.065 with a coefficient of determination of 0.004. This implied that 0.4 per cent variation in students' self-concept can be attributed to family size.

Research Question Four: What is the relationship between family size and academic achievement of secondary school students?

Table 4. Regression analysis of the relationship between family size and academic achievement of secondary school students

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.050[a]	.002	.023	15.40905

a. Predictors: (Constant), Family Size.

Analysis of data in Table 4 showed the regression analysis of the relationship between family size and academic achievement of secondary school students. It revealed that the correlation between family size and academic achievement of secondary school students was 0.020 with a coefficient of determination of 0.05. This implied that 0.2 per cent variation in students' achievement can be attributed to family size.

Research Question Five: What is the relationship between family leadership styles and self-concept of secondary school students?

Table 5. Regression analysis of the relationship between family leadership styles and the self-concept of secondary school students

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.516[a]	.266	.144	7.52849

a. Predictors: (Constant), Neglectful Permissive Family leadership style, Authoritarian Family parental style, Authoritative Family parental style.

Table 5 revealed that the correlation between family styles leadership self-concept of secondary school students was 0.516 with a coefficient of determination of 0.266. This implied that 26.6 per cent variation in students' self-concept can be attributed to family leadership styles.

Research Question Six: What is the relationship between family leadership styles and academic achievement of secondary school students?

Table 6. Regression analysis of the relationship between family leadership styles and academic achievement of secondary school students

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.539[a]	.272	.127	15.03244

a. Predictors: (Constant), Neglectful Leadership Style, Authoritarian Family parental style, Authoritative Family parental style.

Table 6 showed the regression analysis of the relationship between family leadership styles and academic achievement of secondary school students. It revealed that the correlation between family parental styles and academic achievement of secondary school students was 0.539 with a coefficient of determination of .272. This implied that 27.2 per cent variation in students' academic achievement can be attributed to family leadership styles.

Hypothesis One: There is a significant relationship between family structure and self-concept of secondary school students.

Table 7. Analysis of variance of the relationship between family structure and self-concept of secondary school students

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	102.938	2	51.469	11.222	.017[b]
	Residual	800.153	19	42.113		
	Total	903.091	21			

a. Dependent Variable: Self Concept.

b. Predictors: (Constant), Extended Family Structure, Nuclear Family Structure.

Table 7 showed that the probability associated with the calculated value of F (11.222) for the relationship between family structure and self-concept, was 0.017. This implied that there is no significant relationship between family structure and self-concept of secondary school students.

Hypothesis Two: There is a significant relationship between family structure and academic achievement of secondary school students.

Table 8. Analysis of variance of the relationship between family structure and academic achievement of secondary school students

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	888.849	2	444.424	22.430	.001[b]
	Residual	3474.651	19	182.876		
	Total	4363.500	21			

a. Dependent Variable: Achievement.

b. Predictors: (Constant), Extended Family Structure, Nuclear Family Structure.

Table 8 showed that the probability associated with the calculated value of F (22.430) for the relationship between family structure and academic achievement of secondary school students was 0.001. This implied that there is a significant relationship between family structure and academic achievement of secondary school students.

Hypothesis Three: There is a significant relationship between family size and self-concept of secondary school students.

Table 9. Analysis of variance of the relationship between family size and self-concept of secondary school students

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	10.116	1	10.116	.183	.671[b]
	Residual	2379.129	43	55.329		
	Total	2389.244	44			

a. Dependent Variable: Self Concept.

b. Predictors: (Constant), Family Size.

Table 9 showed that the probability associated with the calculated value of F (.183) for the relationship between family size and students' self-concept, is 0.671. Thus, there is no significant relationship between family size and self-concept of secondary school students.

Hypothesis Four: There is a significant relationship between family size and academic achievement of secondary school students.

Table 10. Analysis of variance of the relationship between family size and academic achievement of secondary school students

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.124	1	4.124	.017	.896[b]
	Residual	10209.876	43	237.439		
	Total	10214.000	44			

a. Dependent Variable: Achievement;

b. Predictors: (Constant), Family Size.

Table 10 showed that the calculated value of F (9.539) for the relationship between family leadership styles and

students' self-concept has an associated probability value of 0.896. This implied that there is no significant relationship between family leadership styles and self-concept of secondary school students.

Hypothesis Five: There is a significant relationship between family leadership styles and self-concept of secondary school students.

Table 11. Analysis of variance of the relationship between family leadership styles and self-concept of secondary school students

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	122.116	4	30.529	9.539	.008[b]
1	Residual	2267.129	40	56.678		
	Total	2389.244	44			

a. Dependent Variable: Self Concept.

b. Predictors: (Constant), Neglectful Permissive Family leadership style, Authoritarian Family leadership style, Authoritative Family leadership style.

Table 11 showed that the probability associated with the calculated value of F (.017) for the relationship between family size and students' self-concept was 0.008. Thus, there is significant relationship between family size and academic achievement of secondary school students.

Hypothesis Six: There is no significant relationship between family leadership style and academic achievement of secondary school students.

Table 12.Analysis of variance of the relationship between family leadership styles and academic achievement of secondary school students

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	1175.026	4	293.757	21.300	.006[b]
1	Residual	9038.974	40	225.974		
	Total	10214.000	44			

a. Dependent Variable: Achievement.

b. Predictors: (Constant), Neglectful Permissive Family leadership style, Authoritarian Family parental style, Authoritative Family parental style.

Table 12 showed that the calculated value of F (21.300) for the relationship between family leadership styles and students' achievement has an associated probability value of .006. This implied that there is significant relationship between family leadership styles and academic achievement of secondary school students.

4. Discussion

4.1 The Relationship between Family Structure and Self-Concept of Secondary School Students

The finding of the study revealed that family structure has a low positive relationship with students' self-concept. This implies that there is low positive relationship between family structure which includes nuclear and extended families and self-concept of students according to the respondents. This finding is in agreement with the findings of Mahmoud and Usama (2014) who noted that family functioning was a contributory factor of self-concept for both children with and without learning disabilities. The result of the hypothesis one showed no significant positive relationship between family structure and self-concept of secondary school students. This led to the acceptance of hypothesis one which stated that there is no significant relationship between family structure and self-concept of students.

4.2 The Relationship between Family Structure and Academic Achievement of Secondary School Students

The finding of the present study showed that there is a strong positive relationship between family structure and academic achievement of students in secondary school. This result is in agreement with the findings of Momolafe

and Olorunfemi (2011), who opined that family type has a positive relationship with the academic achievement of secondary school students. The result of hypothesis two revealed a significant relationship between family structure and academic achievement of secondary school students.

4.3 The Relationship between Family Size and Self-Concept of Secondary School Students

The finding indicated a very low positive relationship between family size and self-concept of the students in secondary school. The finding agreed with Yagi and Kaur (2001) who asserted that family size either large or small predict self-concept of secondary school students either positively or negatively. The result of hypothesis showed a low significant relationship between family size and self-concept of secondary school students. This led to the acceptance of hypothesis three.

4.4 The Relationship between Family Size and Academic Achievement of Secondary School Students

The result of the finding indicated a very low positive relationship between family size and students' academic achievement in secondary school. This finding is in agreement with Kamaui (2011) who observed that family size can predict students' academic achievement of secondary school either positive or negatively. The result of hypothesis four showed a significant relationship between family size and academic achievement of secondary school students.

4.5 The Relationship between Family Leadership Styles and Self-Concept of Secondary School Students

The result of the finding established a positive relationship between family leadership styles and self-concept of secondary school students. The finding is in agreement with Idah (2012) who noted that extended family relationship is part of the culture among Benue State indigenes and remarked that large family size and complex family structure in addition to different leadership or parenting practices have both positive and negative effects on children's self-concept and academic performance. The result of hypothesis showed a low significant positive relationship between family leadership style and self-concept of secondary school students. Hence, the null hypothesis five which stated that there is no significant relationship between family leadership styles and self-concept of secondary school students was accepted.

4.6 The Relationship between Family Leadership Style and Academic Achievement of Secondary School Students

The finding of the study indicated a low positive relationship between family leadership styles and academic achievement of secondary school students. The finding agreed with Kamaui (2011) who asserted that the family background of students can predict their academic achievement positively or negatively. The result of the hypothesis six showed a significant relationship between family leadership styles and academic achievement of secondary school students which led to the rejection of the null hypothesis which stated that there is no significant relationship between family leadership styles and academic achievement of secondary school students.

5. Conclusion

It is concluded that there exists a strong relationship between family structure and self-concept of secondary school students. The analysis also showed that family structure predicts students' academic achievements. The family size indicated a very low positive relationship with self-concept of secondary school students. It also indicates a low relationship with students' academic achievement. The analysis presented the result which showed a low positive relationship between family leadership styles and self-concept of secondary school students.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Knowledge and Use of Birth Control Methods for Family Planning by Married People in Nsukka Education Zone of Enugu State

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Abstract

Objective: The study investigated the knowledge level and use of birth control methods by married people for family planning in Nsukka Education Zone of Enugu state.

Materials and Methods: The population of this study comprised 4450 married people who registered for marriage from 2010 to 2017 in Nsukka Education Zone of Enugu State. The sample was 445 respondents (210 married males and 235 married females). The instrument for data collection was a questionnaire titled: Knowledge and use of birth control methods for family planning questionnaire (KUBCM). The study was guided by four research questions and four hypotheses. The (KUBCM) research questions were answered using mean and standard deviation while t-test statistics was used to test the hypotheses at 0.05 level of significance.

Results: The results obtained showed that married people in Nsukka Education zone have knowledge of birth control methods; that they make use of birth control methods to a great extent; and that there is a significant difference in the mean responses of male and female married people on the extent to which married people make use of birth control methods for family planning.

Conclusion: Both male and female married people have knowledge of common birth control methods of family planning, therefore, couples should discuss together which birth control method of family planning they want to adopt. It should not be a one-man affair. We recommend among others, the full integration of the male population in the family planning programmes, and provision of sensitization programmes aimed at improving male involvement in family planning by government and non-governmental

Keywords: birth control methods, family planning, knowledge, married people, use

1. Introduction

Since the creation of man, marriage has existed. Marriage is the union of a man and a woman making them husband and wife, love being a powerful tie. It was made for help, procreation and companionship (Agbe, 1998). Marriage is a culturally accepted and sexual union between couples. It involves reciprocal right and obligations between spouses and their future children (Onyima, 2014). Marriage is the joining of two persons in love with the approval of parents, witnesses and guardians for the sake of companionship and procreation (Burk, 2000). People marry for one or many reasons including the desire for economic or emotional security, a home and children, companionship, protection and social position. Apart from specific reasons for marrying, the society is organized in such a way that people are expected to marry and give birth (Agbe, 1998). In Nigeria for instance, the rate of births is greater than global averages (Nwachukwu & Obasi, 2008). This can be traced to the fact that; contraceptive prevalence rate (CPR) is still minimal in Nigeria. Reports according to the International Women Health Coalition, the CPR among women of 15–49 years age bracket was 8% for modern measures and 12% for all measures of controlling birth. Similarly, reports according to studies have shown almost the same minimal rate of adoption of Modern Birth Control Methods (MBCM) (Coleman, 1992; Olugbenga-Bello, Abodunrin, & Adeomi,

2011; Ogbe & Okezie, 2010; Tahir, 2019). Thus, adequate measures need to be taken to control birth in order to prevent over-crowded environment.

Birth control is both traditional means and modern ways of bearing the number of children one desired (Hofman, P. L. et al., 2004). On the other hand, Melissa (2017) sees birth control as the method of regulating and taking control of the number of birth couples wanted in their marital life without producing like fowl. Williams (2012) defined birth control as limitation of child-bearing through a modern means called contraception. In the view of Reynolds et al. 2017, birth control is the volitional limiting of human multiplication, employing such measures as contraception, sexual abstinence, surgical sterilization and induced abortion. It encompasses the number of children in a family as well as the spacing. The author went on to state that birth control includes the array of irrational and rational measures that have been adopted in the endeavour to regulate fecundity and also the replies of groups and of individuals within society to the choice offered by such methods. Bryan, Christine, Barbara and William (2005) view birth control as any way of forestalling birth from occurring. Birth control as a working definition in this present study, therefore, is limiting birth to the desired number of children.

The methods of birth chosen have to suit the lifestyle, age, state of health, the need to avoid pregnancy and peculiar relationship in the family. Thus, before choosing a birth control method, there is a need to assess the acceptability, effectiveness and side effects of the methods. However, scholars (Bryan et al., 2005) identified modern birth control methods and traditional birth control methods. The modern method is the artificial methods of controlling birth while traditional birth control is the congenital method of controlling birth. Natural birth control is based on identifying the woman's fertile days and the timing of sexual intercourse. Generally, the natural methods include calendar (rhythm) method, the basal body temperate method, the cervical mucus method, the symptom-thermal method and lactation (Mccweeney, 2011). Modern methods include the use of contraceptive devices (Bryan et al., 2005). Evans, Patel, and Stranton (2007) classified the contraceptives for men as coitus interrupts (withdrawal), the condom, vasectomy among others and contraceptives for women which include – douching, vaginal jellies or cream, the vaginal diaphragm etc. The methods specified for women include a pill that causes temporary menstrual suppression, injectable hormones, a vaginal ring and a patch (Brayan et al., 2005). However, birth control methods must be methods that prevent a fertilized egg from implanting in the uterine wall (such as IUD in some instances and emergency contraceptive pills) and methods that remove the conceptus – the fertilized egg (embryo) or fetus from the uterus (such as RU – 486 and surgical abortions) are common among married people(Brayan et al., 2005).

Married peopled are people of opposite or the same sex who agreed to live together and share marital rite as well. Married people are individual who enjoys intimate union and equal partnership in a household (Giami, 2002). Giami noted that married peoples' level of knowledge of birth control methods influences their condition of childbearing. Anyanwu and Ofordile (2012) submitted that married people are people who obliged to the natural institution of childbearing with the sharing of responsibilities. In this study, married people are people living together as husband and wife. However, married people exercise birth control (Ndom, Igbokwe, &Ekeruo, 2012) mostly in the form of family planning.

