Global Journal of Medical and Health Science
Volume 11, Number 4; October-December,2024;
ISSN: 2836-5577| Impact Factor: 7.76
https://zapjournals.com/Journals/index.php/Medical-Health/
Published By: Zendo Academic Publishing

FACTORS OF HEALTH BEHAVIOUR OF ADOLESCENTS IN THE INNER CITY OF UYO, AKWA IBOM STATE

[1]Okediji, A. Enwongo, Moses T. Imbur, Jonah U. Miracle and Ikoroha S. Innocent
Correspondence Email: mosimbur@yahoo.com; Tel: 08039318260

Article Info
Keywords: Adolescent health behaviors, School type, Internet use, Sexual initiation, Gender differences
DOI
10.5281/zenodo.14044653

Abstract
This study investigated the impact of school type, internet use, and sexual initiation on the health behaviors of adolescents in an inner city setting. Data were collected from two secondary schools (Nuco Secondary School off Ikpa road and Four towns Secondary School off Abak road). One hundred and ninety-two (192) participants consisting of 86 (44.8%) males and 106(55.2%) females aged 14 to 21 years with a mean age of 16.70 years were selected using the convenience sampling technique. Two instruments were adopted in this study; the Internet Usage Scale (IUS) and Health Behavior Checklist scale (HBCS), and were used to collect data in the study. This study used a correlation design. Pearson Product Moment Correlation Coefficient (Pearson r) and independent t-test statistics were used to analyze the data collected. Result revealed that Gender was significantly associated with the health behaviors of adolescents ($r(192) = 0.24$, $p < 0.01$). Result also revealed that school type was significantly associated with the health behavior of adolescents ($r(192) = .36$, $p < 0.01$). Result also revealed that Internet usage was significantly associated with the health behaviors of adolescents ($r(192) = 0.55$, $p < 0.01$). Additionally, the result revealed that there was a significant difference between the health behaviors of female adolescents who initiated sex earlier than their male counterparts ($t(19) = 2.01$, $p < 0.05$). Implications and recommendations for further studies are presented.

Introduction

Adolescence is a critical developmental period in which individual grow, explore, learn, and develop important skills that prepare them for adulthood. Adolescents are young people who have undergone puberty but have not reached the stage of full maturity. The development period begins at approximately 12 to 13 years and ends between the ages of 18 to 22. It is usually marked by biological, cognitive, and socio-emotional changes. Several developmental experiences occur during this phase of life. Besides physical and sexual maturation, there is also the transition toward social and economic independence, the development of identity, the acquisition of skills needed to carry out adult relationships, and roles and the capacity for abstract thinking (WHO, 2014). Adolescents face critical identity development challenges, and failure to regulate this process can lead to negative health behaviors, such as excessive alcohol consumption, smoking, substance abuse, and sexual

[1] Department of Psychology, University of Uyo, Akwa Ibom State, Nigeria

promiscuity (Santrock, 2005; Oshodi, 2010; Nkanta, 2014). Studies have revealed that 74% of adolescents worldwide struggle with negative health behaviors, contributing to issues like addiction, depression, and chronic diseases such as cardiovascular conditions and cancer (Patton et al., 2016; Pearson & Crawford, 2016; Center for Behavioral Health Statistics and Quality, 2019). Health behaviors, including physical activity, nutrition, substance use, and sleep, significantly influence adolescents' well-being (WHO, 2010; Sallis & Owen, 2015). Positive behaviors, like exercise and balanced nutrition reduce, the risk of obesity and chronic illnesses (Ekeland et al., 2005), whereas negative behaviors such, as substance use and sedentary lifestyles increase; health risks (Clark et al., 2008; WHO, 2015).

Several factors, including gender, school type, internet use, and sexual Orientation, are associated with health behaviors among adolescent. Studies have revealed gender differences in physical activity, with boys participating more often than girls (Hume, Salmon, & Ball, 2012). Adolescents in public schools are more prone to negative behaviors like smoking and substance use than those in private schools (Quinn et al., 2018). Internet use, while providing access to health information, can also promote sedentary behaviors and disrupt sleep patterns (Bélanger et al., 2019; Park et al., 2019). Sexual initiation, especially early onset, is linked to risky behaviors such as drug use and unprotected sex, increasing the risk of sexually transmitted infections and unplanned pregnancies (Huschka, 2019; Santelli, 2013). This study examined the associations between gender, school type, internet use, and sexual initiation and the health behaviors of adolescents in Akwa Ibom State.

Our modern ways of life have promoted both positive and negative health behaviors in adolescents. Behaviors such as incessant and unguided use of the internet, excessive alcohol consumption, and other substances such as abuse, sleeping behavior, uncontrolled sexual initiation, sedentary lifestyle, nutritional habits, are behaviors that can exacerbate during the adolescent stage. These behaviors are harmful to their health and overall well-being, and can impair the adolescent's physical, social, and psychological functioning. (Bassols, et al (2010) and Blair, 2021)

Studies revealed that 76.3% of adolescents in Nigeria engage in negative health behaviour such as alcohol consumption, 35.9% engage in a sedentary lifestyle, 65.9% smoke tobacco and also engage in substance abuse, 53.1% exhibit negative sexual behaviors, and 46.9% manifest eating disorders. These behaviours vary between male and female adolescents. For example, statistics from the same source also reveal that 59.8% of males and 59.2% of females are involved in health risk behaviors. 68.6% of males and 29.6% females smoke tobacco;45.7% of males and 58.1% of females are involved in sports and other exercises, 67.5 of males and 80.4% of females involved in drug used, 54.2% of males and 35.4% of females do not have risky sexual behaviours (Nigerian Journal of Education, 2021).

