

# Psychological Well-Being of Adolescents in South Western Nigeria: Its Association with Sociodemographic Characteristics and Perceived Food Insecurity

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## Abstract

Psychological well-being (PWB) which is a measure of life satisfaction in adolescence plays a great role in their behavioral lifestyle. The aim of this study was to assess the adolescents' psychological well-being, its association with perceived food insecurity, and their sociodemographic characteristics. Using multistage random sampling, 352 students from three secondary schools in Ado Local Government in Nigeria were recruited. A self-administered questionnaire adapted from existing literature was used for data collection. About fifty-six percent of the adolescents had high psychological well-being. Most of the students studied had a high estimate of themselves in their self-autonomy and personal growth development. While Tribe ( $p = 0.032$ ), type of family ( $p < 0.001$ ), present class ( $p = 0.039$ ) and class repetition ( $p = 0.018$ ) were significantly associated with psychological well-being of adolescents, most adolescents had a medium to high food insecurity. Self-autonomy and personal growth development in adolescents are associated with the type of family structure, the higher the social class of the family and the lower of the occurrence of repetition of a class shall be. A stable family environment is beneficial to adolescents.

## Keywords

Adolescents, Psychological Well-Being, Sociodemographic Characteristics, Food Insecurity

## 1. Introduction

The adolescence period is a time of rapid developmental, cognitive, emotional,

and psychological changes [1]. These ongoing changes take different effects on individuals in this age group from the early, middle to late adolescent periods [1] [2]. In addition to the developmental, changes that are ongoing, adolescents are also faced with the challenge of coping with the many prospective influences in their environment from the family to society at large. It has been reported that parental influence is either regulating or influencing the action of the adolescents through negotiation in the way that adolescents eventually turn out to become in older ages [3]. Other influences on adolescents include peer group pressures and exposure to social media which is prevalent these days [4] [5]. These influences affect the psychological well-being of adolescents, which ultimately affects their ability to cope with the challenges during adulthood. The World Health Organization (WHO) has reported that 10% to 20% of children and adolescents worldwide experienced mental health problems [6]. It was also reported that half of the mental problems in adulthood develop in adolescence [7].

Psychological well-being is a measure of life satisfaction [8]. It has been measured using different tools, but Ryff and Keyes [9] approached the use of six domains of autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance to assess this all important aspect of an individual. Defective psychological well-being forms the foundation blocks for many of these different types of mental diseased conditions, which are prevalent among adolescents [10]. With technological advancement and the availability of smartphones for use by adolescents, it has been reported that many adolescents who spend high screen time have low psychological well-being [11]. In addition to this, psychological well-being has an impact on cardiovascular outcomes in some people [12]; loneliness, reduced self-esteem, unhappiness, and mental health disorders have been reported as some of the fallout of low psychological well-being [11] [12] [13] [14].

Whilst many studies have looked at various aspects of adolescent life that can influence the psychological well-being of adolescents [4] [5] [15] [16], there are few studies that have holistically studied the influence of sociodemographic associates on adolescents' psychological well-being. When their sociodemographic characteristics of adolescents are assessed, the parents and caregivers of these individuals in this age group can be educated on the area that can help improve their PWB. This study therefore aimed at assessing the sociodemographic associates that affect the psychological well-being of adolescents with a view to counseling parents and caregivers of adolescents on how to influence the modifiable characteristics and adjusting the unmodifiable ones.

## 2. Objects and Methods

### 2.1. Objects

All the secondary students in the Ado Ekiti Local Government Area were studied. Students who were randomly selected whose ages are less than 18 years had

their parents give their consent while the students gave consent and those above eighteen who gave their consent and are in the age range 10 years to 19 years were included in the study. Any student that is acutely ill was excluded from the study. The purpose of the study was explained to participants and their parents in clear and plain language. Consent was obtained from participants at least 18 years old and assent from those younger and the consent of parents/caregivers of those younger than 18 years were also obtained.

## 2.2. Methods

This was a prospective cross sectional survey of secondary school adolescents in Ado Ekiti Local Government Area of Ekiti State, Nigeria. The students were randomly selected through a stratified random sampling of three secondary schools in the Ado Local Government area of Ekiti State Nigeria. This was done by dividing the secondary schools in Ado Ekiti into three different groups or strata. One school was randomly selected from each group. In these selected schools, a total of three hundred and fifty-two respondents from both junior and senior classes whose responses were assessed. The minimum sample size is estimated from  $n = (Z\alpha)^2 Pq / d^2$ : where P is 33.3%, which is the prevalence of high psychological well-being among adolescents in Pakistan [17]. The minimum sample size for this study was estimated to be 341 respondents. To accommodate either respondent that may not complete the questionnaire or non-response, a 10% non-response was added making a sample size of 375 participants. In the study, we were able to retrieve 352 questionnaires from the students, which is about 94% of the response rate.