Family planning involves action embarked upon by married people to project the number, spacing of children and timing by using birth control. Therefore, family planning deals with the ability of couples and individuals to hope for and achieve their dream number of children by the timing and spacing of their birth (Omolase, Faturoti, & Omolase, 2009). The authors further stated that the availability of family planning does more than enabling married people to limit family size. It also safeguards individual health and rights and improves the quality of life of couples and their children (Omolase et al., 2009). Therefore, family planning is the measures taken by couples to project the number, spacing of children and spacing by using birth control. Again, family planning is most adopted by couples who wish to limit the number of children they want to have and control the timing of pregnancy also known as spacing of children (Olaitan, 2009). The author further stated that family planning encompasses sterilization, as well as pregnancy termination. It also includes raising a child with methods that require a significant amount of resources namely, time, social, financial and environmental. Family planning measures are designed to regulate the number and spacing of children within a family, largely to curb population growth and ensure each family has access to limited resources (Olaitan, 2009). According to Ezugwu and Omeje (2010), family planning means having the number of children that one can afford to bring up well. The authors affirmed that family planning is birth line by preference either for the purpose of spacing pregnancy or for limiting family size. Therefore, family planning includes the plan to determine the spacing of one's children and the number by using birth control. To this end, family planning is having children optionally not by accident (Ezugwu & Omeje, 2010). In this study, family planning is seen as any action by couples to regulate birth.

Family planning is credited primarily for its role in bringing down the birth rates globally and particularly in developing countries. From 1950 to 2000, global fertility has fallen by about half from five children per woman in 1950-1955 to 2.7 children in 2000-2005 (United Nation, 2005a). However, less well recognized is the contribution of family planning to the major social change around the world whereby couples are empowered in regulating their fertility instead of considering it as a matter of God's will or destiny. Family planning has also an impact that is often glossed over (United Nation, 2005a). It is known to have been practised for centuries long before the advent of modern methods of contraception. The earlier methods used by men and women to regulate their fertility included coitus interrupts (withdrawal of the pennies from the vagina prior to ejaculation) abstinence (abstaining from sex altogether or around the time of ovulation), herbs and amulets (Planned Parenthood Federation of America, 2006).

It seems that the lack of knowledge of family planning is on the increase. Okere and Onyechi (2010) pointed out that lack of family planning could cause reproductive health problems, unplanned or untimed pregnancy, abortions, school drop-out, the burden on individual welfare and scarce government resources. According to World Health Organization (2015), about 222 million "unsafe" abortions that occur each year cause an estimated 47,000 maternal deaths – mostly in developing countries and leads to short-term lifelong disabilities in many women. It has been estimated that maternal death could be averted through the use of effective family planning by women wishing to postpone or cease further childbearing. About 22 million women in developing countries are thought to have an unmet need for a method of family planning. This unmet need is particularly prevalent in certain populations, especially sexually active adolescents, individuals with low socioeconomic status, those living in rural communities and those coping with conflicts and disasters (Moazzam, Ali, Armandor, Asma, Maiofestin, & Mardeen, 2013). The most common sources of family planning knowledge are mass media, health workers, friends among others (Ikechebelu, Ikechebelu, & Obiajulu, 2005). The objective of family planning services is to encourage couple to take responsible decisions about pregnancy and to enable them achieve their wishes with regards to preventing unwanted pregnancy, securing desired pregnancy, spacing pregnancies, limiting the size of their family and ultimately promoting responsible parenthood, controlling the population and improving the quality of the life people (Ikechebelu & Obiajulu, 2005).

However, despite the high potential demand for family planning services as revealed in Nigeria's Demographic and Health Survey (Bankole, Rodriguez, & Westoff, 1996), the birth control prevalence rate (CPR) is low among married couples (Udigwe, Udigwe, & Ikechebelu, 2002), as a result of poor educational background (Olaitan, 2011), lack of adequate awareness and knowledge, as well as poor attitudes toward birth control and family planning (Ngwu, 2014), and religion (Eze & Okeke, 2014). Moreover, the World Health Organization (2015) found that birth control is much lower in the developing countries and that 12% of married women are estimated to have an unmet need for family planning. Evidence shows that in the area of the present study, some women are not knowledgeable about family planning and that religion plays an active role in the adoption of family planning practices in Nsukka local government area of Enugu State (Eze & Okeke, 2014). Ngwu (2014), Eze and Okeke (2014) observed that the standard of education, cultural background, age, occupation among others, affect married couple choice on the effective adoption of family planning techniques. Also, Bryan, Christine, Barbara and William (2005) stated that for many married people the search for an "ideal" method of birth control could be frustrating, some methods pose health risks, others run counter to religious or moral beliefs and still others are inconvenient, aesthetically displeasing or too expensive as well as gender.

Studies have shown that gender plays an important role in birth control and family planning. Gender refers to socially and culturally constructed expectations and obligation which underline male and female relations in societies. The different ways in which males and females behave are linked to but not necessarily determined by their biological sex (Schneider et al., 2004). In fact, people are identified as male or female on the basis of physical structures, which are determined by chromosomes, glands and hormones. This labelling starts at birth and is the first step in the process of developing gender identity, that is, a sense of being male or female and what that means in one's society (Nwosu, 2008). In the context of this research work, gender refers to socially and culturally approved feminine and masculine roles. Male gender norms are widely accepted as factors influencing a range of family planning reproductive health behaviours (Garg & Sigh, 2014). Integrating gender equality into the family planning programme will improve the health of the nation and gender equality (Garg & Sigh, 2014).

Undelikwo, Osonwa, Ushie, and Osonwa (2013) asserted that researchers have revealed that Filipino men highly determine their wives resolve to embark on family planning and that, the husband's approval is important to their wife's adoption of a method. They went on to state that, according to the 2003 Philippine National Demographic and Health Survey, some Filipino women mentioned husband's disapproval of family planning practice as one of the courses of not employing family planning. In any controversy over the timing of pregnancy and the number of

children, the husband's will always hold. Female partners are believed or expected to obey their husband's decision about family planning matters to keep marital harmony.

From the discussion so far, it is clear there is a need for controlling birth for the sake of family planning. Lack of birth control in Enugu state Nigeria may result to continued rapid population growth which consequently results to higher pressure on employment chances, food, land, clean water, housing and other expedients which will become more scarce with increasing population, according to Eke, Ofori, and Tabansi (2011). Also pointed out by WACOL is that many of unplanned births are connected with deficient information and frequentness of a lot of misinformation amidst people who are married and those to whom they run to for help. As Beguy (2010) reported, the economic crisis has situated families to urbanization with a slum reduction on the number of childbearing as seen in the rural areas. Although, Rathi (2006) was of the opinion that 40% of Africa would like to avoid pregnancy thereby reducing the efficacy of modern birth control. Therefore, going by the above assertion, Nsukka may have little knowledge of birth control but may find it difficult to utilize such knowledge against their belief of childbearing as a gift from God. More so, they may see it as a way to eliminate their natural gift among others of their claim. Thus, the situation is still worrisome to married couples, governments, counsellors, social welfare officers, community health workers and researchers.

Considering the effects of non-use of birth control measures for family planning that have been documented, one could say that research on the knowledge level of birth control methods and its usage for family planning among married people is still inconclusive. Nevertheless, it is important to recognize that previous studies on these issues use different designs, different sampling, were conducted in different countries at different times and with different types of results. It may be possible that lack of knowledge of birth control methods, its side effects, the extent of its usage, and measures to enhance family planning among married people accounted for the disparities. Hence, the present study sought to examine the knowledge and use of birth control methods of family planning by married people in Nsukka Education Zone.

1.1 Research Questions

The study was guided by the following research questions.

1).What is the knowledge level of female and male married people on the idea of common birth control methods of family planning in Nsukka Education Zone?

2).To what extent do male and female married people apply birth control measures for planning family in Nsukka Education Zone?

3).What are the problems in the use of birth control methods of family planning by male and female respondents in Nsukka Education Zone?

4).What measures can be adopted to enhance family planning among male and female married people in Nsukka Education Zone?

1.2 Hypotheses

The hypotheses that follow were put to direct the study and were tested at 0.05 level of significance.

$H0_1$: There is no significant difference in the knowledge level of female and male married people on birth control methods for family planning in Nsukka Education Zone.

$H0_2$: There is no significant difference in the mean responses of male and female married people on the extent to which married people apply birth control measures for family planning in Nsukka education zone.

$H0_3$: There is no significant difference in the mean responses of male and female married people on the problems in the use of birth control methods for family planning in Nsukka Education Zone.

$H0_4$: There is no significant difference in the mean responses of female and male married people on methods that can be applied to improve family planning amidst married people in Nsukka Education Zone?

1.3 Conceptual Framework

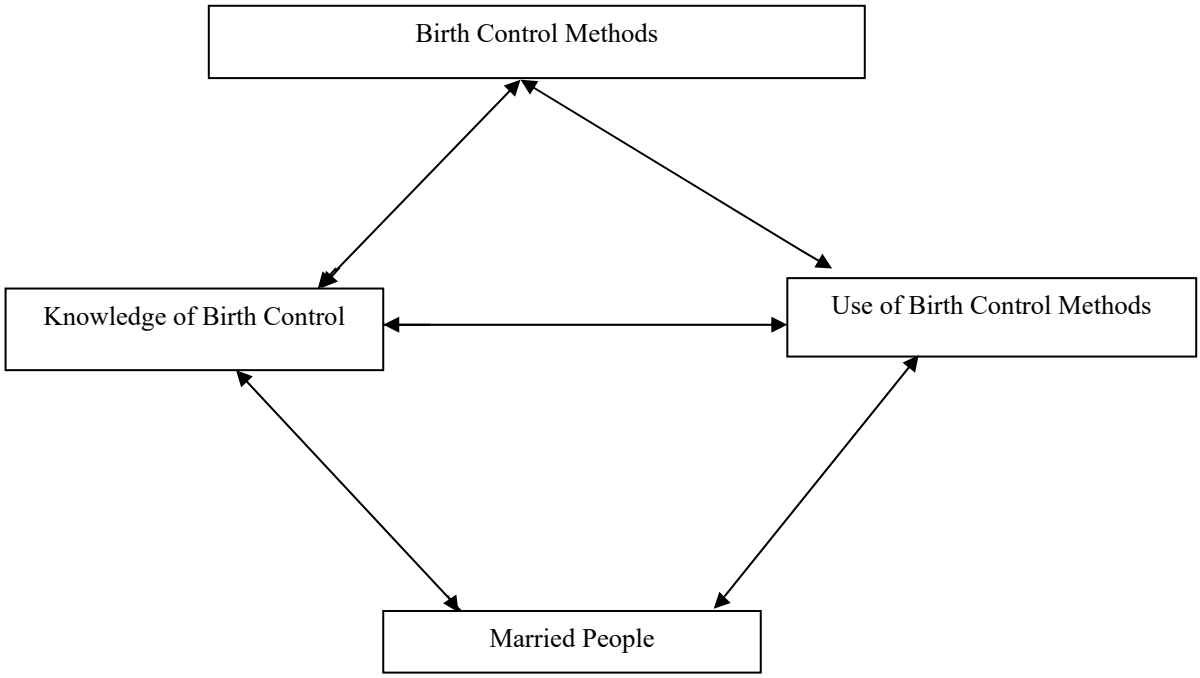

Figure 1. Schematic Representation of the Variables

The diagram above shows the schematic representation of the variables discussed in the study. The knowledge married people have about birth control determines or influences their choice of birth control. The availability of birth control methods also determines the extent of married people's use of birth control methods. The use of birth control methods by married people is dependent on their level of knowledge and availability of the birth control methods.

2. Materials and Methods

2.1 Design of the Study

A descriptive survey design was used for this study. Nworgu (2015) sees a descriptive survey as a design which aims at collecting data and describing in a systematic manner the characteristic features or facts about a given population. Therefore, descriptive survey design was used in the study since the researchers was interested in investigating a large number of people and it provided the researchers with the opportunity of gathering data from a significant number of the population to enable favourable generalization about the entire population.

2.2 Area of the Study

This investigation was conducted in Nsukka Education zone, Enugu State. Nsukka Education zone has been the seat of civil service right from the colonial period to date. Nsukka has a number of industries, schools (Nursery, Primary, Secondary and Tertiary), business houses (hawks, firms, finance houses) and large markets. The choice of the area was based on the consideration that, this area has a good concentration of literate married people with a large number of children and they seem to find it extremely very difficult to make both ends meet due to their large families

2.3 Population of the Study

The population for this study comprised 4450 married people who registered for marriage from 2010 to 2017 in Nsukka Education Zone, Enugu State.Nsukka has 1990; Igbo Etiti has 1392 and Uzo-Uwani has 1068 according to (Nsukka Local Government Marriage Registry, 2017).

2.4 Sample and Sampling Techniques

The sample for this study comprised 445 (210 married males and 235 married female) people from Nsukka Education Zone which is 10% of the population stated above. The sample was selected using a multi-stage

sampling procedure. At stage one; proportionate random stratified sampling procedure was used to select 10% of the population from the three Local Government Area that was used in the study. The relative proportions of the sample from each LGA were 199, 139, and 107 from Nsukka, Igbo-Etiti and Uzo-Uwani respectively. The choice of this procedure was to ensure that each of the three Local Government Areas has equal representativeness of sample relative to the population. At stage two, simple random sampling (paper slip method) was used to select 445 (Nsukka=199, Igbo Etiti = 139 and Uzo-Uwani =107) married people for the study. The choice of this technique was to give every married people in the study area equal chance of participating in the study.

2.5 Instrument for Data Collection

The instrument for data collection was a questionnaire developed by the researchers. The questionnaire was titled "Knowledge and use of birth control methods for family planning questionnaire (KUBCM)". It has two sections – Section A was used to elicit information about personal data, while section B containing 40 items in four clusters was used to gather information on the birth control methods of family planning used by married people. Cluster 1 dealt with the knowledge of birth control methods used by married people for family planning. It was constructed on a 4 point rating scale of: Know Very Well (KVW) 4; Know Well (KW) 3; Know Very Little (KVL) 2; Does not Know (DNK) 1. Cluster 2 elicited information on the extent of use of birth control methods of family planning by married people. Its response options were Very Great Extent (VGE) 4; Great Extent (GE) 3, Low Extent (LE) 2 and Very Low Extent (VLE) 1. Cluster 3 dealt with problems in the use of birth control methods of family planning by married people. Its response options were Strongly Agree (SD) 4, Agree (A) 3, Disagree (D) 2 and Strongly Disagree (SD) 1. Cluster 4 which is concerned with measures to enhance family planning among married people also has four response options of Strongly Agree (SA) 4; Agree (A) 3; Disagree (D) 2; Strongly Disagree (SD) respectively.

