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Environmental Variables and Adolescent Behavioural and Emotional Outcomes in Secondary Schools in Ogun State, Nigeria

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Abstract. Influence of Environmental Factors on Adolescent Behavioural and Emotional Outcomes in Ogun State Secondary Schools, Nigeria. This study examined how environmental factors influence adolescents' behavioural and emotional outcomes in secondary schools in Ogun State, Nigeria. A descriptive survey design was adopted. The population is comprised of senior secondary school students in urban, semi-urban, and rural areas of Ogun State. Using stratified random sampling, 150 students aged 13-19 were selected from three schools, one from each location. Data was collected using a researcher-developed instrument, the Environmental Variables and Behavioural Patterns Inventory [EVBPI], a 36-item questionnaire with a 4-point Likert scale. The instrument had a Cronbach's alpha reliability of 0.82. Hypotheses were tested using one-way ANOVA for location effects and two-way ANOVA for interaction effects at 0.05 significance level. Findings showed a significant difference in behavioural and emotional outcomes across urban, semi-urban, and rural locations [$F(2,147) = x.xx$, $p < .05$]. Specifically, students in urban areas reported higher incidence of disruptive behaviour, while those in rural areas scored higher on emotional resilience. No significant interaction effect was found between location and gender. The study concludes that school and neighbourhood environment significantly shape adolescent behaviour and emotion. It recommends that the Ministry of Education and school administrators strengthen counselling services, improve school environments, and implement location-specific intervention programmes. Professional counsellors should design coping strategies tailored to the environmental challenges faced by students in each location.

Keywords: Environmental variables, adolescence, school, emotional, behavioural pattern, output

1. Introduction

Man has gained tremendous sequence of knowledge through different experience based on self conscious and unconscious interaction with one's environment such as contact with tradition, culture parents, schoolteachers, internet facilities, basic amenities, peer groups, religion, market, industries, banking system and schools. Environment factors in the context of this study stand for any condition outside the individual which could affect adolescents' behaviour. According to Joachim, Millicent and Petronilla, (2013) environment refers to all the factors, other than genetic which influence the individual's physiological, sociological and psychological growth from conception to death. Anderson, (2005) stated that both genetic and environment dynamic factors are also determinants in one's behavioural pattern. Environment characteristics are considered as conditions that affect the behaviour of an individual.

Adolescence is a transition period between childhood and adulthood and covers the ages of 10-19 years (Steinberg, 2013). It is, however, important to know that the period of adolescence varies from culture to culture. The period of adolescence is when young people exhibit different characteristics, for example, they look at themselves as outstanding and special. They mask their insecurity with shyness, heightened sensitivity, and occasional aggressiveness. Adolescents also pursue new identities, engage in peer selection, are curious, seek adventures, easily excited and often confused about their role (Steinberg, 2013). These characteristics can be the result of the impact of different environmental variables. Social environment of the child impacts upon the behavioural development, while the society provides the socio-cultural climate in which the child develops and by implication affects the behavioural patterns of the

individual (Chen, Zhang, and Wang, 2025, Silva, Silva, Mendonça, Florindo, and Farias Júnior, 2025). Osarenren *et al.,* (2013) underscores the immense influence exerted by the environment in the development of the individual. It is asserted that environment is the sum of all the external influence or forces which shape the development and behaviour of a person in life. Koss, Kronaizi, Brown, and Brooks-Gunn (2025) asserts that environmental unpredictability across childhood predicts anxiety, depression, delinquency and impulsivity among adolescents. Findings on developmental contextualization have added to the understanding of community context in its articulation of the ecologies that inform development and how adolescents are influenced by their social contexts. Children in rural areas, for example, are known to skip classes on market days or during farming season to help their parents on their various farms. This gives opportunity for truancy and the attendant maladaptive behaviours. On contrary, urban adolescents often show more disruptive behaviour while rural ones are more resilience (Chen *et al.,* 2025). Nature and environment are essential predictors for human development. Findings on normal child development and on development of maladaptive behavioural patterns revealed that individual, social and community conditions as well as their interactions influence behaviour (National Agency of Science, USA, 2011).

There is credence to contextual effect suggesting that living in areas of concentrated poverty like rural environment, restricts the opportunities to residents and aggravates individual disadvantage, fostering sub-cultural orientations and problems in behaviours especially among children and adolescents (Martinsone, Ģērmane, Neves-McCain, 2026, Murie and Mustard, 2004, Friedrichs, Galster and Musterd, 2003). The same thing occurs in the semi-urban environment, the only difference is that the restriction of opportunities and sub-cultural orientation will not be as grievous as it is in the rural area, but this does not connote that the adolescents in the urban area do not have or display maladaptive behaviour.