The survey was conducted using self-administered questionnaires that involved inquiry on the personal data of the adolescent, parents' data and participants' psychological well-being was assessed by analyzing their responses on a 7-point Likert-scale based statements ranging from "strongly disagree" to "strongly agree". "Strongly agree"—(SA), "somewhat agree"—(SwA) and "a little agree"—(LA) were pooled together to form one positive response of agree. The same technique was applied for "strongly disagree"—(SD), "somewhat disagree"—(SwD) and "a little disagree"—(LD). There were thus two types of questions with two possible answers. Every correct answer either a 'strongly agree' or a 'strongly disagree' was scored 7 points to make a total score of 126 points. The mean score (50<sup>th</sup> percentile) was used as the baseline for scoring low or high psychological well-being, respectively. Their lifestyle was in the third section where their perception of food security and substance abuse were elicited. To assess substance abuse among the participants, a two item screening test for alcohol and other drug problems was included [18].

## 2.3. Study Instruments

The psychological well-being (PWB) scale developed by Ryff and Keyes is an 18 shortened-item version of the original 42-item PWB scale [9] [19]. It is a 7-point

Likert scale statement where respondents responded to how strongly they agreed or disagreed with 18 statements using a 7-point scale (1 = strongly agree; 7 = strongly disagree). This tool is one of the SPARQtools used at Stanford University. The two versions of the PWB scale were used by researchers in adults and students of the reading level of 6<sup>th</sup> to 8<sup>th</sup> grade. A statistical association was reached with the 18 item version though [19].

## 2.4. Data Analysis

The data collected were cleaned and analyzed using the Statistical Package for Social Sciences (SPSS) software version 25 and displayed on tables and charts. Means, medians, standard deviations, proportions and percentages were also determined for continuous variables while categorical variables were summarized using proportions. Chi-square statistics were used to find the level of significance between categorical variables.

## 2.5. Ethical Consideration

Ethical approval was obtained from the Ekiti State University Teaching Hospital Ethics and Research Committee with protocol number EKSUTH /A67/2021/05/14 and a letter of permission to gain access to the schools from the Ministry of Education was made. The questionnaires were self-administered.

## 3. Results

### Socio-Demographic Characteristics of Adolescents

A total of 352 questionnaires were retrieved with a response rate of 92%. **Table 1** shows the socio-demographic characteristics of the adolescents. Their ages ranged from 10 to 19 years with a mean age of  $14.3 \pm 1.9$  years. More than half 183 (52.0%) were less than 15 years old. The adolescents were predominantly females 188 (53.4%), Christians 326 (92.6%), of the Yoruba tribe 283 (80.4%) and from monogamous families 276 (78.4%). The majority 307 (87.2%) had never repeated a class before while 169 (48.0%) did additional jobs with schooling. A high proportion of the adolescents had fathers who were university graduates (42.6%) and mothers whose highest degree was a secondary school (36.1%). Most of them had fathers (58%) and mothers (55.1%) who were senior public/civil servants, managers or professionals with a similar cadre. Also, 60.8% of the adolescents were from high social class.

The prevalence of food insecurity and cannabis use among adolescents is depicted in **Figure 1**. It is observed that an excess of three-quarters (75.3%) of the adolescents claimed to experience from medium to high food insecurity while the use of cannabis was prevalent in a large minority (3.1%) of the study population.

To assess the psychological well-being of the adolescents, questions are listed in **Table 2**.

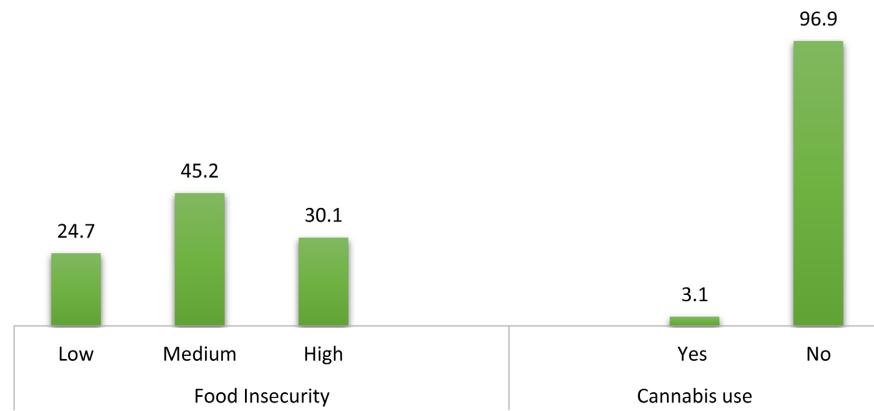
A high proportion of the adolescents believed they had the tendency to be influenced by people with strong opinions (66.5%) and that they had given up