2.6 Validation of the Instrument

The instrument was face validated by three experts from the University of Nigeria, Nsukka. Two of the experts were from Educational Foundations and one was from Measurement and Evaluation. The experts were to find out if the instrument would measure what it intended to measure. They were requested to examine the instrument to ensure that it would help the researchers collect pertinent data for answering the research questions and testing the null hypotheses. The experts examined the instrument in terms of clarity, suitability and relevance. After the examination of the instrument, they restructured the language, removed ambiguous words in the instrument that may have hindered eliciting the information needed for the study, made relevant corrections and gave suggestions to ensure that the objectives of the study were realized. The researchers modified the instrument based on their suggestions. Their comments and corrections helped a lot in the improvement of the final draft of the instrument.

2.7 Reliability of the Instrument

The instrument was administered to 25 married people selected from Nkanu West Education Zone. This zone was chosen because it is outside the area of study and married people from there have the same characteristics as the respondents under study. The population phenomena are the same because it is densely populated. They also have an attachment to rearing many children. The instrument was administered once and the data was collected and analyzed using Cronbach alpha statistics. The reliability coefficient obtained was .67 for cluster A,. 83 for cluster B, .73 for cluster C and .68 for cluster D. The cumulative coefficient of the instrument was .85 which shows that the instrument is reliable.

2.8 Method of Data Collection

The researchers established rapport with respondents by the brief introduction of self stating clearly the researchers' mission. The instrument was administered to the respondents by the researchers and two research assistants using on the spot administration and retrieval to lessen the incidence of instrument loss. The research assistants were briefed to interpret the instrument to the low literate segment of respondents who may find it difficult to do so by themselves. However, where the respondents could not complete the questionnaire immediately, the research assistants helped retrieve it later.

2.9 Method of Data Analysis

Mean and standard deviation was used to answer all the research questions. For research questions 1 and 2, real limit of mean was used. For research questions 3 and 4, any response with a mean rating of 2.5 and above was accepted while the mean rating below 2.5 was not be accepted.

The real limits of means were as follows;

KVW = Know Very Well 3.50 – 4.00

KW = Know Well 2.50 – 3.49

KVL = Know Very Little 1.50 – 2.49

DNK = Does Not Know 1.00 – 1.49

VGE= Very Great Extent 3.50 – 4.00

GE = Great Extent 2.50 – 3.49

LE = Low Extent 1.50 – 2.49

VLE = Very Low Extent 1.00 – 1.49

T-test statistics was used in testing the null hypotheses formulated for the study at 0.05 level of significance. The decision rule for testing the hypotheses was: reject the null hypothesis if the exact probability value (p-value) is less than the '*a priori'* probability value (that is, the level of significance); otherwise, accept.

3. Results

3.1 Research Question One

What is the knowledge level of female and male married people on the idea of common birth control methods of family planning in Nsukka Education Zone?

Table 1. Mean ratings and standard deviation of respondents on the knowledge of common birth control methods for family planning

S/N	Knowledge of common birth control methods	Male N = 210		Female N = 235		Overall N = 445		
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	Dec.
1	Abstinence –refraining from sexual intercourse	3.68	0.46	3.51	0.50	3.59	0.49	KVW
2	Douching- washing the vagina with water or medicated liquids after sexual intercourse.	2.05	0.71	2.21	0.65	2.13	0.68	KVL
3	Lactation- continued breastfeeding to avoid pregnancy.	2.79	1.11	3.33	0.87	3.07	1.02	KW
4	The pill or oral contraceptives- which contains synthetic hormones that suppress ovulation	2.25	0.64	2.38	0.64	2.32	0.64	KW
5	Condom- flexible sheet of latex rubber fits over the erect penis to prevent semen from being transmitted.	2.79	1.12	3.05	0.98	2.92	1.06	KW
6	Fertility awareness method- this relies on a woman's reproductive cycle.	3.40	0.78	3.21	0.78	3.30	0.78	KW
7	Withdrawal (coitus interruptus) - removing the penis from the vagina before ejaculation.	2.80	1.08	3.11	0.89	2.97	1.00	KW
8	Intrauterine Device (IUD) – a device that is inserted into uterus prevent conception for 1-12 years.	1.77	0.42	1.89	0.30	1.84	0.37	KVL
9	Injectable contraceptive (DMPA) provides protection from pregnancy for 3 months.	2.94	1.04	3.23	0.78	3.09	0.92	KW
10	Vasectomy- prevents the passage of sperm into seminal fluid.	2.21	0.78	2.34	0.65	2.28	0.71	KVL
	Cluster Mean	**2.66**	**0.40**	**2.82**	**0.27**	**2.75**	**0.34**	**KW**

Key: KVW = Know Very Well, KW = Know Well, KVL = Know Very Little.

The result of the study as presented in Table 1 shows the mean ratings and standard deviations of the respondents on the knowledge of common birth control methods for family planning in Nsukka Education Zone. The result of the study showed that item 1 for both male and female respondents had a mean rating within the range of 3.50 - 4.00 set as a criterion for Know Very Well. This implies that the male and female respondents know very well that abstinence – refraining from sexual intercourse is a common birth control methods for family planning. Also,

Items 3-7 and 9 had mean ratings within the range of 2.50-3.49 set as a criterion for Know Well. These also mean that both male and female respondents they know well that Lactation- continued breastfeeding to avoid pregnancy, the pill or oral contraceptives- which contains synthetic hormones that suppress ovulation, condom- flexible sheet of latex rubber fits over the erect penis to prevent semen from being transmitted and withdrawal (coitus interrupts) - removing the penis from the vagina before ejaculation among others are common birth control methods for family planning. However, items 2, 8 and 10 had a mean rating within the range of 1.50 – 2.49 set as criterion for Know Very Little, implying that both male and female respondents know very little that douching- washing the vagina with water or medicated liquids after sexual intercourse and vasectomy- prevents passage of sperm into seminal fluid are common birth control methods for family planning. The overall clusters mean of 2.75 with a standard deviation of 0.34 shows that the respondents (both male and female) have knowledge of common birth control methods for family planning in Nsukka Education Zone.

3.2 Hypothesis One

There is no significant difference in the mean response of male and female about knowledge of common birth control methods for family planning in Nsukka Education Zone.

Table 2. T-testanalysis of the difference between the mean responses of the male and female married people about knowledge of common birth control methods for family planning

S/N	Knowledge of common birth control methods	Male		Female		t-cal	df	Sig	Dec
		$\bar{X}$	SD	$\bar{X}$	SD				
1	Abstinence –refraining from sexual intercourse	3.68	0.46	3.51	0.50	3.67	443	0.00	**S**
2	Douching- washing the vagina with water or medicated liquids after sexual intercourse.	2.05	0.71	2.21	0.65	-2.40	443	0.01	S
3	Lactation- continued breastfeeding to avoid pregnancy.	2.79	1.11	3.33	0.87	-5.68	443	0.00	S
4	The pill or oral contraceptives- which contains synthetic hormones that suppress ovulation	2.25	0.64	2.38	0.64	-2.12	443	0.03	S
5	Condom- flexible sheet of latex rubber fits over the erect penis to prevent semen from being transmitted.	2.79	1.12	3.05	0.98	-2.60	443	0.00	S
6	Fertility awareness method- this relies on a woman's reproductive cycle.	3.40	0.78	3.21	0.78	2.64	443	0.00	S
7	Withdrawal (coitus interruptus) - removing the penis from the vagina before ejaculation.	2.80	1.08	3.11	0.89	-3.24	443	0.00	S
8	Intrauterine Device (IUD) – a device that is inserted into uterus prevent conception for 1-12 years.	1.77	0.42	1.89	0.30	-3.51	443	0.00	S
9	Injectable contraceptive (DMPA) provides protection from pregnancy for 3 months.	2.94	1.04	3.23	0.78	-3.29	443	0.00	S
10	Vasectomy- prevents the passage of sperm into seminal fluid.	2.21	0.78	2.34	0.65	-1.92	443	0.05	S
	Cluster t	**2.66**	**0.40**	**2.82**	**0.27**	**-4.83**	**443**	**0.00**	S

The result of the study as presented in Table 2 shows the t-test analysis of the significant difference in the mean response of male and female respondents on the knowledge of common birth control methods for family planning in Nsukka Education Zone. The cluster t-value of -4.83 with a degree of freedom of 443 and significant value of 0.00 was obtained. Since the significant value of 0.00 is less than 0.05 set as a level of significance, this means the result is significant. The null hypothesis which stated that there is no significant difference in the mean response of male and female knowledge of common birth control methods for family planning in Nsukka Education Zone is rejected. An inference drawn therefore is that there was a significant difference in the mean response of male and female knowledge of common birth control methods for family planning in Nsukka Education Zone with the female respondents having a higher mean rating than their male counterparts.

3.3 Research Question Two

To what extent do male and female married people make use of birth control methods for family planning in Nsukka Education Zone?

Table 3. Mean ratings and standard deviation of respondents on the extent married people make use of birth control methods for family planning

S/N	Use of birth control methods	Male N = 210		Female N = 235		Overall N = 445		
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	Dec.
1	Abstinence – refraining from sexual intercourse	2.49	1.15	3.14	0.98	2.84	1.11	GE
2	Douching- washing the vagina with water or medicated liquids after sexual intercourse.	2.67	1.12	3.31	0.88	3.01	1.05	GE
3	Lactation- continued breastfeeding to avoid pregnancy.	2.19	0.71	2.44	0.60	2.32	0.67	LE
4	The pill or oral contraceptives- which contains synthetic hormones that suppress ovulation	2.15	0.61	2.30	0.55	2.23	0.58	LE
5	Condom- flexible sheet of latex rubber fits over the erect penis to prevent semen from being transmitted.	3.65	0.47	3.52	0.50	3.58	0.49	VGE
6	Fertility awareness method- this relies on woman's reproductive cycle.	2.81	1.12	3.26	0.80	3.05	0.99	GE
7	Withdrawal (coitus interruptus) - removing the penis from the vagina before ejaculation.	2.83	1.08	3.35	0.86	3.10	1.00	GE
8	Intrauterine Device (IUD) – a device that is inserted into uterus prevent conception for 1-12 years.	3.11	1.00	3.28	0.85	3.20	0.93	GE
9	Injectable contraceptive (DMPA) provides protection from pregnancy for 3 months.	3.12	0.91	3.44	0.68	3.29	0.81	GE
10	Vasectomy- prevents passage of sperm into seminal fluid.	2.82	0.94	3.40	0.87	3.13	0.95	GE
	Cluster Mean	**2.78**	**0.39**	**3.14**	**0.25**	**2.97**	**0.37**	**GE**

The results of the study as presented in Table 3 show the mean ratings and standard deviations of the respondents on the extent male and female married people make use of birth control methods for family planning in Nsukka Education Zone. The result of the study showed that both male and female respondents make use of Condom- a flexible sheet of latex rubber fits over the erect penis to prevent semen from being transmitted to a very great extent. This is because the mean rating for item 5 is within the range of 3.50–4.00 set as criterion for Very Great Extent. Also, Items 1–2 and 6–10 had mean ratings within the range of 2.50–3.49 set as criterion for Great Extent. These mean that the respondents make use of abstinence – refraining from sexual intercourse, douching- washing the vagina with water or medicated liquids after sexual intercourse, withdrawal (coitus interruptus) - removing the penis from the vagina before ejaculation and Intrauterine Device (IUD) – a device that is inserted into uterus prevent conception for 1–12 years to a great extent. The result also shows that items 3 and 4 had mean rating within the range of 1.50–2.49 set as criterion for Low extent, implying that the respondents make use of Lactation-continued breast feeding to avoid pregnancy and the pill or oral contraceptives- which contains synthetic hormones that suppress ovulation to a low extent. The overall clusters mean of 2.97 with a standard deviation of 0.37 shows that the respondents (both male and female) make use of birth control methods for family planning in Nsukka Education Zone to a great extent.

3.4 Hypothesis Two

There is no significant difference in the mean responses of male and female married people on the extent to which married people make use of birth control methods for family planning in Nsukka education zone.

Table 4. T-test analysis of the difference in the mean responses of male and female married people on the extent to which married people make use of birth control methods for family planning

S/N	Knowledge of Common Birth Control Methods	Male		Female		t-cal	df	Sig	Dec
		$\bar{X}$	SD	$\bar{X}$	SD				
1	Abstinence –refraining from sexual intercourse	2.49	1.15	3.14	0.98	-6.47	443	0.00	**S**
2	Douching- washing the vagina with water or medicated liquids after sexual intercourse.	2.67	1.12	3.31	0.88	-6.73	443	0.00	S
3	Lactation- continued breastfeeding to avoid pregnancy.	2.19	0.71	2.44	0.60	-4.02	443	0.00	S
4	The pill or oral contraceptives- which contains synthetic hormones that suppress ovulation	2.15	0.61	2.30	0.55	-2.72	443	0.00	S
5	Condom- flexible sheet of latex rubber fits over the erect penis to prevent semen from being transmitted.	3.65	0.47	3.52	0.50	2.86	443	0.00	S
6	Fertility awareness method- this relies on woman's reproductive cycle.	2.81	1.12	3.26	0.80	-4.93	443	0.00	S
7	Withdrawal (coitus interruptus) - removing the penis from the vagina before ejaculation.	2.83	1.08	3.35	0.86	-5.63	443	0.00	S
8	Intrauterine Device (IUD) – a device that is inserted into uterus prevent conception for 1-12 years.	3.11	1.00	3.28	0.85	-1.89	443	0.05	S
9	Injectable contraceptive (DMPA) provides protection from pregnancy for 3 months.	3.12	0.91	3.44	0.68	-4.24	443	0.00	S
10	Vasectomy- prevents passage of sperm into seminal fluid.	2.82	0.94	3.40	0.87	-6.71	443	0.00	S
	Cluster t	**2.78**	**0.39**	**3.14**	**0.25**	**-11.48**	**443**	**0.00**	**S**

The result of the study as presented in Table 4 shows the t-test analysis of the significant difference in the mean response of male and female respondents on the extent to which married people make use of birth control methods for family planning in Nsukka education zone. The cluster t-value of -11.48 with a degree of freedom of 443 and a significant value of 0.00 were obtained. Since the significant value of 0.00 is less than 0.05 set as level of significance, this means the result is significant. The null hypothesis which stated that there is no significant difference in the mean responses of male and female married people on the extent to which married people make use of birth control methods for family planning in Nsukka education zone is rejected. Inference drawn therefore is that there was a significant difference in the mean responses of male and female married people on the extent to which married people make use of birth control methods for family planning in Nsukka education zone.