The urban environment in this study is well developed, hence, has such basic amenities as electricity, hospitals, schools, social attractions, recreational facilities and internet facilities being a state capital. The adolescents in this environment are better exposed and informed than those from rural or semi-urban environments who either lack or have limited access to those amenities and facilities. Of note, is lack of schools and hospitals and where present, they are deprived of basic facilities. Job opportunities are lacking while farming and menial jobs are common. One would have concluded that the adolescents within the urban environment will have better decision-making skills and be of better behaviour than those within the rural and semi-urban environment but that is not so. For instance, there is no problem of internet fraudulence among adolescents in the rural environment because of lack of internet facilities which exist among the adolescents in the semi-urban and urban environment.

Children or adolescents in each environment have their manner of displaying their behavioural patterns in different ways. The adolescents in the urban environment are well exposed and mostly with better family variables functioning than those in the semi-urban and rural environment. Family functioning has an influence on the development of self-esteem, while self-esteem is a predictive factor in adolescent social context (Osarenren, Ubangha and Oke, 2008). Contextual effects illustrate a child whose parents are unemployed but lives in an affluent neighbourhood who has better prospects than that of a similar child whose parents are unemployed and live in a deprived neighbourhood. The family environment and the school environment have always been linked to psychosocial and behavioural adjustment problems in adolescence. The quality of adolescent parent, peer group, and school-student interactions influence may determine the way adolescents perceive themselves in relation to others, their attitude and their behaviour (Chen *et al.,* 2025, Lila, Berelga, and Musitu, 2006, Werner, 2004).

Moreover, adolescents in the rural area lack many amenities which make it more problematic for them to make analytical or informed decisions, though they receive advice from the village elders that possess little information or they try to move to the urban or semi-urban area to be well informed. The effect of neighbourhood characteristics or environmental variables on the development of adolescents is considered huge, some research has been able to establish links between structural characteristics of school i.e. the environmental variables and behavioural outcomes (Moore, 2026, Astor, Meyer, and Behre, 2004). Schools currently use a wide array of strategies to change social and behavioural outcomes of their students. Schools have broad structural characteristics that vary depending on the environment (such as the socio-economic status of the proportion they serve, the school size, availability of recreational facilities and counselling units etc.). The factors interact and contribute to the experience an individual has at school. There is significant evidence for a connection between socio-economic status and risk behaviour. Living in an affluent neighbourhood or

urban location where basic amenities are available with greater population of educated and professionals is associated with advantages for adolescents' academic achievement, (although more so for adolescent boys than for girls). Living in a neighbourhood with low socio-economic status or semi-urban location confers risks to adolescents in terms of a host of behavioural, social and emotional problems. Living in a poor neighbourhood or rural location also places adolescents at risk for early childbearing and related sexual risk behaviours. Neighbourhood structure could have both direct and indirect effects on adolescent risk behaviour, but it is also likely that there are specific intermediary mechanisms, such as social processes. Thus, one model for linking neighbourhood structure or environmental variables to adolescent outcomes is the institutional resources model or the hypothesis that young people are influenced by the quality, quantity, diversity and affordability of neighbourhood resources.

Gorman-Smith, Tolan and Leventhal (2007) found that living in a disadvantaged neighbourhood may be associated with many poor outcomes for youth, including delinquency, violence, substance use, lower academic achievement, problems with social competence, and mental health problems. Internet access, now widely promoted even for very young children through toy-related game websites designed, has introduced a new source of influence with complex implications (Robert, Foehr and Rideout, 2005). The propensity of adolescents to commit crime becomes higher due to a lot of socio-cultural and psychological changes. Valuable insights into the development and adjustment of problems have been gained through the study of the role of environmental factors in behaviour patterns.

1.1 Statement of the Problem

There is an awareness of the great importance of the environmental factors in the moulding of an adolescent, which end up characterizing the behavioural pattern of the adolescent. There is also great concern about the apparent increase in maladaptive behaviour brought about by adolescents in the various environmental locations which include truancy, high dropout rate, vandalism, internet fraudulent acts, problems with social competence and poor decision making among others. It is likely that neighbourhood or location structure could have both direct and indirect effects on adolescent risk behaviour. It is also likely that there are specific intermediary mechanisms such as social processes. Thus, one mode for linking neighbourhood structure to adolescent outcomes is the institutional resources model, or the hypothesis that young people are influenced by the quality, quantity, diversity and affordability of neighbour resources e.g. schools, health and social services, recreational and social programs as well as employment opportunities. It is on this premise that this study seeks to examine environmental variables as antecedents of Adolescents behavioural and emotional output in secondary schools in Ogun State, Nigeria.