**Table 1.** Socio-demographic characteristics of adolescents.

| Variables                          | Frequency Percent |      |
|------------------------------------|-------------------|------|
| <b>Age group</b>                   |                   |      |
| Early adolescents (10 - 14 years)  | 183               | 52.0 |
| Middle adolescents (15 - 17 years) | 155               | 44.0 |
| Late adolescents (>17 years)       | 14                | 4.0  |
| Mean age (years)                   | 14.3 ± 1.9        |      |
| <b>Gender</b>                      |                   |      |
| Male                               | 164               | 46.6 |
| Female                             | 188               | 53.4 |
| <b>Family type</b>                 |                   |      |
| Monogamous                         | 276               | 78.4 |
| Polygamous                         | 76                | 21.6 |
| <b>Religion</b>                    |                   |      |
| Christianity                       | 326               | 92.6 |
| Islam                              | 23                | 6.5  |
| Traditional                        | 2                 | 0.6  |
| Others                             | 1                 | 0.3  |
| <b>Tribe</b>                       |                   |      |
| Yoruba                             | 283               | 80.4 |
| Igbo                               | 47                | 13.4 |
| Hausa                              | 1                 | 0.3  |
| Others                             | 21                | 6.0  |
| <b>Present class</b>               |                   |      |
| Junior secondary class 1           | 41                | 11.6 |
| Junior secondary class 2           | 54                | 15.3 |
| Junior secondary class 3           | 41                | 11.6 |
| Senior secondary class 1           | 53                | 15.1 |
| Senior secondary class 2           | 74                | 21.0 |
| Senior secondary class 3           | 89                | 25.3 |
| <b>Class Repetition</b>            |                   |      |
| Yes                                | 45                | 12.8 |
| No                                 | 307               | 87.2 |

**Continued**

| <b>Additional Job to Schooling</b>                              |     |      |
|---|-----|------|
| Self-owned business   | 49  | 13.9 |
| Sales boy/girl  | 11  | 3.1  |
| Apprenticeship  | 76  | 21.6 |
| Baby-sitting  | 10  | 2.8  |
| Attending coaching classes                                      | 23  | 6.6  |
| None  | 183 | 52.0 |
| <b>Fathers' highest level of education</b>                      |     |      |
| University Graduates  | 150 | 42.6 |
| HND/NCE   | 50  | 14.2 |
| Secondary school  | 108 | 30.7 |
| Primary school  | 31  | 8.8  |
| No formal education   | 13  | 3.7  |
| <b>Mothers' highest level of education</b>                      |     |      |
| University Graduates  | 126 | 35.8 |
| HND/NCE   | 62  | 17.6 |
| Secondary school  | 127 | 36.1 |
| Primary school  | 23  | 6.5  |
| No formal education   | 14  | 4.0  |
| <b>Fathers' Occupation</b>                                      |     |      |
| Senior public servants, professional, managers & similar grades | 204 | 58.0 |
| Intermediate grade public servant and senior school teachers    | 35  | 9.9  |
| Junior school teachers, drivers, artisan & similar grades       | 55  | 15.6 |
| Petty traders, laborers, messengers & similar grades            | 38  | 10.8 |
| Unemployed  | 20  | 5.7  |
| <b>Mothers' Occupation</b>                                      |     |      |
| Senior public servants, professional, managers & similar grades | 194 | 55.1 |
| Intermediate grade public servant and senior school teachers    | 38  | 10.8 |
| Junior school teachers, drivers, artisan & similar grades       | 52  | 14.8 |
| Petty traders, laborers, messengers & similar grades            | 52  | 14.8 |
| Unemployed  | 16  | 4.5  |
| <b>Parent's Social class</b>                                    |     |      |
| High  | 214 | 60.8 |
| Middle  | 90  | 25.6 |
| Low   | 48  | 13.6 |



**Figure 1.** Prevalence of food insecurity and cannabis use among adolescents.

**Table 2.** Psychological well-being of adolescents.

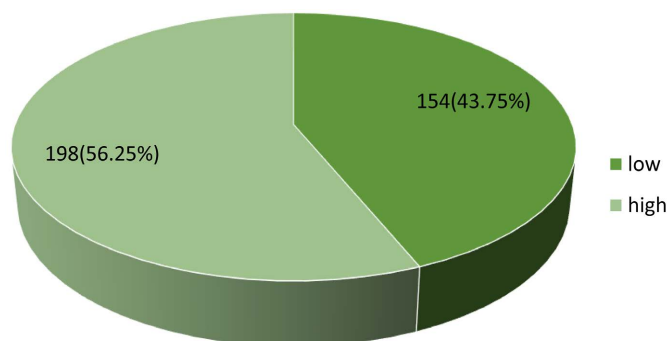
|   | SD % | SwD % | LD % | U % | LA % | SwA % | SA % |
|---|------|-------|------|-----|------|-------|------|
| I like most parts of my personality   | 2.3  | 1.7   | 2.3  | 2.8 | 12.2 | 6.5   | 72.2 |
| When I look at the story of my life, I am pleased with how things have turned out                     | 13.9 | 0.9   | 7.7  | 5.4 | 21.6 | 9.7   | 40.9 |
| Some people wander aimlessly through life, but I am not one of them                                   | 8.2  | 2     | 5.1  | 6   | 11.1 | 6.5   | 61.1 |
| The demands of everyday life often get me down  | 22.4 | 2.8   | 13.9 | 6.8 | 19.3 | 6.8   | 27.8 |
| In many ways I feel disappointed about my achievements in life  | 50.6 | 2.8   | 12.5 | 3.4 | 13.6 | 3.7   | 13.4 |
| Maintaining close relationships has been difficult and frustrating for me                             | 38.6 | 4     | 8.2  | 5.4 | 11.9 | 6.8   | 25   |
| I live life one day at a time and don't really think about the future                                 | 59.9 | 5.4   | 7.4  | 4.3 | 9.1  | 1.7   | 12.2 |
| In general, I feel I am in charge of the situation in which I live                                    | 25.9 | 3.7   | 13.9 | 6   | 15.6 | 4     | 31   |
| I am good at managing the responsibilities of daily life  | 7.4  | 1.7   | 5.1  | 4.8 | 15.6 | 7.7   | 57.7 |
| I sometimes feel as if I've done all there is to do in life   | 29.3 | 6.8   | 9.7  | 6.5 | 19.3 | 4.8   | 23.6 |
| For me, life has been a continuous process of learning, changing, and growth                          | 4.5  | 0.6   | 3.7  | 4.3 | 8.5  | 2.8   | 75.6 |
| I think it is important to have new experiences that challenge how I think about myself and the world | 3.1  | 0.3   | 4.3  | 2.3 | 14.5 | 7.7   | 67.9 |
| People would describe me as a giving person, willing to share my time with others                     | 5.7  | 1.7   | 4.3  | 2.8 | 13.4 | 8     | 64.2 |
| I gave up trying to make big improvements or changes in my life a long time ago                       | 24.4 | 3.7   | 6.8  | 4   | 13.4 | 6.5   | 41.2 |
| I tend to be influenced by people with strong opinion   | 16.5 | 3.4   | 6.3  | 7.4 | 12.8 | 10.5  | 43.2 |
| I have not experienced many warm and trusting relationships with others                               | 27   | 3.4   | 10.8 | 5.4 | 17.9 | 5.7   | 29.8 |
| I have confidence in my own opinions, even if they are different from the way most                    | 2    | 1.1   | 5.7  | 5.4 | 13.9 | 8.2   | 63.6 |
| I judge myself by what I think is important, not by the values of what others think                   | 9.4  | 1.1   | 4    | 5.7 | 13.6 | 10.8  | 55.4 |