3.5 Research Question Three

What are the problems in the use of birth control methods for family planning by male and female respondents in Nsukka Education Zone?

Table 5. Mean Ratings and standard deviation of respondents on the problems in the use of birth control methods for family planning

S/N	Problems in the use of birth control methods	Male N = 210		Female N = 235		Overall N = 445		Dec.
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	
1	Only-child syndrome/I am the only child, therefore, I will give birth as long as pregnancies come	2.28	0.64	2.23	0.58	2.25	0.61	D
2	Fear of side effects	2.05	0.70	2.31	0.71	2.19	0.71	D
3	Husbands/wives do not support family planning	2.05	0.66	2.26	0.61	2.16	0.64	D
4	My religion forbids birth control	2.03	0.76	2.15	0.67	2.09	0.72	D
5	Lack of sex education at an early stage of life	1.88	0.74	2.04	0.65	1.96	0.70	D
6	Too much waiting at the clinic	1.93	0.63	2.20	0.64	2.08	0.65	D
7	Transportation problem to the clinic	2.06	0.67	1.96	0.76	2.00	0.72	D
8	The high cost of contraceptives	1.88	0.65	2.13	0.50	2.01	0.59	D
9	Few family planning agencies	3.22	0.41	3.03	0.17	3.12	0.32	A
10	To get expensive gifts from the husband when given to bed.	2.03	0.72	2.20	0.55	2.12	0.64	D
	Cluster Mean	**2.14**	**0.26**	**2.25**	**0.25**	**2.19**	**0.26**	**D**

The results of the study as presented in Table 5 show the mean ratings and standard deviations of the problems in the use of birth control methods for family planning by male and female respondents in Nsukka Education Zone. The result of the study showed that both male and female respondents disagreed on all the items except item 9. This is because the mean ratings for the items are below 2.50 set as a criterion for accepting an item. These mean that the respondents disagreed on the following as problems in the use of birth control methods for family planning. These include; fear of side effects, husbands/wives do not support family planning, religion forbids birth control, lack of sex education at an early stage of life, too much waiting at the clinic, transportation problem to the clinic and high cost of contraceptives among others. However, the respondents agreed that few family planning agencies is a problem in the use of birth control methods for family planning. The overall cluster mean of 2.19 with a standard deviation of 0.26 shows that the respondents disagreed on items in Table 5 as problems in the use of birth control methods for family planning.

3.6 Hypothesis Three

There is no significant difference in the mean responses of male and female married people on the problems in the use of birth control methods for family planning in Nsukka Education Zone.

Table 6.T-test analysis of the difference in the mean responses of male and female married people on the problems in the use of birth control methods for family planning

S/N	Problems in the use of Birth Control Methods	Male		Female		t-cal	df	Sig	Dec
		$\bar{X}$	SD	$\bar{X}$	SD				
1	Only-child syndrome/I am the only child, therefore, I will give birth as long as pregnancies come	2.28	0.64	2.23	0.58	0.72	443	0.46	NS
2	Fear of side effects	2.05	0.70	2.31	0.71	-3.77	443	0.00	S
3	Husbands/wives do not support family planning	2.05	0.66	2.26	0.61	-3.49	443	0.00	S
4	My religion forbids birth control	2.03	0.76	2.15	0.67	-1.76	443	0.07	NS
5	Lack of sex education at an early stage of life	1.88	0.74	2.04	0.65	-2.51	443	0.01	S
6	Too much waiting at the clinic	1.93	0.63	2.20	0.64	-4.46	443	0.00	S
7	Transportation problem to the clinic	2.06	0.67	1.96	0.76	1.44	443	0.14	NS
8	The high cost of contraceptives	1.88	0.65	2.13	0.50	-4.56	443	0.00	S
9	Few family planning agencies	3.22	0.41	3.03	0.17	6.41	443	0.00	S
10	To get expensive gifts from the husband when given to bed.	2.03	0.72	2.20	0.55	-2.74	443	0.00	S
	Cluster t	**2.14**	**0.26**	**2.25**	**0.25**	**-4.51**	**443**	**0.00**	**S**

The result of the study as presented in Table 6 shows the t-test analysis of the significant difference in the mean responses of male and female married people on the problems in the use of birth control methods for family planning in Nsukka Education Zone. The result shows that the cluster t-value of -4.51 with a degree of freedom of 443 and significant value of 0.00 was obtained. Since the significant value of 0.00 is less than 0.05 set as a level of significance, this means the result is significant. The null hypothesis which stated that there is no significant difference in the mean responses of male and female married people on the problems in the use of birth control methods for family planning in Nsukka Education Zone is rejected. An inference drawn therefore is that there was a significant difference in the mean responses of male and female married people on the problems in the use of birth control methods for family planning in Nsukka Education Zone with the female respondents having a higher mean rating.

3.7 Research Question Four

What measures can be adopted to enhance family planning among male and female married people in Nsukka Education Zone?

Table 7. Mean ratings and standard deviation of respondents on the measures that can be adopted to enhance family planning

S/N	Problems in the use of birth control methods	Male N = 210		Female N = 235		Overall N = 445		Dec.
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	
1	Involving communities and community leaders on the need for family planning	3.27	0.68	3.63	0.56	3.46	0.64	A
2	Men should be allowed to take family planning decision	3.21	0.63	3.63	0.52	3.44	0.61	A
3	Improved communication on sustained contraceptive use	3.00	0.66	3.37	0.54	3.19	0.63	A
4	Disseminating birth control messages through mass media/family planning campaign through mass media	3.02	0.64	3.46	0.58	3.25	0.65	A
5	Making family planning facilities available and accessible to the general public	3.20	0.40	3.20	0.40	3.20	0.40	A
6	Proper education on birth control and family planning	2.94	0.62	3.39	0.57	3.18	0.64	A
7	Formation of “fathers and mothers forum” in maternity homes	3.01	0.70	3.51	0.59	3.28	0.69	A
8	Pills and condoms should be given free to married couples	2.99	0.73	3.40	0.57	3.21	0.68	A
9	Evidence-based information on effectiveness, risks and benefits of different methods	2.96	0.73	3.57	0.58	3.28	0.72	A
10	Government to include birth control and family planning in the budget	2.95	0.71	3.60	0.57	3.29	0.72	A
	Cluster Mean	**3.05**	**0.28**	**3.47**	**0.20**	**3.27**	**0.32**	**A**

The results of the study as presented in Table 7 show the mean ratings and standard deviations of the of respondents on the measures that can be adopted to enhance family planning among male and female married people in Nsukka Education Zone. The result of the study showed that both male and female respondents agreed on all the items in Table 7 as measures to enhance family planning. This is because the mean ratings for the items are above2.50 set as a criterion for accepting an item. These imply that the following are measures that can be adopted to enhance family planning among male and female married people in Nsukka Education Zone. These include; involving communities and community leaders on the need for family planning, men should be allowed to take family planning decision, improved communication on sustained contraceptive use, disseminating birth control messages through mass media/family planning campaign through mass media, making family planning facilities available and accessible to the general public, proper education on birth control and family planning and formation of “fathers and mothers forum” in maternity homes among others. The overall cluster mean of 3.27 with a standard deviation of 0.32 shows that the respondents agreed on items in Table 7 as measures that can be adopted to enhance family planning among male and female married people in Nsukka Education Zone.

3.8 Hypothesis Four

There will be no significant difference in the mean responses of male and female married people on measures that can be adopted to enhance family planning among married people in Nsukka Education Zone?

Table 8. T-test analysis of the difference in the mean responses of male and female married people on the measures that can be adopted to enhance family planning

S/N	Measures that can be adopted to Enhance Family Planning	Male		Female		t-cal	df	Sig	Dec
		$\bar{X}$	SD	$\bar{X}$	SD				
1	Involving communities and community leaders on the need for family planning	3.27	0.68	3.63	0.56	-6.12	443	0.00	S
2	Men should be allowed to take family planning decision	3.21	0.63	3.63	0.52	-7.59	443	0.00	S
3	Improved communication on sustained contraceptive use	3.00	0.66	3.37	0.54	-6.36	443	0.00	S
4	Disseminating birth control messages through mass media/family planning campaign through mass media	3.02	0.64	3.46	0.58	-7.46	443	0.00	S
5	Making family planning facilities available and accessible to the general public	3.20	0.40	3.20	0.40	0.01	443	0.98	NS
6	Proper education on birth control and family planning	2.94	0.62	3.39	0.57	-7.94	443	0.00	S
7	Formation of “fathers and mothers forum” in maternity homes	3.01	0.70	3.51	0.59	-8.10	443	0.00	S
8	Pills and condoms should be given free to married couples	2.99	0.73	3.40	0.57	-6.54	443	0.00	S
9	Evidence-based information on effectiveness, risks and benefits of different methods	2.96	0.73	3.57	0.58	-9.67	443	0.00	S
10	Government to include birth control and family planning in the budget	2.95	0.71	3.60	0.57	-10.58	443	0.00	S
	Cluster t	**3.05**	**0.28**	**3.47**	**0.20**	**-17.94**	**443**	**0.00**	**S**

The result of the study as presented in Table 8 shows the t-test analysis of the significant difference in the mean responses of male and female married people on measures that can be adopted to enhance family planning among married people in Nsukka Education Zone. The result shows that the cluster t-value of -17.94 with a degree of freedom of 443 and significant value of 0.00 was obtained. Since the significant value of 0.00 is less than 0.05 set as a level of significance, this means the result is significant. The null hypothesis which stated that there is no significant difference in the mean responses of male and female married people on measures that can be adopted to enhance family planning among married people in Nsukka Education Zone is rejected. An inference drawn therefore is that there was a significant difference in the mean responses of male and female married people on measures that can be adopted to enhance family planning among married people in Nsukka Education Zone.

3.9 Knowledge of Common Birth Control Methods of Family Planning by Married Male and Female People

The findings of the study revealed that the respondents (both male and female) have knowledge of common birth control methods of family planning in Nsukka Education Zone. The result also revealed that there was a significant difference in the mean responses of males and females on knowledge of common birth control methods of family planning in Nsukka Education Zone with the female respondents having a higher mean rating than their male counterparts. Most of the participants had knowledge of at least one contraceptive method with condom being the most commonly known method. This finding supports the finding of Omolase, Faturoti and Omolase (2009) who found that a higher number of married females know about family planning. The finding is also in line with Aziken, Okonta, Adedapo’s (2003) finding that the majority of men and women are aware of contraceptives. However, the results do not support Oye-Adeniran, Adeqole, Odeyemi, Ekanem and Umoh, (2005) who posited that men do not support the issue of birth control.

3.10 The Extent of Birth Control Methods by Male and Female Married People in Nsukka Education Zone

The study found that both male and female make use of birth control methods for family planning in NsukkaEducation Zone to a great extent. The study also revealed that there was a significant difference in the mean

responses of male and female married people on the extent to which married people make use of birth control methods of family planning in Nsukka Education Zone. The finding is in line with that of Akafuah and Sossou (2008) who found that men are willing to use a family planning method. The finding is also in consonance with the findings of Ifeadike, Eze, Ugwoke and Nnaji (2015) who found that more married men than women use family planning method with condom being the commonest method.

3.11 The Problems in the use of Birth Control Methods of Family Planning by Male and Female Married People in Nsukka Education Zone

The result of the study showed that both male and female respondents disagreed on the following as problems in the use of birth control methods for family planning.; fear of side effects, husbands/wives do not support family planning, religion forbids birth control, lack of sex education at an early stage of life, too much waiting at the clinic, transportation problem to the clinic and high cost of contraceptives among others. However, the respondents agreed that few family planning agencies is a problem in the use of birth control methods for family planning. It was further revealed that there was a significant difference in the mean responses of male and female married people on the problems in the use of birth control methods for family planning in Nsukka Education Zone with the female respondents having a higher mean rating.These findings do not support Akingba (2006) who pointed out that many Nigerian males' couples do not approve birth control/contraceptives for their wives because they fear that birth control application will make their wives become harlots. The finding is not in line with Fan and Edinyang's (2007), assertion that religion is another factor that hinders birth control. Also, the finding was not in agreement with Iffih and Ezeah (2004) who posited that forbidding the young ones from having the slightest idea of sex and its related aspects makes them grow into adulthood quite educated but have no knowledge of birth control.

3.12 The Measures to be Adopted to Enhance Family Planning by Male and Female Married People in Nsukka Education Zone

The result of the study showed that the respondents agreed on the following; involving communities and community leaders on the need for family planning, men should be allowed to take family planning decision, improved communication on sustained contraceptive use, disseminating birth control messages through mass media/family planning campaign through mass media, making family planning facilities available and accessible to the general public, proper education on birth control and family planning and formation of "fathers and mothers forum" in maternity homes among others as measures that can be adopted to enhance family planning among male and female married people in Nsukka Education Zone. Again, the result confirmed that there was a significant difference in the mean responses of male and female married people on measures that can be adopted to enhance family planning among married people in Nsukka Education Zone. The study supports Ajaero, Odimegwu, Ajaero and Nwachukwu (2016) who found that one of the strategies often employed in the promotion of family planning is the utilization of mass media. It is also in line with Cheng (2011) who established that mass media and social networks played important roles in disseminating contraceptive knowledge and that women transformed this knowledge into behaviour that is contraceptive knowledge reduced fertility. Furthermore, the study supports Ademola et al (2014) who stated that spousal communication has a strong positive effect on sustained contraceptive use. The study also supports Eze and Adhune (2014) assertion that for family planning to improve, the government should form a "fathers forum" in maternity homes where they will be taught the importance of family planning and improve the material of child health, better spacing and better control and training of the already born children. Also, the study is in agreement with Ajaero, Odimegwu, Ajaero and Nwachukwu (2016) who posited that one of the strategies often employed in the promotion of family planning is the utilization of mass media to make populations aware of the benefits of the use of family planning. The findings also supported the existing community structure and community leaders should be used to inform people about family planning and make services and supplies accessible such as through community-based distribution and social marketing. The results also support Eze and Adhune's (2014) assertion that for family planning to improve, government should form a "fathers forum" in maternity homes where they will be taught the importance of family planning and improve material of child health, better spacing and better control and training of the already born children, that schools should organize and educate parent during the Parents Teachers Association (PTA) meetings using drama and songs and that married couples should be helped via enlightenment programmes such as symposium and seminars.