1.2 Purpose of Study

- To find out if there is any significant relationship between adolescents' perception of environment and behavioural challenges.
- To find out the relationship between adolescents' environment, decision making skill and emotional pattern.
- To compare the relationship between adolescents' environment or neighbourhood characteristics and vulnerability to delinquency and crime.
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- To consider the gender difference in the behavioural pattern of adolescents across the three locations.

1.3 Hypotheses for the Study

Ho_1: There is no significance relationship between types of environments (rural, semi-urban and urban) and adolescent behavioural patterns.
Ho_2: Types of environments will have no significant influence on adolescent decision-making and emotional patterns.
Ho_3: Adolescent environment does not significantly influence vulnerability to crime.
Ho_4: There is no significant gender difference in the behavioural pattern of adolescents across locations.

2. Research Methodology

This study was purposely carried out so as to have an in-depth view of influence of the environmental factors on the behavioural pattern of Adolescents. The research design used for the study was descriptive survey research design. This design requires that the variables of interest had finished interacting among themselves before the research. This research work describes and interprete issues, conditions and practices that exist or views that are going on, it also helps to obtain a systematic analysis of the relationship between the adolescents' behaviour and their different environment. The population of the study comprised all Senior Secondary School Students between age 13-

19 from urban, semi-urban and rural school locations. A total number of one hundred and fifty (150) adolescents from three different secondary schools randomly selected from three different local government areas participated in this study representing the urban, semi-urban and rural areas. Fifty adolescents were randomly selected from each environment. A self designed instrument titled "Influence of Environmental Factors on Adolescents Behavioural Pattern Inventory" (EVBPI). The instrument was divided into two major parts: A and B, part A measured the Biodata of participants which comprised of age, location, local government area and state. Part B of the instrument is made to elicit responses in so as to test and discuss the hypotheses generated. This part contains thirty-six statements against which the participant responded according to the stated four-point scale: SA – Strongly Agreed, A – Agreed, D – Disagreed, SD – Strongly Disagree. All the participants were given sufficient time to respond to the items; the researcher ensured that they understood what was entailed and the instrument was collected back immediately at finishing.

To check for the reliability of the instrument, a trial test was done with thirty respondents similar to the actual research sample. The trial test was meant to reveal deficiencies of the instrument and allowed the researcher to make meaningful modifications to the research instrument. After administering the trial group, separate scores were assigned to every participant, that is, the items on the instrument were split into two halves namely odd and even items. The scores of the halves were computed and correlated using the split-half measure of reliability. The reliability of the scores was estimated using the Spearman-Brown Prophecy formula. The overall reliability of the scale was 0.75. This means that there was a positive correlation between the even and the odd numbered items the questionnaire is adjudged reliable. The reliability of the scale is 0.75, Spearman 0.84.

3. Results

The results are presented in figure and tabular forms.