trying to make big improvements or changes in their lives a long time ago (61.1%). More than half of them agreed that the demands of everyday life often got them down (53.9%) and that they hadn't experienced many warm and trusting relationships with others (53.4%). 47.7% agreed they sometimes felt that they had done all they had to do in life. Maintaining close relationships with others had been difficult and frustrating for 43.7% of the adolescents while 30.7% felt disappointed about their achievements in life. 23% of the adolescents claimed to live life one day at a time and did not really think about the future.

A vast majority of the adolescents liked most parts of their personality (90.9%) and saw the importance of having new experiences that challenged their thinking about themselves and the world (90.1%). Life has been a continuous process of learning, changing and growth for 86.9% of them. More than four-fifth of the adolescents, had confidence in their own opinions even if they were different from the way others think (85.7%), felt that they would be described as givers and willing to share time with others (85.6%) and were good at managing the responsibilities of daily life (81%). 79.8% judged themselves by what they think is important and not by the values of what others think. 78.7% believed they are not part of people who wander aimlessly through life. 72.2% felt pleased with how things turned out in their lives. 50.8% felt in charge of the situation in which they lived in.

As shown in **Table 3**, the assessment of the psychological well-being of the adolescents was based on 18 questions, using a 7-point Likert-scale based statement. As depicted in **Figure 2**, 43.75% of the students had low psychological well-being while 56.25% had high psychological well-being. The mean score of the adolescents was  $90.07 \pm 11.84$  while their range of scores was 49 to 123 points.

**Table 3** shows the association between socio-demographic characteristics and the psychological well-being of adolescents. Tribe ( $p = 0.032$ ), type of family ( $p < 0.001$ ), present class ( $p = 0.039$ ) and class repetition ( $p = 0.018$ ) significantly associated with psychological well-being of adolescents. A high proportion of those from the Igbo (74.5%) and the Yoruba tribe (54.1%) exhibited high psychological well-being while 52.4% of those from other tribes exhibited low psychological well-being. 39.1% of adolescents from monogamous family settings