4. Conclusion

Based on the data presented and analyzed it was discovered that married people have knowledge of birth control methods for family planning with married females having more knowledge than married males. The result also

established that both males and females married people make use of birth control methods of family planning with condom being the most common method for males. It was also established that a few family planning agencies cause problem in the use of birth control methods for family planning. The following; involving communities and community leaders on the need of family planning, allowing men to take family planning decision, improved communication on sustained contraceptive use and disseminating birth control messages through mass media/family planning campaign were established as measures that can be adopted to enhance family planning among male and female married people. Again, making family planning facilities available and accessible to the general public, proper education on birth control and family planning and formation of "fathers and mothers forum" in maternity homes among others were also established as measures that can be adopted to enhance family planning among male and female married people. There was a significant difference in the mean response of male and female married people on the knowledge of common birth control methods, the extent to which married people make use of birth control methods, problems in the use of birth control methods, and on measures that can be adopted to enhance family planning among married people. Thus, based on this conclusion, the implications, recommendations and suggestions for further study where therefore drawn in this study.

4.1 Implications of the Study

The findings that both male and female married people have knowledge of common birth control methods of family planning implies that couples should discuss together which birth control method of family planning they want to adopt. It should not be a one-man affair.

The findings that there is a significant difference in the mean response of males and females on knowledge of common birth control methods of family planning with the female respondents having a higher mean rating than their male counterparts implies that the female spouse can initiate the discussion on family planning if she is more knowledgeable about it.

The findings that there was a significant difference in the mean responses of male and female married people on measures that can be adopted to enhance family planning implies that couples should agree on the particular birth control method they want to use.

Another implication of the study is that men should be involved in healthcare programs designed to improve acceptance of family planning as they mostly influence decision-making at the household level and this will also result in active male participation at the community level.

4.2 Recommendations

- This study recommended that the male population be fully integrated into the family planning programmes.
- sensitization programmes aimed at improving male involvement in family planning should be provided by the government and non-governmental agencies
- Men should be provided with information and this will make them to be more supportive of contraceptive use and more aware of the concept of shared decision-making.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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Family Leadership Styles and Deviant Behaviours of Primary School Pupils in Enugu State, Nigeria

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Abstract

Objective: This study examined family leadership styles as determinants of deviant behaviours among primary school pupils in Enugu State, Nigeria.

Methods: The study adopted a correlational research design. A total of 821 pupils were drawn as the sample for the study. A questionnaire was used as an instrument for the study.

Results: The major findings of the study revealed that primary school pupils exhibited 12 out of 15 types of deviant behaviours such as indulging in exam malpractice, not devoted to studies, Bullying weaker pupils, fighting among pupils, lateness to school, and keeping bad friends among others as identified. It also showed that the authoritarian family leadership style had a significant relationship with primary school pupils' deviant behaviour. Again it was discovered that the authoritative family leadership style also called assertive, democratic or balance family leadership style had a significant relationship with pupils' deviant behaviours negatively. Moreover, permissive family leadership style had also a significant relationship with primary school pupils' deviant behaviours. The result also indicated that neglectful family leadership style had a significant relationship with primary school pupils' deviant behaviours. Furthermore, the result showed that family size had a significant influence on deviant behaviours exhibited by primary school pupils in Enugu state.

Conclusion: Rewarding and praising children who have good behaviours and assigning models to role-play by pupils with deviant behaviours may help to curb deviant behaviours among primary school pupils.

Keywords: family, family leadership styles, deviant behaviours, primaryschool, pupils

1. Introduction

The family has been universally perceived as a small but powerful unit and the oldest institution in the history of human existence that helps in the character formation of the child and moulding of the behaviour of the individual in the society. This is because family is the fundamental and basic social unit for human development and also the primary agent for the socialization of children. According to Macionis (2007) family is a social institution found in all societies that unite people in cooperative groups to care for one another including children. A family is a social unit made up of father, mother, children and blood relations (Okonkwo, 2005). Similarly, a family is a unit of people tied by bonds of marriage, birth or adoption, and do have in most cases a common abode. The man and woman as the first members of the family have obligations towards the younger members as they arrive and that involves inculcating social norms such as love, care, cooperation and discipline among her members. When families fail in these basic functions, a faulty foundation is laid which will result in faulty adult behaviours such as corruption and all kinds of indiscipline. In the context of this study, Family can also be seen as a kinship group of two or more persons who live in the same household and are related by marriage or adoption. The family also performs certain functions for its sustainability and wellbeing.

The family performs many functions such as reproduction or procreation, protection and care of young ones, educational functions and provision of shelter (Sunil, 2011). Reproduction or procreation is an essential function which the family performs in all societies. The family along with regulating the sexual behaviour in relation to

the satisfaction of sexual needs secures a legitimate basis for procreation. This function of the family contributes to the continuity of family and ultimately perpetuates the human race. Family is regarded as an institution par-excellence for the production and rearing of children. No other institution tends to take care of the child like the family; the child at birth is completely helpless and may not survive without the help of the family. Sunil (2011) asserted that family provides care, protection, security and fulfils other needs to make the child fit in the society. The author also asserted that all the members of the family depend on the home for comfort, protection and peace.

The family also performs educational functions such as socialization of the child that starts from the home through interaction with the parents, sibling and peers. The child learns a lot in the home before school age. Shankar (2012) posited that the performance of the child depends on the family background. It is within the family that the child learns about traditions, customs, norms, and values of the society in which they belong. Highlighting further, the author stated that if any dysfunction is seen in the family system, the functions of the family can be affected. Several family factors determine the functionality and dysfunction of the family. These factors include family structure, family size, and family leadership style.

Family factors are often referred to as those characteristics that define the families and the specific things that make up the family such as family structure, family size, family leadership styles, disciplinary practices and parental involvement among others (Henderson & Mapp, 2002). Contributing to the above assertion, Benokraitis (2007) maintained that family structure is considered as a family support system involving two married individuals providing care and stability for their biological offspring. Family structures can also be seen as substantial makeup of the members in relation to each other without respect to roles and function (Toby, 2015). In the context of this work, family structure can be referred to as various components that make up the family system such as father, mother and their children. It can also be referred to as households consisting of two married parents and their biological children or their members who are related by blood, marriage, and adoption in extended family ties.

The family has many structures/types, namely, nuclear and extended. The nuclear family comprised of the man, the wife and their children in a monogamous relationship (Anyanwu & Ofordile, 2012). This implies a relationship that binds the father and the members of the household. Supporting the above assertion, Toby (2015) stated that nuclear family consisted of a father, mother, and their biological or adoptive descendants, often called the traditional family. From the above assertion nuclear family is the type of family which consists of the father, mother and their children while in Extended family, the members include the husband, wife, children and other relations covering two to three generations (Anyanwu & Ofodile, 2012). Stressing further, the authors, asserted that extended family system consists of the husband, wife, children, grandparents, uncles, aunts, cousins from both sides. Furthermore, Ngale (2009) maintained that children who found themselves in an extended family may experience overcrowding as a result of a large family size which tends to result to low parental attention, financial hardship and this may lead the children into deviant behaviour.

Family size is the number of parents and children that make up a family, either nuclear or extended family (Farrington & Loeber, 1999). According to Bjorklund (2004), family size refers to all siblings present in a household. Family size can also be seen as the total number of people found in the family. A family may be regarded as large size when the family members are within 7-10 and above 10, while a family may also be regarded as small when the size of family members are within 1-3 and 4-6 respectively (Arthur, 2005). This implies that family size might increase the risk of a child's deviant act. For instance, as the number of siblings in a household increases, the amount of parental attention that can be given to each child may decrease. Also, as the number of siblings increases, the household tends to become crowded, possibly leading to an increase in financial hardship, and frustration (Kantarevic & Mechoulan, 2006). The reason why family size may be linked to negative behaviours or deviant activities includes absentee parents, financial hardship and broken homes (Ngale, 2009). Thus, it may appear that the larger the number of children in the family, the more they exhibit deviant behaviours. From the foregoing, the researchers may view that the more the number of children in a family, the less time, energy, and financial resources parents will have to devote to each individual child. The family also is posed with a certain leadership style that governs its members.

Besides the above variables (family structure and family size) so far discussed that may affect the behaviour and socialization of children or family members, the family is also posed with certain leadership styles that parents use in training their family members. Family leadership style is the aggregate of the various patterns which parents use in the upbringing, training and rearing of their children (Okpako, 2004). In other words, family leadership styles are the methods which parents use in training their children. It is also known as parenting styles

or child-rearing practices. In the context of this study, family leadership styles are the different types of practices parents use to socialize their children to internalize acceptable norms and values of the society that will help to mould their personality and behaviour.

Highlighting further on family leadership styles, Baumrind (1972) identified four family leadership styles to include authoritarian family leadership style, authoritative family leadership style, permissive family leadership style and neglectful family leadership style. Authoritarian family Leadership Style is perceived as a family leadership style in which all the decisions and directives made are passed to subordinates who are expected to carry out these under very close supervision (Annick, 2002). Stressing further, Annick maintained that any subordinates' attempt at questioning the directives given are discouraged including the fact that there may be little or no opportunity for subordinates to develop initiative and creativity.

Families that adopt authoritarian family leadership style are characterized by high expectations of conformity and compliance to family rules and directions. Authoritarian family leadership style is a restrictive, punitive style in which parents exhort the child to follow their directions and to respect their work effort (Dienye & Oyet, 2011). Authoritarian parents are less responsive to their children's needs and are more likely to spank a child rather than discuss the problem (Tim, 2007). Stressing further, the author stated that authoritarian parents display little warmth and are highly controlling. Authoritarian parents exercise authority such as "you will do this because I said so" and "because I'm the parent and you are not". Authoritarian parents do not engage in discussion with teens and family rules and standards are not debated. Authoritarian parents also believed that the children should accept their rules and regulations without question, children of such parents may tend to learn that following parental rules and adherence to strict discipline is valued over independent behaviour. In a related view, Kopko (2007) opined that children may become rebellious and might display aggressive behaviours and as well may become dependent. These children who are more submissive tend to remain dependent on their parents.

Authoritative family leadership style also called assertive, democratic or balanced family leadership style (Dienye & Oyet, 2011), is characterized by a child-centred approach that holds high expectations of maturity. Authoritative family leadership style understands their children's feeling and teaches them how to regulate them. They encourage children to be independent but still places limits and controls on their actions. Authoritative parents set limits and demand maturity, but when punishing a child, the parents will explain the motive for their punishment (Tim, 2007). Children under this type of family leadership style tend to display positive behaviour. According to Santrock (2006), children of authoritative parents tend to be cheerful, self-reliant, self-controlled, friendly and achievement-oriented, co-operate with adults and cope well with stress.

Permissive family leadership style involves allowing the children to do what they wish. Permissive family leadership style also called indulgent family leadership style is a style of family leadership in which parents are very involved with their children, place few demands or controls on them (Dienye & Oyet, 2011). In using this style, the parents are nurturing and accepting and are very responsive to their children's needs and wishes. Justifying the above assertion, Santrock (2006) postulated that permissive parents do not require children to regulate themselves. Buttressing further, the authour noted that Children from such parents tend to be rebellious, low in self-reliance and self-control, impulsive, aggressive, domineering, aimless, and low in achievement.

Neglectful family leadership style also known as uninvolved detached, family leadership style involves parents that exhibit low control, and are not involved in their child's life, are disengaged, undemanding, low in responsiveness and do not set limits (Nwachukwu, 2001). Contributing to the above idea, (Tim, 2007) stated that parents of neglectful family are unsupportive of their children but will still provide basic needs. Children of neglectful parents tend to "be socially incompetent, have low self-esteem, impulsive and aggressive, poor self-control and do not handle independence well, have difficulty in determining right or wrong behaviour and experience school problems" both academic and behavioural (Terry, 2004).

In other words, when there is any form of dysfunction in the family system, the resultant effect tends to be seen in the behaviours exhibited by the child/children. According to Merriam (2013), behaviour refers to the way in which one acts or conducts one's self in response to stimuli. From the foregoing, behaviour can also be defined as the way in which an animal or a person acts in response to a particular situation, stimuli or towards others. Any conduct or behaviour which does not conform to the accepted cultural norms of the society is known as deviance. Deviance is recognized as a violation of cultural norms (Macionis, 2007). In consonance with the above assertion, Richard (2009) opined that deviance is the act of being different from the popular belief usually in a bad way. Buttressing further, the authour stated that deviance is an act or behaviour that does not conform to accepted norms and values of the society and rules and regulations guiding an organization or institution in the

society. When an individual behaviour is at variance with the existing norms, he or she could be described as a deviant. Justifying the above assertion, Wisegeek (2013) maintained that deviant behaviours can be referred to as behaviours which do not adhere to widely-accepted social or cultural norms. Deviant behaviour is considered abnormal or anti-social if it is uncommon, different from the norm and does not conform to what society expects (Nwankwo, 2006). In the context of this work, deviant behaviour is an act which is contrary or at variance with the socially accepted norms and values such as stealing, fighting, bullying, telling lies, absenteeism among others.