Table 1: Descriptive Analysis of the Participants Gender Status

Gender	Frequency	Percentage (%)
Male	69	46
Female	81	54
Total	150	100.0

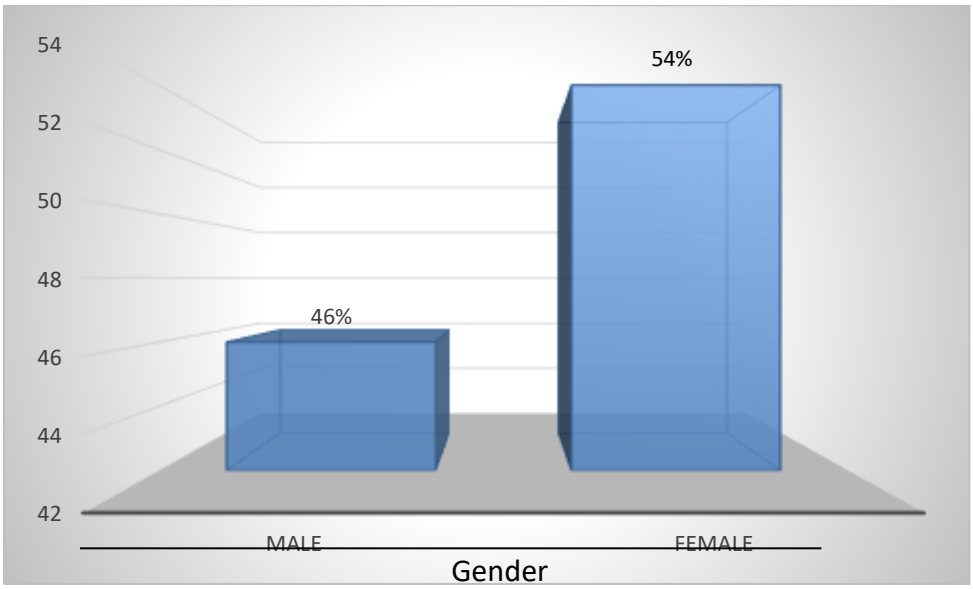

Figure 1: Pictorial View of Participants' Gender Status

Most of the participants were females (54%) of the population while males' participants were only 46% as shown in figure 1.

Table 2: Descriptive Analysis of Participants' Age group

Age group	Frequency	Percentage (%)
13-15 years	53	35
16-17 years	75	50
17 years & above	22	15
Total	150	100.0

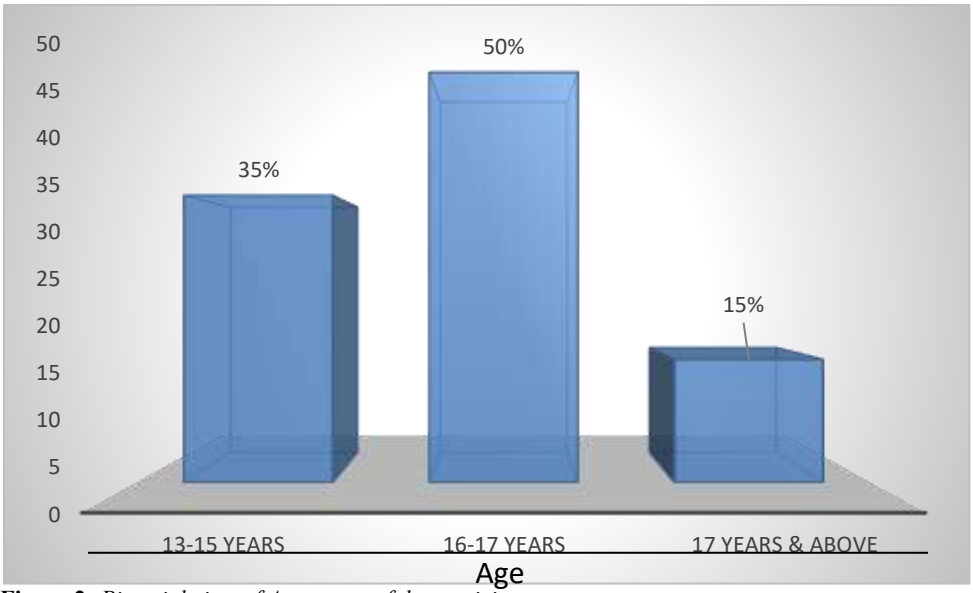

Figure 2: *Pictorial view of Age group of the participants*

Figure 2 shows that 35% of the participants fall into 13-15 years age group; 50% fall into 16-17 age group while 15% were 18 years and above. Thus, most of the participants fall into 16-17 years age group.

Testing of Hypotheses

The results of the hypotheses tested are thus presented.

Ho_1: There is no significant relationship between the environment and behavioural patterns of the adolescent.

Table 3: ANOVA for Adolescent perception of environment with behavioural challenges across locations

Location	N	Mean	SD
Semi-Urban	50	20.94	4.2972
Rural	50	22.68	4.177
Urban	50	22.72	5.852
Total	150	22.11	4.88

	Sum of Squares	df	Mean Square	Fcrit	Sig
Between Groups	103.293	2	51.647	2.21	*.114
Within Groups	3437.780	147	23.386		
Total	3541.073	149			

*Not-sig, p>0.05, df=2&147, F-crit=3.00

Table 3 shows result of F-calculated value of 2.21 as the difference in adolescent perception of environment in relationship with behavioural challenges across locations. This result is not significant as the F-calculated value of 2.21 was less than F-critical value of 3.00 at 0.05 level of significance given 2,147 degrees of freedom. Therefore, the null hypothesis was not rejected. This implies that adolescent perception of environmental relationships with behavioural challenges is the same across rural, semi-urban and urban locations.

Ho_2: Types of Environments will have no significant influence on adolescent decision-making and emotional patterns.