**Figure 2.** Psychological well-being of adolescents by category.



**Table 3.** Association between socio-demographics characteristics and psychological well-being of adolescents.

| Characteristics                    | Psychological well-being |            |          |                      |
|------------------------------------|--------------------------|------------|----------|----------------------|
|                                    | Low                      | High       | $\chi^2$ | p-value              |
| <b>Age</b>                         |                          |            |          |                      |
| Early adolescents (10 - 14 years)  | 80 (43.7)                | 103 (56.3) | 1.436    | 0.488                |
| Middle adolescents (15 - 17 years) | 70 (45.2)                | 85 (54.8)  |          |                      |
| Late adolescents (>17 years)       | 4 (28.6)                 | 10 (71.4)  |          |                      |
| <b>Gender</b>                      |                          |            |          |                      |
| Male                               | 68 (41.5)                | 96 (58.5)  | 0.490    | 0.484 <sup>a</sup>   |
| Female                             | 86 (45.7)                | 102 (54.3) |          |                      |
| <b>Family type</b>                 |                          |            |          |                      |
| Monogamous                         | 108 (39.1)               | 168 (60.9) | 10.233   | 0.001 <sup>a*</sup>  |
| Polygamous                         | 46 (60.5)                | 30 (39.5)  |          |                      |
| <b>Religion</b>                    |                          |            |          |                      |
| Christianity                       | 138 (42.3)               | 188 (57.7) | 4.323    | 0.229                |
| Islam                              | 14 (60.9)                | 9 (39.1)   |          |                      |
| Traditional                        | 1 (50)                   | 1 (50)     |          |                      |
| Others                             | 1 (100.0)                | 0 (0)      |          |                      |
| <b>Tribe</b>                       |                          |            |          |                      |
| Yoruba                             | 130 (45.9)               | 153 (54.1) | 8.81     | 0.032 <sup>*</sup>   |
| Igbo                               | 12 (25.5)                | 35 (74.5)  |          |                      |
| Hausa                              | 1 (100.0)                | 0 (0)      |          |                      |
| Others                             | 11 (52.4)                | 10 (47.6)  |          |                      |
| <b>Present class</b>               |                          |            |          |                      |
| Junior secondary class             | 69 (50.7)                | 67 (49.3)  | 3.944    | 0.047 <sup>a*</sup>  |
| Senior secondary class             | 85 (39.4)                | 131 (60.6) |          |                      |
| <b>Class Repetition</b>            |                          |            |          |                      |
| Yes                                | 37 (82.2)                | 8 (17.8)   | 29.265   | <0.001 <sup>a*</sup> |
| No                                 | 117 (38.1)               | 190 (61.9) |          |                      |
| <b>Additional Job to Schooling</b> |                          |            |          |                      |
| Self-owned business                | 27 (55.1)                | 22 (44.9)  | 4.867    | 0.432                |
| Sales boy/girl                     | 5 (45.5)                 | 6 (54.5)   |          |                      |
| Apprenticeship                     | 28 (36.8)                | 48 (63.2)  |          |                      |
| Baby-sitting                       | 4 (40.0)                 | 6 (60.0)   |          |                      |
| Attending coaching classes         | 12 (52.2)                | 11 (47.8)  |          |                      |
| Nothing                            | 78 (43.8)                | 105 (56.2) |          |                      |

**Continued**

| <b>Fathers Education</b>  |           |            |       |       |
|---|-----------|------------|-------|-------|
| University Graduates  | 60 (40.0) | 90 (60.0)  | 4.138 | 0.388 |
| HND/NCE   | 23 (46.0) | 27 (54.0)  |       |       |
| Secondary school  | 46 (42.6) | 62 (57.4)  |       |       |
| Primary school  | 18 (58.1) | 13 (41.9)  |       |       |
| No formal education   | 7 (53.8)  | 6 (46.2)   |       |       |
| <b>Mother's Education</b>                                       |           |            |       |       |
| University Graduates  | 46 (36.5) | 80 (63.5)  | 5.536 | 0.237 |
| HND/NCE   | 28 (45.2) | 34 (54.8)  |       |       |
| Secondary school  | 63 (49.6) | 64 (50.4)  |       |       |
| Primary school  | 12 (52.2) | 11 (47.8)  |       |       |
| No formal education   | 5 (35.7)  | 9 (64.3)   |       |       |
| <b>Fathers Occupation</b>                                       |           |            |       |       |
| Senior public Servants, Professional, Managers & similar grades | 97 (47.5) | 107 (52.5) | 3.507 | 0.477 |
| Intermediate grade public servant and Senior School Teachers    | 14 (40.0) | 21 (60.0)  |       |       |
| Junior School Teachers, Drivers, Artisan & similar grades       | 23 (41.8) | 32 (58.2)  |       |       |
| Petty traders, Labourers, messengers & similar grades           | 13 (34.2) | 25 (65.8)  |       |       |
| Unemployed  | 7 (35.0)  | 13 (65.0)  |       |       |
| <b>Mothers Occupation</b>                                       |           |            |       |       |
| Senior public Servants, Professional, Managers & similar grades | 82 (42.3) | 112 (57.7) | 2.280 | 0.684 |
| Intermediate grade public servant and Senior School Teachers    | 20 (52.6) | 18 (47.4)  |       |       |
| Junior school Teacher, Drivers Artisan & similar grades         | 25 (48.1) | 27 (51.9)  |       |       |
| Petty traders, labourers, messengers & similar grades           | 21 (40.4) | 31 (59.6)  |       |       |
| Unemployed  | 6 (37.5)  | 10 (62.5)  |       |       |
| <b>Social class</b>   |           |            |       |       |
| High  | 97 (45.3) | 117 (54.7) | 1.165 | 0.558 |
| Middle  | 35 (38.9) | 55 (61.1)  |       |       |
| Low   | 22 (45.8) | 26 (54.2)  |       |       |

$\chi^2$ : chi-square; †: yate's correction; \*: p < 0.05.

and 60.5% of those from polygamous homes had low psychological well-being. Low psychological well-being was exhibited by most (50.7%) of the adolescents in the junior secondary classes than in the senior secondary classes (39.4%). The majority (82.8%) of those who had ever repeated a class before had low psychological well-being while 61.9% of those who had never repeated a class before had high psychological well-being. Other socio-demographic variables were comparable but not significant ( $p > 0.005$ ).

**Table 4** presents the association between food insecurity, cannabis use and the psychological well-being of adolescents. Food insecurity ( $p = 0.028$ ) was associated significantly with psychological well-being of the adolescents as the majority (50.6%) of those with low food insecurity had high psychological well-being. Cannabis use ( $p = 0.297$ ) did not significantly associate with psychological well-being of the adolescents.