There are different forms of deviant behaviours which include a physical form of deviance, criminal form of deviance, moral form of deviance and psycho-social form of deviance. The physical form of deviance is perhaps the most visible form of deviance and it can evoke stereotypes, stigmatization, and discrimination. Sociologists have described two types of physical deviance including; violations of aesthetic norms (what people should look like, including height, weight, and the absence or presence of disfigurement), and physical incapacity, which include those with a physical disability (Goode, 2005). According to Nzekwu (2011), the criminal form of deviance are offences that are destructive to life and property and requires prompt attention because of their harmful nature and the gravity of the behaviour, their significant departure from that which is normal and acceptable in both the school community and the larger society. Ibia (2006) stated that criminal offences are great offences against societal laws and hence must be repressed and controlled in accordance with the established rules and regulations governing the school system and the laws governing the larger society. Stressing further, the author enumerated the example of the criminal form of deviance to include suicide, exam malpractice, stealing, forgery, fighting, fraud and assault. Moral form of deviance can be defined as the deviation from society's moral values. The behaviour negates the moral norms in the society. Examples of moral deviance are sexual perversion, alcoholism, drug use, rape, and such behaviours are rampant amongst children and teenagers (Nzekwu, 2011). From the foregoing, it could be deduced that deviant behaviours exhibited by primary school pupils may include stealing, picking pocket, fighting, quarrelling, lateness, loitering about, lying, gossiping, noise making, among others which may be caused by some factors such as poor parent-child relations among others.

The causes of deviant behaviours among primary school pupils may be associated with poor parent-child relations, (poor supervision, lack of discipline, low parental involvement in the training of the child, low parental warmth), and psychological factors (daring, impulsiveness, poor concentration), family structure/type, family size, child neglect, parental conflict and disrupted families (Lipsey & Derzon, 1998). Alienation, negative labelling, social bonds amongst others may also be causes of deviant behaviours. Murray and Farrington, (2005) opined that family may be an important factor for pupils' deviant behaviours. In addition, pupils' from broken families tend to have deviant behaviours. Cheng (2001) also maintained that Family factors may also cause deviant behaviours of pupils. There are also other causes which include environmental and psychological factors.

From the above causes of deviant behaviours among primary school pupils, it may be seen that in spite of deviant acts emanating from family factors such as family structure, family size, family leadership styles, other factors such as environmental and psychological factors may also have been influencing deviant behaviours with its attendant consequences. Supporting the above assertion, Sanjana (2008) described children who exhibit deviant behaviours as children with a moral problem, lack of respect for traditional values, lack of self-respect, lack of independence and self-sufficiency which have serious consequences on them and the society at large. Buttressing further, Sanjana stated that children with deviant behaviours potentially lose chances of fulfilling their life ambitions and career and as such constitute problems to the society. These deviant behaviours have severe or serious consequences on pupils and society at large. Deviant behaviours might affect the individual and society at large in the area of socialization, academics, character formation and life ambitions among others, which may lead the child to become societal nuisance terrorizing the lives of other members of the society in general.

The researchers' observation has shown that parents in Awgu education zone are mostly farmers and businessmen and women whose aim is to acquire wealth through their farm produce at the end of the harvest season and for the business class who equally aims at making "quick money". As a result of these, parents handover the training of their children and wards to housekeepers and nannies without proper supervision of their children's behaviour or character formation, food, health and academic works such as assignment given to them in schools. In Awgu Education Zone, personal observation as a result of a visit to some primary schools have shown that pupils in the primary schools are late to school, fight each other, involve in examination malpractice. Also, some of the pupils steal other pupils' money and books; they tell lies and make a lot of noise in the classroom. Some of the pupils are used to loitering during school hours, some even roam along the street

when lessons are going on in the school, and some of them spend so much money during the break period, buying things for themselves and their friends which is an indication that the money they are spending might have been stolen from their parents. The pupils' extravagant spending is not known by their parents. These negative behaviours may have a serious impact on their education and social lives which in turn will affect the society at large. The pupils may be distracted and have a low concentration in the classroom thereby leading to failure or low academic performance.

These pupils who indulge in these deviant behaviours may graduate from stealing to an armed robbery in future and become a terror to the family, community and society at large. However, whether family factors such as family structure/types, family size, and family leadership styles influence deviant behaviours among pupils in primary schools in Awgu Education Zone, Enugu State is yet to be ascertained. Primary school pupils are children from the age of 6 years to 11 years that receives elementary or primary education coming before secondary school and after preschool. This implies that primary school pupils are children that have finished nursery education who are being taught in preparation for secondary education. Primary education is the kind of education which is given to children from age 6+ to about 10 or 11 years, it is an educational training provided to school-age children from primary 1-6 (Umemetu & Ogbonna, 2013). At this stage, the education they receive is compulsory in most part of the world. Primary education, in particular, is the level of education that develops in the individual the capacity to read, write and calculate. Bruns, Mingat & Rakotamalala (2003) stated that it helps to eradicate illiteracy, which is one of the strongest predictors of poverty. Justifying the above assertion, UNESCO (2001) posited that this explains why primary education is the largest sub-sector of any education system and offers the unique opportunity to contribute to the transformation of societies through the education of the young ones. It is against this background that the researchers are interested in investigating family factors as determinants of deviant behaviours among primary school pupils in Awgu Education Zone of Enugu State.

2. Methods

The design of this study was a correlational research design. The study was carried out in primary schools in Awgu education zone of Enugu State. Awgu education zone is made up of three local government areas which include: Awgu, Aninri, Oji-River Local Government Areas. The population of the study comprised of all the public primary six pupils in Awgu education zone of Enugu state. The population of the study was four thousand six hundred and four 4,604 primary six pupils in the education zone (Annual School Census, Universal Basic Education Board, (UBEB) Enugu (2014). Of this total of 4,604 pupils from the zone, Agwu local government area has one thousand six hundred and seventeen (1,617) primary six pupils with seventy-two (72) public primary schools, Aninri local government area has one thousand nine hundred and eighty (1,980) primary six pupils with (67) public primary schools, Oji-River local government area has one thousand seven (1007) with (69) public primary schools and primary six pupils respectively (Annual School Census, Universal Primary Education Board (UBEB) Enugu, 2014).

A sample size of 821 primary six pupils in all the public schools in Awgu education Zone representing 20% of the target population was drawn comprising pupils around public schools in the local government Areas of Awgu education Zone using the multistage sampling technique. In the first stage, a simple random sampling technique was used to draw two towns each from the three LGAs in the Zone. In the second stage, the proportionate stratified sampling technique was used to draw pupils from public schools in six towns. Proportionate sampling technique was used because the numbers of pupils in the six public schools are not the same. Thus a total of 100 pupils from the first town, 130 pupils from the second town, 130 from the third town, 155 from the fourth town, 150 from the fifth town and 156 from the sixth town in the selected public schools in the above towns were drawn making a total of 821 respondents for the study.

The instrument for data collection in this study was a structured questionnaire titled family factors and deviant behaviours questionnaire (FFDBQ). To ascertain the face validity of the family factors and deviant behaviours questionnaire (FFADBQ), the researchers gave the initial draft to three experts for validation. To test the reliability of the instrument, a trial test procedure was adopted. The instrument was administered to twenty pupils of a community primary school outside the study area. Data collected were subjected to the test of internal consistency using Cronbach alpha procedure. This gave the reliability coefficient value of 0.82 for section B, section C was made up of four clusters, A, B, C, and D, with reliability coefficient values of 0.78, 0.83, 0.75 and 0.79 respectively with an overall reliability coefficient value of 0.79. Finally, section D had a reliability coefficient value of 0.85.

Twenty (20) copies of the instrument were administered directly to the respondents by the researchers and two research assistants. The data collected were analyzed in different stages. In the first stage, research questions one,

six and seven were answered using mean and standard deviation while the Pearson product moment correlation coefficient was employed in answering research questions two, three, four and five. The null hypotheses, one, two, three, and four were tested using multiple regression analysis while ANOVA was used to test hypotheses five. The decision benchmark was 2.50. This implies that any item that is rated 2.50 and above was accepted while any item below 2.50 was rejected.

3. Results

3.1 Research Question 1

What are the types of deviant behaviours exhibited by primary school pupils?

Table 1. Mean and Standard deviation of the types of deviant behaviours exhibited by primary school pupils

S/N		$\bar{x}$	SD	DEC
1	Indulging in exam malpractices	2.57	0.50	Accepted
2	Not devoted to studies	2.60	0.49	Accepted
3	Bullying weaker pupils	2.70	0.56	Accepted
4	Fighting among pupils	2.58	0.51	Accepted
5	Lateness to school	2.72	0.45	Accepted
6	Keeping bad friends	2.85	0.53	Accepted
7	Stealing among pupils	2.58	0.60	Accepted
8	Gossiping among pupils	2.77	0.43	Accepted
9	Quarrelling between each other	2.63	0.49	Accepted
10	Telling lies to fellow pupils, teachers and parents.	2.48	0.50	Accepted
11	Loitering during school hours.	2.73	0.45	Accepted
12	Absent to school.	2.67	0.51	Accepted
13	Using of hard drug.	1.77	0.45	Rejected
14	Smoking Indian hemp.	1.80	0.48	Rejected
15	Consumption of alcohol.	1.89	0.31	Rejected

Result in Table 1 shows the mean and standard deviations of respondents on the types of deviant behaviours exhibited by primary school pupils. Table 1 indicates that the mean values for the items ranged from 1.11 (item 13) to 2.85 (item6) for the types of deviant behaviours exhibited by primary school pupils. The mean values of items 1, 2, 3, 4, 5, 6, 7, 8, 9, 11 and 12 were above 2.50 criterion value. This implies that primary school pupils agreed that they exhibited all these deviant behaviours. Table 1 equally show that the mean values of items 10, 13, 14 and 15 below 2.5s0 criterion value, indicating that these deviant behaviours are not exhibited by primary school pupils. This implies that the primary school pupils exhibited 12 different types of deviant behaviours and do not exhibit 3 different types of deviant behaviours.

3.2 Research Question 2

What is the relationship between authoritarian family leadership style and deviant behaviours exhibited by primary school pupils?

Table 2. Pearson's Product Moment Correlation Analysis of the relationship between authoritarian family leadership style and deviant behaviours exhibited by primary school pupils

Variable	$\bar{x}$	**SD**	**N**	**r**	**R^2**
deviant behaviours	37.33	3.67	821	0.97	0.94
authoritarian family leadership style	38.15	3.48			

$\alpha = 0.05$, R^2 = coefficient of determination.

The result in Table 2 is correlation coefficients of the relationship between authoritarian family leadership style and deviant behaviours exhibited by primary school pupils. Results showed that the correlation between authoritarian family leadership style and deviant behaviours exhibited by primary school pupils was 0.97. This means there was a very strong positive relationship between authoritarian family leadership style and deviant behaviours exhibited by primary school pupils. The coefficient of determination associated with 0.97 is 0.94. The coefficient of determination (0.94) also known as the predictive value means that 94% of authoritarian family leadership style accounted for the variation in deviant behaviours exhibited by primary school pupils. This is an indication that 6% of the variation in deviant behaviours exhibited by primary school pupils is attributed to other factors other than authoritarian family leadership style.

3.3 Hypothesis 1

Authoritarian family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

Table 3. Regression Analysis of authoritarian family leadership style and deviant behaviours exhibited by primary school pupils

Mode	Sum of Squares	Df	Mean Square	F	Sig.
Regression	10371.056	1	10371.056	1.2114	.000
Residual	701.499	819	.857		
Total	11072.555	820			

$\alpha = 0.05$.

In order to test hypothesis 1 (H_{O1}), regression analysis was used. The result in Table 3 shows that an F-ratio of 1.211 with an associated exact probability value of 0.00 was obtained. This exact probability value of 0.00 was less than 0.05 level of significance set as a benchmark and it was found to be significant. The null hypothesis which stated that Authoritarian family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference drawn was that authoritarian family leadership style has a significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

3.4 Research Question 3

What is the relationship between authoritative family leadership style and deviant behaviours exhibited by primary School pupils?

Table 4. Pearson's Product Moment Correlation Analysis of authoritative family leadership style and deviant behaviours exhibited by primary School pupils

Variable	$\bar{x}$	**SD**	**N**	**r**	**R^2**
deviant behaviours	37.33	3.67	821	0.79	0.62
authoritative family leadership style	38.52	3.75			

R^2 = coefficient of determination.

The result in Table 4 is correlation coefficients of the relationship between authoritative family leadership style and deviant behaviours exhibited by primary school pupils. Results showed that the correlation between authoritative family leadership style and deviant behaviours exhibited by primary school pupils was 0.79. This means there was a very strong positive relationship between authoritative family leadership style and deviant behaviours exhibited by primary school pupils. The coefficient of determination associated with 0.79 is 0.62. The coefficient of determination (0.62) also known as the predictive value means that 62% of authoritative family leadership style accounted for the variation in deviant behaviours exhibited by primary school pupils. This is an indication that 38% of the variation in deviant behaviours exhibited by primary school pupils is attributed to other factors other than the authoritative family leadership style.

3.5 Hypothesis 2

Authoritative family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

Table 5. Regression Analysis of authoritative family leadership style and deviant behaviours exhibited by primary school pupils

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	6832.670	1	6832.670	1.3203	.000
Residual	4239.885	819	5.177		
Total	11072.555	820			

$\alpha = 0.05$.

In order to test hypothesis 2 (H_{O2}), regression analysis was used. The result in Table 5 shows that an F-ratio of 1.32 with an associated exact probability value of 0.00 was obtained. This exact probability value of 0.00 was less than 0.05 level of significance set as a benchmark and it was found to be significant. The null hypothesis which stated that Authoritative family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference drawn was that Authoritative family leadership style has a significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

3.6 Research Question 4

What is the relationship between permissive family leadership style and deviant behaviours exhibited by primary school pupils?

Table 6. Pearson's Product Moment Correlation Analysis of permissive family leadership style and deviant behaviours exhibited by primary School pupils

Variable	$\bar{x}$	SD	N	r	R^2
deviant behaviours	37.33	3.67	821	0.89	0.80
authoritative family leadership style	36.50	3.56			

R^2 = coefficient of determination.