Table 4: Influence of environmental type on adolescent perception in decision making ability and emotional pattern

Locations	N	Mean	Sd
Semi-Urban	50	30.22	5.70
Rural	50	27.280	2.40
Urban	50	29.58	7.54
Total	150	29.027	5.74

	Sum of Square	df	Mean Square	F	Sig.
Between Groups	239.053	2	119.527	3.77	.025
Within Groups	4664.840	147	31.734		
Total	4903.893	149			

Sig $p<0.05$, df=2&147, F-crit=3.00

Table 4 shows result of F-calculated value of 3.77 as the difference in adolescent perception of influence of environment on decision making ability and emotional pattern across locations. This result was significant as the F-calculated value of 3.77 was greater than F-critical value of 3.00 at 0.05 level of significance given 2,147 degrees of freedom. Therefore, the null hypothesis which states that Adolescent environment influences his or her decision-making ability and emotional pattern does not differ across locations was rejected while the alternate hypothesis which states that adolescent environment influences his or her decision-making ability and emotional pattern does differ across locations was accepted. This implies the participants' responses from urban, semi-urban and rural vary. Thus, to determine where the difference lies, a post-hoc analysis was carried out using LCD statistical tool. The result is presented as follows:

Table 5: LCD Post-hoc Analysis

(I) Location	(J) Location	Mean Difference (I-J)	Sig.
Semi-Urban	Rural	2.94*	.010
Urban	Rural	2.30*	.043

The post-hoc analysis of table 5, revealed that students from semi-urban location has better interactive outcomes as regards decision making ability and emotional stability over those from rural location with mean difference-2.94; and $p=0.010<0.05$ while students from urban location has better performance in decision making and emotional stability than the students from rural location with mean difference of 2.30;<0.05. This implies that students from urban and semi-urban locations have better perception of environment influence on decision making ability and emotional patterns than the students from rural locations.

Ho_3. Adolescent environment does not significantly influence vulnerability to crime.

Table 6: One-way Analysis of variance on adolescent environment with vulnerability to crime

Location	N	Mean	Sd
Semi-Urban	50	19.24	4.74
Rural	50	18.48	2.22
Urban	50	18.54	5.39
Total	150	18.75	4.32

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17.853	2	8.927	0.47	*.623
Within Groups	2768.020	147	18.830		
Total	2785.873	149			

*Not-sig, $p>0.05$, df=2&147, F-crit=3.00

Table 6 shows F-calculated value of 0.47 as the difference in adolescent perception of environmental influence on vulnerability to crime across locations. This result is not significant as the F-calculated value of 0.47 was less than F-critical value of 3.00 at 0.05 level of significance given 2,147 degrees of freedom. Therefore, the null hypothesis three was not rejected. This implies that adolescent perception of environmental influence on vulnerability to crime is the same across rural, semi-urban and urban locations.

Ho_4 There is no significant gender difference in the behavioural pattern of adolescents in urban, semi-urban and rural environments.

Table 7 shows F-calculated value of 0.69 as gender difference in the behavioural pattern of adolescents in urban, semi-urban and rural environments. This result is not significant as the F-calculated value of 0.69 was less than the F-critical value of 3.00 at 0.05 level of significance given 2,144 degrees of freedom.

Table 7: Two-way Analysis of variance on gender difference in the behavioural pattern of adolescents across locations-Descriptive Statistics

Gender	Location	Mean	Std. Deviation	N
Male	Semi-Urban	30.93	6.44	27
	Rural	26.69	2.87	16
	Urban	29.23	6.56	26
	Total	29.30	6.00	69
Female	Semi-Urban	29.39	4.71	23
	Rural	27.56	2.13	34
	Urban	29.96	8.62	24
	Total	28.79	5.52	81
Total	Semi-Urban	30.22	5.70	50
	Rural	27.28	2.39	50
	Urban	29.58	7.54	50
	Total	29.03	5.74	150

Tests of Between Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	283.170[a]	5	56.634	1.765	.124
Intercept	119538.135	1	119538.135	3725.280	.000
Sex	.016	1	.016	.001	.982
Location	237.420	2	118.710	3.699	.027
Sex * Location	44.109	2	22.055	.687	.505
Error	4620.724	144	32.088		
Total	131286.000	150			
Corrected Total	4903.893	149			

Not-sig p>0.05, df=2&144, F-crit=3.00

Therefore, the null hypothesis which states that there is no significant gender difference in the behavioural pattern of adolescents in urban, semi-urban and rural environment was not rejected. This implies that adolescent gender does not influence adolescent behavioural pattern across the locations.