As shown in **Table 5**, the logistic regression model was used to determine the factors that influenced the psychological well-being of the adolescents. The factors that were significant in both the bivariate and multivariate analysis were incorporated into the regression model. Adolescents from monogamous homes were twice likely to have high psychological well-being as those from polygamous family settings (AOR: 2.242; 95% CI: 1.203 - 4.179). Those who had never repeated a class were 11 times more likely to display high psychological well-being (AOR: 11.471; 95% CI: 4.323 - 30.441). However, perceived low food insecurity (AOR: 0.348; 95% CI: 0.171 - 0.708) and perceived medium food insecurity (AOR: 0.438; 95% CI: 0.238 - 0.806) were less likely predictors of the psychological well-being of the adolescents in this study.

#### 4. Discussion

The purpose of this study was to assess the psychological well-being of secondary school adolescents in a city located in southwestern Nigeria and its associates

**Table 4.** Association between food insecurity, substance abuse and psychological well-being.

|                        | Psychological well-being |            |          |                    |
|------------------------|--------------------------|------------|----------|--------------------|
|                        | Low                      | High       | $\chi^2$ | p-value            |
| <b>Food Insecurity</b> |                          |            |          |                    |
| Low                    | 43 (49.4)                | 44 (50.6)  | 7.158    | 0.028*             |
| Medium                 | 76 (47.8)                | 83 (52.2)  |          |                    |
| High                   | 35 (33.0)                | 71 (67.0)  |          |                    |
| <b>Cannabis use</b>    |                          |            |          |                    |
| Yes                    | 7 (63.6)                 | 4 (36.4)   | 1.086    | 0.297 <sup>a</sup> |
| No                     | 147 (43.1)               | 194 (56.9) |          |                    |

$\chi^2$ : chi-square; <sup>a</sup>: yate's correction; \*:  $p < 0.05$ .

**Table 5.** Predictors of high psychological well-being of the adolescents.

|                                       | B       | p-value  | AOR    | 95% C.I. |        |
|---------------------------------------|---------|----------|--------|----------|--------|
|                                       |         |          |        | lower    | upper  |
| Family type (monogamous)              | 0.807   | 0.011*   | 2.242  | 1.203    | 4.179  |
| Yoruba                                | 0.368   | 0.476    | 1.445  | 0.525    | 3.978  |
| Igbo                                  | 1.137   | 0.076    | 3.116  | 0.888    | 10.934 |
| Hausa                                 | -21.375 | 1.000    | 0.000  | 0.000    | 0.000  |
| Others <sup>ref</sup>                 |         |          |        |          |        |
| Present class (SSS)                   | -0.001  | 0.997    | 0.999  | 0.582    | 1.714  |
| Class repetition (No)                 | 2.440   | < 0.001* | 11.471 | 4.323    | 30.441 |
| Food insecurity (low)                 | -1.056  | 0.004*   | 0.348  | 0.171    | 0.708  |
| Food insecurity (medium)              | -0.825  | 0.008*   | 0.438  | 0.238    | 0.806  |
| Food insecurity (high) <sup>ref</sup> |         |          |        |          |        |

\*: p-value < 0.05; B: coefficient of regression; ref: reference category; AOR: adjusted odds ratio; 95% CI: 95% confidence Interval.

with sociodemographic characteristics, perceived food security and substance abuse. Another purpose of the study was to assess the predictors of high psychological among the adolescents studied.

In this study, it was observed that the prevalence of high psychological well-being among adolescents is 56.25%. This is higher than what was reported among Pakistani Secondary School Adolescents where 33.3 % had a high psychological well-being [17]. The difference may be related to the difference in the tools used in measuring psychological well-being. Whilst the Pakistani study used a tool that categorized the psychological well-being of adolescents into high medium and low, this study subcategorized psychological well-being into low and high using the 50<sup>th</sup> percentile of the respondents. There may not be any major disadvantage to the subcategorization done in this study but it is worthy of note that subcategorizing into low and high will help to help those with low well-being.

A vast majority of the adolescents studied were autonomous in their thoughts and actions. This is seen by their response where a high proportion of the adolescents do not believe they had the tendency to be influenced by people with strong opinions (66.5%). In addition, more than four-fifths of the adolescents, had confidence in their own opinions even if they were different from the way others think (85.7%) and 79.8% judge themselves by what they thought was important and not by the values of what others think. This is in keeping with the findings that adolescent desire increased autonomy especially when they are with their significant others and had a situation that challenges them to be better [20] [21]. This environment obviously is played out in the scenario of a school atmosphere. In addition, the majority of the respondents had a high estimation

of their personal growth as observed in their submission. More than three fifths (3/5) are making big improvements or changes in their lives a long time ago (61.1%); the majority of them saw the importance of having new experiences that challenged their thinking about themselves and the world (90.1%) and life has been a continuous process of learning, changing and growth for 86.9% of them. This finding is corroborated by Ayub and Iqbal that adolescents have a high personal growth initiative [22].