The result in Table 6 is correlation coefficients of the relationship between permissive family leadership style and deviant behaviours exhibited by primary school pupils. Results showed that the correlation between permissive family leadership style and deviant behaviours exhibited by primary school pupils was 0.89. This means there was a very strong positive relationship between permissive family leadership style and deviant behaviours exhibited by primary school pupils. The coefficient of determination associated with 0.89 is 0.80. The coefficient of determination (0.80) also known as the predictive value means that 80% of permissive family leadership style accounted for the variation in deviant behaviours exhibited by primary school pupils. This is an indication that 20% of the variation in deviant behaviours exhibited by primary school pupils is attributed to other factors other than permissive family leadership style.

3.7 Hypothesis 3

Permissive family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

Table 7. Regression Analysis of permissive family leadership style and deviant behaviours exhibited by primary school pupils

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	8849.160	1	8849.160	3.2603	.000
Residual	2223.395	819	2.715		
Total	11072.555	820			

$\alpha = 0.05$.

In order to test hypothesis 3 (H_{O3}), regression analysis was used. The result in Table 7 shows that an F-ratio of 3.26 with an associated exact probability value of 0.00 was obtained. This exact probability value of 0.00 was less than 0.05 level of significance set as a benchmark and it was found to be significant. The null hypothesis which stated that permissive family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference drawn was that permissive family leadership style has a significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

3.8 Research Question 5

What is the relationship between neglectful family leadership style and deviant behaviours exhibited by primary school pupils?

Table 8. Pearson's Product Moment Correlation Analysis of neglectful family leadership style and deviant behaviours exhibited by primary School pupils

Variable	$\bar{x}$	**SD**	**N**	**r**	$\mathbf{R^2}$
deviant behaviours	37.33	3.67	821	0.85	0.73
authoritative family leadership style	35.35	3.94			

R^2 = coefficient of determination.

The result in Table 8 is correlation coefficients of the relationship between neglectful family leadership style and deviant behaviours exhibited by primary school pupils. Results showed that the correlation between neglectful family leadership style and deviant behaviours exhibited by primary school pupils was 0.85. This means there was a very strong positive relationship between neglectful family leadership style and deviant behaviour exhibited by primary school pupils. The coefficient of determination associated with 0.85 is 0.73. The coefficient of determination (0.73) also known as the predictive value means that 73% of neglectful family leadership style accounted for the variation in deviant behaviours exhibited by primary school pupils. This is an indication that 27% of the variation in deviant behaviours exhibited by primary school pupils is attributed to other factors other than neglectful family leadership style.

3.9 Hypothesis 4

Neglectful family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

Table 9. Regression Analysis of neglectful family leadership style and deviant behaviours exhibited by primary school pupils

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	8056.689	1	8056689	2.1883	.000
Residual	3015.866	819	3.682		
Total	11072.555	820			

$\alpha = 0.05$.

In order to test hypothesis 4 (H_{O4}), regression analysis was used. The result in Table 9 shows that an F-ratio of 2.19 with an associated exact probability value of 0.00 was obtained. This exact probability value of 0.00 was less than 0.05 level of significance set as a benchmark and it was found to be significant. The null hypothesis which stated that neglectful family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference drawn was that neglectful family leadership style has a significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

3.10 Research Question 6

What is the influence of family size on deviant behaviours among primary school pupils?

Table 10. Mean and Standard Deviation of the influence of family size on deviant behaviours among primary school pupils

Family Size	N	$\bar{x}$	SD
1-3 Children	122	2.30	0.33
4-6 Children	358	2.46	0.24
7-10 Children	225	2.58	0.14
Above 10 Children	116	2.61	0.16

Result in Table 10 shows the influence of family size on deviant behaviours among primary school pupils. Result shows that those from the family of within 1-3 children had mean score of 2.30 with a standard deviation of 0.33, those from 4-6 children had mean score of 2.36 with a standard deviation of 0.24, those from 7-10 children had mean score of 2.58 with a standard deviation of 0.14 while those with above 10 children had mean ratings of 2.61 with a standard deviation of 0.16. The result showed that the children from small family size had a lower mean rating on deviant behaviours whereas those from large family size had higher mean ratings. This is an indication that family size had an influence on deviant behaviours among primary school pupils.

3.11 Hypothesis 5

Family size has no significant influence on deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

Table 11. ANOVA of the influence of family size on deviant behaviours among primary school pupils

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.241	3	2.747	54.777	0.00
Within Groups	40.971	8 17	.050		
Total	49.211	820			

$\alpha = 0.05$.

Result in Table 11 was used to test hypothesis 5 (H_{O5}). The result shows that an F-ratio of 54.78 with an associated exact probability value of 0.00 was obtained. This exact probability value of 0.00 was less than 0.05 level of significance set as a benchmark for testing the hypothesis and it was found to be significant. The null hypothesis which stated that Family size has no significant influence on deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference drawn was that family size has a significant influence on deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State.

3.12 Research Question 7

What are the strategies that will be used to curb deviant behaviours among primary school pupils?

Table 12. Mean and Standard deviation of the strategies that will be used to curb deviant behaviours among primary school pupils

S/N		$\bar{x}$	SD
69	Organizing orientation or public enlightenment programmes through Parents-Teacher-Association meeting to educate parents on good parental child-rearing practices.	3.11	0.31
70	Assigning functions to children that exhibit deviant behaviours to keep them focus on worthwhile activities.	3.16	0.36
71	Rewarding and praising children who have good behaviour.	3.20	0.40
72	Assigning models to role play by pupils with deviant behaviours.	3.48	0.50
73	Recommendations of learning materials such as novels for moral character building for pupils with deviant behaviours	3.13	0.34
74	Organizing a group counselling programme in schools and communities to educate children on the negative influence of deviant behaviours.	3.33	0.47
75	Imparting the knowledge of assertiveness on pupils to enable them to behave normal.	3.18	0.58
76	Administering behaviour modification therapy on pupils so as to help them curb deviant act.	3.13	0.55
77	Referral of pupils with deviant act to counselling therapist for rehabilitation.	3.15	0.56
78	Giving adequate attention to the child's needs in order to make him feel at home.	3.30	0.47
79	Engaging children with home videos that have information on moral ethics.	3.23	0.48
80	Avoid buying gun toys to children so as to discourage them from emulating what they see in violence media play.	3.31	0.48
81	Avoid supporting a child when he or her is at fault in a misunderstanding with his peers in order not to incite him/her into deviant act.	3.43	0.51
	Grand Mean	3.22	0.23

Result in Table 12 shows the mean and standard deviations of respondents on the strategies that will be used to curb deviant behaviours among primary school pupils. Table 12 indicates that the mean values for the items ranged from 3.11 (item 69) to 3.48 (item 72) for the strategies that will be used to curb deviant behaviours among primary school pupils. All the items mean values were above 2.50 criterion value. The cluster grand mean value was 3.22 and also above the criterion value. This implies that primary school pupils agreed that all the strategies can be used to curb deviant behaviours.

4. Discussion

4.1 Types of Deviant Behaviours Exhibited by Primary School Pupils

The findings showed that out of the 15 types of deviant behaviours such as indulging in exam malpractices, not devoted to studies, bullying weaker students, fighting among pupils, and lateness to school among others that were identified, 12 were exhibited by primary school pupils. The findings were in agreement with the assertion of Ibia (2006) who posited that deviant behaviours in schools include stealing, fighting, examination malpractices, rioting, Telling lies, and destruction of public properties. These are common damnable acts found among the primary school pupils. For instance, fighting is a major form of deviance among pupils. The findings were also in accordance with Richard (2009) who asserted that deviant behaviour is the act of being different from the popular belief usually in a bad way and the opinion of Wisegeek (2013) that deviant behaviour is a behaviour which does not adhere to widely accepted social or cultural norms. Highlighting further, the author maintained deviant behaviour is behaviour that fails to match up to the normal standards that society prescribes as a set of norms for the members.

4.2 Relationship Between Authoritarian Family Leadership Style and Deviant Behaviours Exhibited by Primary School Pupils

The findings of the study indicated that the authoritarian family leadership style had a significant relationship with pupils' deviant behaviours. This is in consonance with the postulation of Beyers and Gossens (2003) who stated that parents who adopt authoritarian family leadership style may be linked with negative behavioural outcomes on their children which include aggressive behaviour, decreased emotional functioning, depression and

lower level of self-confidence. The finding is also in line with the assertion of Terry (2004) who stated that authoritarian parents place firm limits and controls on the children and allow little verbal exchange. In corroboration of the above view, Tim (2007) asserted that authoritarian parents are less responsive to their children's needs, and are more likely to spank a child rather than discuss the problem. Stressing further, the author stated that authoritarian parents display little warmth and are highly controlling. For instance, authoritarian parents exercise authority such as "you will do this because I said so" and "because I'm the parent and you are not". As a result, children may become rebellious and might display aggressive behaviours and as well may become dependent.

4.3 Relationship Between Authoritative Family Leadership Style and Deviant Behaviours Exhibited by Primary School Pupils

The findings of the study also revealed that the authoritative family leadership style had a significant relationship with pupils' deviant behaviours. This style marks the parents understanding of how their children are feeling and teaching them how to regulate feelings. Authoritative family leadership style also called assertive, democratic or balanced family leadership style is characterized by a child-centred approach that holds high expectations of maturity (Dienye & Oyet, 2011). Buttressing further, the authours stated that the authoritative family leadership style understands their children's feeling and teaches them how to regulate them. According to Santrock (2006) children of authoritative parents tend to be cheerful, self-reliant, self-controlled, friendly and achievement-oriented, co-operate with adults and cope well with stress. According to Bystritsky (2006) authoritative family leadership style tends to associate with positive behavioural outcomes which include increased competence, autonomy, self- esteem as well as better problem-solving skills, better academic performance and better peers relations. They encourage children to be independent but still places limits and controls on their actions (Tim, 2007). Highlighting further, Tim stated that authoritative parents set limits and demand maturity, but when punishing a child, the parents will explain the motive for their punishment and children under this type of family leadership style tend to display positive behaviour.

4.4 Relationship between Permissive Family Leadership Style and Deviant Behaviours Exhibited by Primary School Pupils

The result of this study is indicative of the fact that the permissive family leadership style had a significant relationship with pupils' deviant behaviours. This result is in agreement with the opinion of Terry (2004) who postulated that permissive family leadership style is related to future deviant and aggressiveness, poor supervision, neglect and indifference, and may play a critical role in engaging in future deviant. Stressing further, Terry maintained that this type of family leadership style demands little in terms of obedience and respect for authority, they are non-traditional and lenient and do not require mature behaviour, allow considerable self-regulation and avoid confrontations. The findings are also in consonance with the assertion of Miller, Diorio and Dudley (2002) who stated that children from permissive homes tend to have a higher frequency of involvement in deviant behaviours such as stealing, fighting, school misconduct and emotional non-conforming behaviour. Also in accordance with this finding is the view of Santrock (2006) who opined that children of permissive parents tend to be domineering, egocentric, non-complaint rebellious, low in self- reliance and self-control, exhibit poor impulsive control, aggressive, aimless, and low in achievement and have difficulties in peer relations.

4.5 Relationship Between Neglectful Family Leadership Style and Deviant Behaviours Exhibited by Primary School Pupils

Also, the result of this study shows that neglectful family leadership style had a significant relationship with pupils' deviant behaviours. The findings are in agreement with the assertion of Santrock (2006) who stated that parents in this style do not establish rules nor do they care the direction of the child's behaviour. Children who experience parents neglect develop the sense that other aspects of the parents live are more important than they are. The finding is also in line with the opinion of Mounts (2002) who opined that children of neglectful parents may show patterns of truancy and deviancy, with neglectful family leadership style; children tend to look for acceptance in other places and associate with peer groups with similar family backgrounds.

4.6 Influence of Family Size on Deviant Behaviours Among Primary School Pupils

The findings of the study indicated that family size had an influence on deviant behaviours. The findings are in agreement with the assertion of Bjorklund (2004) who posited that family size is referred to all siblings present in a household. The findings are also in consonance with the assertion of Arthur (2005) who stated that family is regarded as a large size if its family members are within 7-10 and above 10 while family is regarded as small size if its family members are within 1-3 and 4-6 and there is the tendency that the larger the family size the

likelihood of the children to exhibit deviant behaviours who asserted that a large number of siblings might increase the risk of a child's deviance. Generally as the number of children in a family increases, the amount of parental attention that can be given to each child decreases. This suggests that household overcrowding might be an important intervening factor between family size and deviance.

4.7 Strategies That Will Be Used to Curb Deviant Behaviours Among Primary School Pupils

The findings of the study indicated that all the strategies identified can be used to curb deviant behaviours. The results are in agreement with the opinion of Albert and Emmons (2001) who stated that assertive training is a form of behaviour therapy designed to help people (pupils) stand up for themselves, to empower themselves, in more contemporary terms in such that deviant behaviours and other anti-social behaviours will be averted. According to Onwuasoanya (2006), assertive training is a preferred approach for individuals who have difficulty in the appropriate expression of various anxiety or exhibiting deviant behaviours. According to Lipsey and Cullen (2007), cognitive-behavioural therapy is a technique that is used on its own, it uses exercises and instruction that are designed to alter the dysfunctional thinking patterns exhibited by many offenders (pupils). Stressing further, the authors stated that this technique helps pupils become aware of the existence of dysfunctional thinking patterns such as disruptive behaviours, or negative thoughts, attitudes expectations and beliefs, and to understand how negative thinking patterns contribute to unhealthy feelings and behaviours (Wolfe, 2007). Justifying the above ideas, Gootman (2008) stated that rules give pupils a concrete direction to ensure that teachers' expectation becomes a reality when they become consistent in enforcing the rules and procedures made.

The result in Table 3 the null hypothesis which stated that Authoritarian family leadership style has no significant relationship with deviant behaviour exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference drawn was that, Authoritarian family leadership style has a significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State. The result in Table 5 the null hypothesis which stated that Authoritative family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference is drawn was that, Authoritative family leadership style has a significant relationship with deviant behaviours exhibited by primary school pupils. The result in Table 7 shows that the null hypothesis which stated that permissive family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference drawn was that permissive family leadership style has a significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State. The result in Table 9 shows that the null hypothesis which stated that neglectful family leadership style has no significant relationship with deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference drawn was that neglectful family leadership style has a significant relationship with deviant behaviours exhibited by primary school pupils. The result in table 10 shows that the null hypothesis which stated that Family size has no significant influence on deviant behaviours exhibited by primary school pupils in Awgu Education Zone of Enugu State was therefore rejected and inference drawn was that, Family size has a significant influence on deviant behaviours exhibited by primary school pupils.