4. Discussion of Findings

This research work examined the influence of environmental factors on Nigerian adolescents' behavioural pattern comparison between urban, semi-urban and rural dwellers in Abeokuta, Ogun State. The findings revealed that adolescents' perception of environmental relationship with behavioural challenges is the same across the three different locations which is in line with Anderson (2005) which stated that both genetic and environment dynamic factors are also determinants in one's behavioural pattern. The findings also reiterated that environmental determinants are considered as conditions that affect the behaviour of individuals, which in accordance with Osarenren *et al.,* (2013), the environment is the sum of all the external influence or forces which shape the development and behaviour of a person in life. Adolescence is the period in which patterns of behaviour which have long-life consequences are formed and become established. Thus, the environment in which the adolescents are brought up constituted a lot with their behavioural pattern. According to Osarenren *et al.,* (2013), Ngale (2009), the family is the foundation of human society; hence, the family is therefore the most natural environment for human development. Parental monitoring and discipline prevent association with deviant peers throughout the adolescence stage. However, Omoegun, (2004) explained that the effects of what happen during prenatal period and the earliest months and years of a child's life can last a lifetime.

Bada and Ayodele (2013) suggested that the quest for independence has led adolescents to take positions and views different from those of the parents and other adults, and to act in conformity with their peers no matter how unconventional this act may be. Due to the pressure from the peer group the behavioural pattern changes as a result of inability to control or through lack of assistance from a significant other.

Ajose, (2007) finds out that adolescent have problems; many of these result from hormonal influences, inexperience, culture and behaviour presented by the society to him in general. They degenerate into health challenges, lack adjustment to societal expectation, misinformation about their physique, inadequate coping skills and strategies.

The findings revealed that adolescent environment influences his or her decision-making ability and emotional pattern across location which is in accordance with Osarenren, 2013 who underscores the immense influence exerted by the environment in the development of the individual. Adolescents' vulnerability to delinquent behaviours is predicated on both the external and personal factors of individual parents and has a direct impact on the wellbeing of their children (Rosenberg and Wileox, 2006). However, many parents believe that they can help mould their children into well-adjusted adults who can control their impulses with regards to vandalism, fraudulent acts, poor decision making and such other antisocial and destructive behaviours (Finkenaner, Engels and Baymeister, 2005).

There is, the need to recognize and detect early behaviour problems and find strategies to intervene and prevent the full blown of behavioural and emotional problems in children and adolescents (Gutman and Eccles, 2007). Furthermore, the findings from the study revealed that environmental influence on vulnerability to crime is the same across the different study locations. Environmental determinant is considered as conditions that affect the behaviour and development of an individual and circumstances that happened within the time range. Neighbourhood environment has been found to directly affect anxiety/depression, mediated by screen time and moderated by family function (Martinsone *et al.,* 2026, Chen *et al.,* 2025). Also, diverse and safe neighbourhoods have been found to increase recreational activity in Brazilian adolescents (Silva *et al.,* 2025).

The findings also revealed that adolescents' gender does not influence adolescent behavioural pattern across the locations which is in accordance with James, (2004), who opined that it is pathetic to note today that the world is fast turning upside down. The researcher also pointed out that what we used to know about virtue, moral and respect is fast fading out among adolescents both male and female in the society. Moreover, Omoegun, (2004) explained that the effects of what happens during prenatal period and the earliest months and years of a child's life can last a lifetime be it male or female.

5. Recommendations

Based on the findings of the study, the followings recommendations were made:

There should be an understanding of the school environment characteristics by the school Principal to initiate and put in place adequate adjustment strategies in the school for the students be it the urban, semi-urban or the rural locations.

The school authority can also liaise with the parents to provide in whatever capacity possible certain structural amenities for the school for the well-being of their wards. This will also be dictated by the environmental type.

There is need for preventive guidance and counselling in each school across environmental locations. This prevents the full blown of behavioural and emotional problems.

Peer group with negative influence should be identified for sanctions and corrections for self adjustment and achievement.

6. Conclusion

Links have been made between school characteristics, environmental variables and behavioural outcomes of Adolescent. There is need to work with individuals and families to manage or cope with stresses of living in a disadvantaged neighbourhood, be it urban, semi-urban or rural. Since the condition or environment in which students learn is of great importance and it will greatly influence the type of behavioural pattern that will be put up. Helping and directing someone to understand one-self and circumstances under which one operates is the job of professional guidance counsellor.

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