In this study, the type of family that the adolescents studied were from had a significant association with the psychological well-being of the respondents. This study suggests that there is a protective influence on the psychological well-being of adolescents from a two-parent setting when compared with those from multiple parents' setting which also occurs in the study population. It has been reported that family structure has an influence on the psychological well-being of students [23]. In a polygamous setting, there might be a negative influence on adolescents' well-being because of possible instability in the family environment. In addition, the Igbo tribe had a statistical association with high psychological well-being in adolescents. Perhaps this might be due to the increased ability of an Igbo person to thrive better in an adverse condition when compared to adolescents of other tribes represented in those studied. It was reported that the Igbo young adult and adolescents had high resilience scores because the ability to survive an adverse period may have been learned during the developmental process in the adolescence stage [24]. Perhaps the common knowledge in Nigeria of the industrious nature of an average person of Igbo extraction irrespective of the age may also have contributed to the higher psychological well-being observed among the Igbo adolescents.

The percentage of adolescents with high psychological well-being in the senior classes was higher when compared with those in the lower classes. This is in tandem with a study that reported that the higher the class of students, the higher their psychological well-being [25]. It was noted that the increase in peer support in the higher classes was responsible for this. Adeyemo and Adeleke [26] also observed that the higher the class was, the higher the emotional intelligence of the students were, which has a significant positive influence on psychological well-being of adolescents. When a student repeats a class, his or her emotions may be affected negatively. This perhaps may explain why students who repeated a class have low psychological well-being because the feeling of failure may affect the social interactions and feeling of well being.

It was observed that there is an inverse relationship between perception of food security and psychological well-being of the adolescents studied. This is however contrary to the findings in some studies where food insecurity affected psychological well-being of those studied [27] [28]. Perhaps the involvement of adolescents with smart phones and social media may be eroding into what influences their psychological well-being as against food security perception. This brings a need for a study to compare which of these affects the psychological well-being of adolescents. The influence of substance abuse on psychological

well-being is not of statistical significance, but it is observed that over 60% of those who abuse substances have low psychological well-being. There is no gain to say that substance abuse affects the individual well-being.

## 5. Conclusion

There is a need to encourage parents and teachers to organize extra coaching and lessons for students who are academically poor so as to minimize the rate of repetition of classes among adolescents. The possibility of other factors like the use of smart phones and social media may be masking food insecurity's effect on their well-being among students in a resource-poor clime like Nigeria. This should however not underscore the urgent need for food security by the government and parents of adolescents.

## Conflicts of Interest

The authors declare no conflict of interest.

## References

- [1] Pringle, J., Mills, K., McAteer, J., Jepson, R., Hogg, E., Anand, N., *et al.* (2016) A Systematic Review of Adolescent Physiological Development and Its Relationship with Health-Related Behaviour: A Protocol. *Systematic Reviews*, **5**, Article No. 3. <https://doi.org/10.1186/s13643-015-0173-5>
- [2] Christie, D. and Viner, R. (2005) Adolescent Development. *British Medical Journal*, **330**, 301-304. <https://doi.org/10.1136/bmj.330.7486.301>
- [3] Thompson, A.M., Rehman, L.A. and Humbert, M.L. (2005) Factors Influencing the Physically Active Leisure of Children and Youth: A Qualitative Study. *Leisure Sciences*, **27**, 421-438. <https://doi.org/10.1080/01490400500227324>
- [4] Kim, H.H. (2017) The Impact of Online Social Networking on Adolescent Psychological Well-Being (WB): A Population-Level Analysis of Korean School-Aged Children. *International Journal of Adolescence and Youth*, **22**, 364-376. <https://doi.org/10.1080/02673843.2016.1197135>
- [5] Young, R. and Sweeting, H. (2004) Adolescent Bullying, Relationships, Psychological Well-Being, and Gender-Atypical Behavior: A Gender Diagnosticity Approach. *Sex Roles*, **50**, 525-537. <https://doi.org/10.1023/B:SERS.0000023072.53886.86>
- [6] World Health Organization (2017) Maternal, Newborn, Child and Adolescent Health. <https://msh.org/resources/maternal-newborn-child-and-adolescent->
- [7] Erskine, H.E., Moffitt, T.E., Copeland, W.E., Costello, E.J., Ferrari, A.J., Patton, G., Degenhardt, L., Vos, T., Whiteford, H.A. and Scott, J.G. (2015) A Heavy Burden on Young Minds: The Global Burden of Mental and Substance Use Disorders in Children and Youth. *Psychological Medicine*, **45**, 1551-1563. <https://doi.org/10.1017/S0033291714002888>
- [8] Goldbeck L. (2007) Life Satisfaction Decreases during Adolescence. *Quality of Life Research*, **16**, 969-979. <https://doi.org/10.1007/s11136-007-9205-5>
- [9] Ryff, C.D. and Keyes, C.L.M. (1995) The Structure of Psychological Well-Being Revisited. *Journal of Personality and Social Psychology*, **69**, 719-727. <https://doi.org/10.1037/0022-3514.69.4.719>
- [10] Liu, Q.B., Shono, M. and Kitamura, T. (2009) Psychological Well-Being, Depres-