5. Conclusion

From the findings of the study, the following conclusions were drawn; the responses of the pupils and their analysis presented the result which indicated that authoritative family leadership style also called assertive, democratic or balanced family leadership style which is expected to have had positive relationship on primary school pupils deviant behaviours showed negative relationship consequently because parents failed to use it in their child-rearing and upbringing practices. The authoritarian, permissive and neglectful family leadership styles which were consistently applied by parents presented significant negative relationship on primary school pupil's deviant behaviours in Awgu Education Zone of Enugu State.

CompetingInterestsStatement

Theauthorsdeclarethattherearenocompetingorpotentialconflictsofinterest.

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Health and Nutrition Issues Affecting Academic Involvement of Adult Learners in Literacy Programmes of Kogi State, Nigeria

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Abstract

Objective: This study investigated health and nutrition issues affecting academic involvement of Adult learners in literacy programme in Kogi State, Nigeria. The specific purpose of the study was: to ascertain the extent health and nutrition affect academic involvement of adult learners in literacy programmes in Kogi State Nigeria.

Materials and Method: The design for the study was a descriptive survey design. A structured questionnaire was used to collect data which wereanalysed using mean scores and standard deviation while t-test statistic was used to test the hypothesis that guided the study.

Results: Results of the analysis showed among others health and nutrition issues such as chronic illness, poor nutrition and hunger affect academic involvement of adult learners. The results also showed that unhealthy adult learners do not feel happy in class during lessons or learning activities.

Conclusion: Based on the finding, it was concluded that health and nutrition have some level of relationship with adult learners' academic involvement to a high extent.

Keywords: health and nutrition, academic involvement, adult learners, Nigeria

1. Introduction

Nutrition has been associated in one way or another with health or illness. In fact, many of the ideas held by people for preventing or curing diseases are based on good nutrition. The satisfactory intake of good food by people is essential for the maintenance of tissue structure and body functions. According to Ahuekire (2003), chronic illnesses arising from prolonged poor diets and nutrition constitute a potential obstacle to academic success. Nutrition and food choices range in quality from healthy and beneficial to poor and potentially harmful categories. The food one chooses to eat today can impact his or her health tomorrow. For instance, the nutrients in fruits, vegetables, fish and nuts help protect your memory. The brain requires sufficient nutrients to function normally. According to Linus (2003), proper nutrition is essential for normal cognition. He stated that a healthy diet that is low in fat and high in essential nutrients reduces the risk of memory loss, helps prevents stroke and boosts alertness.

Furthermore, Bauer (2009) stated that the brain needs a steady supply of glucose or sugar to concentrate and stay alert, and also that a deficiency in iron prevents adequate oxygen delivery to the brain which can cause fatigue and poor mental performance. According to medical science, good nutrition helps ensure a proper supply of blood to the brain, therefore, lowering the risk of a stroke. Bad nutrition, on the other hand, can impair cognitive function. Health has been noted as a primary determinant of school outcomes. Glewave (2002), associated proper nutrition with cognitive development when he stated that poorly fed and unhealthy students do worse in school. According to Tarozzi and Mahajan (2007), unhealthy students do worse in school because they are more likely to be absent from school and have less time and energy for serious academic work. Generally, any student with challenges of ill-health and poor nutrition will definitely have problems concentrating on his or her studies. Health-related factors such as hunger, physical, emotional abuse and chronic illness can lead to poor academic involvement of adult learners in literacy programmes.

In addition, Dunkle and Nash (2011) stated that academic success is an excellent indicator for the overall wellbeing

of learners and a primary indicator and determinant of adult health. In the same vein, Harper and Lynch (2007), recognized the close relationship between health and education as well as the need to foster the health and wellbeing of the learners within the educational environment. This is relevant to the current study. This is because; the study seeks to investigate nutrition and health as a home environmental factor affecting academic involvement of adult learners in literacy programmes in Kogi State, Nigeria. In the recent past, for instance, programmes that are primarily designed to improve academic involvement are important public health studies. Studies show that there is a strong link between good nutrition and academic involvements. Healthier are better learners. In fact, when students' basic nutritional needs are met, they perform better at school.

Furthermore, there is strong evidence that students whose health care needs are met are less likely to miss school days because of illness and also better able to focus on learning in the classroom, hence poor health adversely affects school success (Roy, 2010). Health differences are noted based on income. It has also been observed that people in households with low income are least likely to report being in very good health (Arturo, 2010). Adequate nutrition in terms of good feeding enhances sound health while sound health has a direct bearing on mental ability. So by inference, an adult learner who enjoys a significantly high intake of good food will consequently enjoy sound health and sound health enhances academic involvement.

Nutrition and health is a home environment factor that may affect academic involvement of adult learners. Linus (2003) stated that nutrition and health are all about the practice of values of health to keep healthy with regards to ourselves and our environment. Hygienic conditions coupled with proper nutrition promote sound mental and physical health of an individual (Emanyi, 2007). According to Martin (2007), health means the condition of one's body especially whether one is ill or not, while nutrition means food considered as something that keeps one healthy. For instance, an adult on good nutrition enjoys healthy living which promotes sound mental development which will, in turn, enhance their academic involvement. On the other hand, poor nutrition makes the adult unhealthy thereby hampering their academic involvement. Consequently, this study sought to investigate health and nutrition issues affecting academic involvement of adult learners in literacy programmes of Kogi State, Nigeria with the objective of investigating the extent health and nutrition affect academic involvement of adult learners in literacy programmes in Kogi State Nigeria.

2. Materials and Method

The design that was adopted in this study is a descriptive survey research design. According to Omede and Odiba (2009), survey design is a descriptive study that attempts to identify, explain or compare events in their settings. This design was used because the study merely sought information from the respondents as the situation exists without any form of manipulation.

This study was carried out in Kogi, State Nigeria. Kogi State is bordered by the following states. Benue and Nassarawa to the East, Kwara to the West, Federal Capital Territory (FCT) to the North, Edo and Enugu to the South East. Kogi State is divided into three senatorial zones, namely: Kogi East, West and Central. Kogi state is structured into 21 local government areas. It comprises three major ethnic groups, that is, Igala, Ebira and Okun (Yoruba). Education is the State's main social industry. The people take pride in the education of their siblings. Many festivals exist in Kogi state. These include ItaloEgbe, Ibegwu and Ogani among the Igalas, Apanibe fishing festival among the Okun speaking people. The people of Kogi are predominantly farmers in the cultivation of the following; yam, cassava, maize, groundnut etc. The choice of Kogi state for this study was justified by the reported low academic involvement of adult learners in adult literacy programmes in the state (Sani, 2013). This development indicates that some of these home environment in Kogi state. The population of the study consisted of facilitators and adult learners from the 21 Local Government Areas of Kogi State. The population for the study comprised 2,115 facilitators and 3,185 adult learners-making a total of 5,300 respondents.

The sample for this study consisted of 5,300 respondents, comprising 1,053 facilitators and 1593 adult learners in the 21 local government areas of Kogi State. A proportionate Stratified Random Sampling Technique was used to draw the sample from the population. According to Omede and Odiba (2009), stratified sampling is a technique of sampling procedure. The technique divides the population into homogenous sub-groups containing members who share common characteristics. Continuing the authors stated that in this type of sampling procedure, each member of the target population has an equal and independent chance of being included in the sample. Independence in this sense implies that the selection of an element does not in any way affect the selection of the other elements of the population. The sample for this study consisted of 2,6246 respondents, comprising 1,053 facilitators and 1593 adult learners in the 21 Local Government Areas of Kogi State. The choice of these respondents was as a result of their involvement in adult literacy programmes. About 50% of facilitators and adult learners will be randomly drawn from the entire population to ensure average representativeness. Hence, the sample size was 2,646. This

sampling technique is in agreement with the recommendation of Waifor (2001) that at most 50% rating procedure was adopted, because, it aims at ensuring proportionate representation of these sub-groups in the sample.

The instrument that was used in this study is a questionnaire. It was designed by the researchers based on the purpose of the study. The instrument is made up of two sections, 'A' and 'B'. Section 'A' elicited information on the bio-data of the respondents while 'B' elicited information on the extent to which nutrition and health affect the academic involvement of adult learners in literacy programmes in Kogi State. A total of 5 items were used. The respondents rated the items on a 4-point Rating Scale of very High Extent (VHE =4 Points), High Extent (HE = 3 Points) Low Extent (LE = 2 Points) and very Low Extent (VLE = I Point).

The validity of the instrument was established by giving it to three experts, two from the Department of Adult Education and Extra-Mural Studies, and one from Measurement and Evaluation. These experts assessed the questionnaire items on the basis of clarity of the statements, relevance of the content and suitability of rating scale adopted. The corrections and suggestions made by these experts were effected and inserted in the final draft of the questionnaire.

In order to determine the reliability of the instrument, a trial-testing was done by administering the questionnaire to 50 adult education facilitators and adult learners from two local government areas-Gboko and Oturkpo of Benue State that were not involved in the study. The choice of this location is because they possess similar characteristics with the target population in terms of their involvement in adult literacy programmes, agricultural practices, cultured and value system.

The reliability of the instrument was estimated in terms of internal consistency using Cronbach alpha. The reliability coefficient obtained for the instrument was 0.945. This is a pointer to the fact that the instrument is very reliable. The researchers with the aid of seven trained research assistants on data collection administered 2,646 copies of the instrument to the respondents; (facilitators) during their monthly meetings and (adult learners) during their literacy learning sections in the literacy centres concerned. The administered instrument was collected on the spot. The data for this study were subjected to statistical analysis using means, standard deviation and t-test is to be used to test the hypothesis at 0.05% level of significance. A criterion mean of 2.5 and above were accepted while those below 2.5 were rejected.

3. Results

3.1 Research Question

To what extent do health and nutrition affect academic involvement of adult learners in literacy programmes in Kogi State?

Table 1. Mean and standard deviation ratings of facilitators and adult learners on the extent to which nutrition and health affect academic involvement of adult learners in literacy programmes in Kogi State

s/n	Items	Facilitators			Adult Learners (N = 1593)		
		Mean	SD	Rem	Mean	SD	Rem
1	Chronic illness constitutes an obstacle to adult learning activities	3.62	0.56	HE	3.71	0.47	HE
2	Good health is the primary determinant of excellent academic involvement of adult learners.	3.39	0.80	HE	3.42	0.83	HE
3	Unhealthy adult learners do not feel happy in class during lesson or learning activities	3.68	0.56	HE	3.78	0.43	HE
4	Poor nutrition obstructs sound academic work of adult learners.	3.66	0.59	HE	3.67	0.61	HE
5	Hunger limits academic involvement of the adult learner	3.36	0.54	HE	3.43	0.49	HE

NB: NS = Not Significant; t= t-test calculated; df = Degree of Freedom; and N = Number of Respondents, SD=standard deviation.

Table 1 reveals that both facilitators and adult learners rated the items above 2.5 mean benchmark. This means that they accepted at a high extent that health and nutrition affect academic involvement of adult learners in literacy programmes. Hence, chronic illness constitutes an obstacle to adult learning activities; good health is a primary

determinant of excellent academic involvement of adult learners; unhealthy adult learners do not feel happy in class during lessons or learning activities; poor nutrition obstructs sound academic work of adult learners, and hunger limits academic involvement of adult learners.

3.2 Hypothesis

There is no significant difference between the mean ratings of facilitators and adult learners on how health and nutrition affect academic involvement of adult learners in adult literacy programmes in Kogi State.

Table 2. T-test of independent showing mean and standard deviation ratings of facilitators and adult learners on health and nutrition affect academic involvement of adult learners in adult literacy programmes in Kogi State

	Grouping	N	Mean	Std. deviation	t	df	Sig. (2- tailed)	Decision
Overall	Facilitators	1053	3.54	0.41	-1.08	2644	0.47	NS
	Adult learners	1593	3.60	0.35				

NB: NS = Not Significant; t= t-test calculated; df = Degree of Freedom; and N = Number of Respondents.

Table 2 reveals that the calculated value of t (-1.08) has a probability value (0.47) which is greater than the 0.05 level of significance. Therefore, the hypothesis that there is no significant difference between the mean ratings of facilitators and adult learners on how health and nutrition affect academic involvement of adult learners in adult literacy programmes in Kogi State was upheld.

4. Discussion

The findings revealed that both facilitators and adult learners accepted at a high extent that nutrition and health affect academic involvement of adult learners in literacy programmes. Issues such as chronic illness, poor nutrition and hunger were taken to a high extent as factors that obstruct learning activities. It was found that there is no significant difference between the mean ratings of the responses of facilitators and adult learners on how health and nutrition affect academic involvement of adult learners in adult literacy programmes in Kogi state, Nigeria. This is in line with Manglakayise (2007) and Marjoribanks (2009) who emphasized that nutrition and health are one of the major boosters of academic involvement. To these authors, hunger especially causes emotional destabilization which does not allow for concentration on academic work. Arguably adequate nutrition in terms of good feeding enhances sound health while sound heath has direct bearing on mental ability. This agrees with our hypothesis which states that there is no significant difference between the mean ratings of facilitators and adult learners on how nutrition and health affect academic involvement of adult learners in literacy programmes. Hence, adult learners who enjoy a significantly high intake of good food will consequently enjoy sound health which enhances academic involvement.

5. Conclusion

The study was carried out to ascertain health and nutrition affecting academic involvement of adult learners in literacy programmes in Kogi State. The following conclusion was drawn based on the findings of the study. The study stressed that health and nutrition have some level of relationship with adult learners' academic involvement. According to the findings of this study, health and nutrition affect adult learners' academic involvement to a high extent. Finally, there is no significant difference between the mean ratings of the responses of facilitators and adult learners on how health and nutrition affect academic involvement of adult learners in adult literacy programmes in Kogi state, Nigeria.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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