- sion, and Anxiety in Japanese University Students. *Depression and Anxiety*, **26**, E99-E105. <https://doi.org/10.1002/da.20455>
- [11] Twenge, J.M., Martins, G.M. and Campbel, W.K. (2018) Decreases in Psychological Well-Being among American Adolescents after 2012 and Links to Screen Time during the Rise of Smartphone Technology. *Emotion*, **18**, 765-780. <https://doi.org/10.1037/emo0000403>
- [12] Kubzansky, L.D., Huffman, J.C., Boehm, J.K., Hernandez, R., Kim, E.S., Koga, H.K., *et al.* (2018) Positive Psychological Well-Being and Cardiovascular Disease: JACC Health Promotion Series. *Journal of the American College of Cardiology*, **72**, 1382-1396. <https://www.jacc.org/doi/10.1016/j.jacc.2018.07.042>  
<https://doi.org/10.1016/j.jacc.2018.07.042>
- [13] Groarke, J.M., Berry, E., Graham-Wisener, L., McKenna-Plumley, P.E., McGlinchey, E. and Armour, C. (2020) Loneliness in the UK during the COVID-19 Pandemic: Cross-Sectional Results from the COVID-19 Psychological Wellbeing Study. *PLoS ONE*, **15**, e0239698. <https://doi.org/10.1371/journal.pone.0239698>
- [14] Beirão, D., Monte, H., Amaral, M., Longras, A., Matos, C. and Villas-Boas, F. (2020) Depression in Adolescence: A Review. *Middle East Current Psychiatry*, **27**, Article No. 50. <https://doi.org/10.1186/s43045-020-00050-z>
- [15] Phillips, T.M. and Pittman, J. (2007) Adolescent Psychological Well-Being by Identity Style. *Journal of Adolescence*, **30**, 1021-1034. <https://doi.org/10.1016/j.adolescence.2007.03.002>
- [16] Cripps, K. and Zyromski, B. (2009) Adolescents' Psychological Well-Being and Perceived Parental Involvement: Implications for Parental Involvement in Middle Schools. *RMLE Online*, **33**, 1-13. <https://doi.org/10.1080/19404476.2009.11462067>
- [17] Khan, Y., Taghdisi, M.H. and Nourijelyani, K. (2015) Psychological Well-Being (PWB) of School Adolescents Aged 12-18 yr, its Correlation with General Levels of Physical Activity (PA) and Socio-Demographic Factors in Gilgit, Pakistan. *Iranian Journal of Public Health*, **44**, 804-813.
- [18] Brown, R.L., Leonard, T., Saunders, L.A. and Papasouliotis, O. (1997) A Two-Item Screening Test for Alcohol and Other Drug Problems. *The Journal of Family Practice*, **44**, 151-160.
- [19] Tricia, S. (2005) The Ryff Scales of Psychological Well-Being. Center of Inquiry at Wabash College. <https://centerofinquiry.org/uncategorized/ryff-scales-of-psychological-well-being/>
- [20] Daddis, C. (2011) Desire for Increased Autonomy and Adolescents' Perceptions of Peer Autonomy: "Everyone Else Can; Why Can't I?" *Child Development*, **82**, 1310-1326. <https://doi.org/10.1111/j.1467-8624.2011.01587.x>
- [21] Daddis, C. and Smetana, J. (2010) Middle-Class African American families' Expectations for Adolescents' Behavioural Autonomy. *International Journal of Behavioral Development*, **29**, 371-381. <https://doi.org/10.1080/01650250500167053>
- [22] Ayub, N. and Iqbal, S. (2012) The Relationship of Personal Growth Initiative, Psychological Well-Being, and Psychological Distress among Adolescents. *Journal of Teaching in Physical Education*, **1**, 101-107.
- [23] Behere, A.P., Basnet, P. and Campbell, P. (2017) Effects of Family Structure on Mental Health of Children: A Preliminary Study. *Indian Journal of Psychological Medicine*, **39**, 457-463. <https://doi.org/10.4103/0253-7176.211767>
- [24] Chukwuorji, J.C. and Ajaero, C.K. (2014) Resilience in Igbo Rural Community Adolescents and Young Adults. *Journal of Social Sciences*, **10**, 86-96. <https://doi.org/10.3844/jssp.2014.86.96>

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- [25] Virtanen, T.E., Vasalampi, K., Torppa, M., Lerkkanen, M.-K. and Nurmi, J.-E. (2019) Changes in Students' Psychological Well-Being during Transition from Primary School to Lower Secondary School: A Person-Centered Approach. *Learning and Individual Differences*, **69**, 138-149. <https://doi.org/10.1016/j.lindif.2018.12.001>
- [26] Adeyemo, D.A. and Adeleye, A.T. (2008) Emotional Intelligence, Religiosity and Self-Efficacy as Predictors of Psychological Well-Being among Secondary School Adolescents in Ogbomosho, Nigeria. *Europe's Journal of Psychology*, **4**, 2-13. <https://doi.org/10.5964/ejop.v4i1.423>
- [27] Shankar-Krishnan, N., Fornieles Deu, A. and Sánchez-Carracedo, D. (2021) Associations between Food Insecurity and Psychological Wellbeing, Body Image, Disordered Eating and Dietary Habits: Evidence from Spanish Adolescents. *Child Indicators Research*, **14**, 163-183. <https://doi.org/10.1007/s12187-020-09751-7>
- [28] Gundersen, C. and Ziliak, J.P. (2015) Food Insecurity and Health Outcomes. *Health Affairs*, **34**, 1830-1839. <https://doi.org/10.1377/hlthaff.2015.0645>