However, few studies that have examined close variables in this study were conducted in western and indigenous countries but none have been conducted in Akwa Ibom State hence there is a need for this study to examine how gender, school type, internet use, and sexual initiation are associated with health behaviours of adolescents in inner cities. To this end, the following research questions were asked.

- Gender will be associated with the health behaviors of adolescents.
- Will their school type be associated with health behaviors?
- Will internet usage be associated with the health behaviors of adolescents?
- Will sexual initiation among adolescents be associated with health behaviors?

Purpose of the Study

The purpose of this study is to examine school type, Internet use and sexual initiation as factors associated with the health behaviors of adolescents in the inner city of Uyo, Akwa Ibom state, specifically to;

- Determine the association between gender and health behaviors of adolescents in inner city.
- Determine the association between school type and health behaviors of adolescents in inner city.

- Determine the association between internet use and the health behaviors of adolescents living in inner cities
- Determine the association between sexual initiation and health behaviors of adolescents in inner city.

The findings of this study will be of significance to the general public, psychologists, researchers and undergraduates.

First, this research is relevant to the general population who would find it useful to know the consequences of negative health behaviors among adolescents and it later effects.

Second, the findings of this study will be helpful to clinical psychologists or counselors and even families, so they will be able to teach their adolescents about the positive types of health behaviors, which will help these adolescents live a better life.

The findings will also be significant to teachers who will use the information from this research to teach their students.

The study will also be significant to adolescents, because the study will inform them on the effects of negative health behaviors and thus enable them to make wise decisions.

Finally, the findings of this study will also fill the dearth in the existing literature on gender, school type, internet use, and sexual initiation as they influence the health behaviors of adolescents. This will also assist researchers who wish to conduct research on these variables in other regions of Nigeria.

Several theories have been useful in explaining socio-demographic factors and sexual initiation as factors associated with health behaviors. These theories were as follows:

Health Belief Model (Hbm) of Health Behavior

The HBM was developed in the 1950s by social psychologists Irwin M. Rosenstock, Godfrey M. Hochbaum, and Kegels. The Health Belief Model (HBM) was developed to help understand why people did or did not use preventive services offered by public health departments in the 1950s, and has evolved to address newer concerns in prevention and detection (e.g., mammography screening, influenza vaccines), as well as lifestyle behaviors such as sexual risk behaviors and injury prevention.

Transtheoretical Model of Behavioral Change/ Stages of Change

The Transtheoretical Model, also known as the Stages of Change Model, is a theoretical framework applied to the process of intentional behavioral change, primarily in the context of health-related behaviors. Originally developed by James O. Prochaska and Carlo C. DiClemente proposed in the late 1970s that individuals go through distinct stages when modifying their behavior, which include precontemplation, contemplation, preparation, action, maintenance, and potentially termination.

Social Cognitive Theory of Human Behavior

Social cognitive theory (SCT), the cognitive formulation of social learning theory that has been best articulated by Bandura, explains human behavior in terms of a three-way, dynamic, reciprocal model in which personal factors, environmental influences, and behavior continually interact (Glanz, 2010). SCT synthesizes concepts and processes from cognitive, behavioristic, and emotional models of behavior change, so it can be readily applied to counseling interventions for disease prevention and management. A basic premise of SCT is that people learn not only through their experiences, but also by observing others actions of others and the results thereof.

Reciprocal Determinism

The key Social Cognitive Theory construct of reciprocal determinism means that a person can be both an agent for change and a responder to change. Thus, changes in the environment, role model examples and reinforcements can be used to promote healthy behaviors. When linking Social Cognitive theory, it becomes

evident that leveraging the principles of reciprocal determinism can inform interventions for inner-city adolescents by emphasizing the importance of positive environmental changes, exposure to constructive role models, and reinforcement mechanisms to promote healthier behaviors.

Social Ecological Model of Health

The social ecological model helps to understand the factors affecting behavior and provides guidance for developing successful programs through social environments. Social ecological models emphasize multiple levels of influence (such as individual, interpersonal, organizational, community and public policy) and the idea that behaviors shape and are shaped by the social environment. The principles of social-ecological models are consistent with social-cognitive theory concepts that suggest that creating an environment conducive to change is important for making it easier for healthy behavior to be adopted. Health behaviors are shaped by a complex interplay of determinants at different levels. For example, physical activity is influenced by self-efficacy at the individual level, social support from family and friends at the interpersonal level, and perceptions of crime and safety at the community level. Ecological models suggest that multiple levels of influence interact across levels. For example, social support for exercise from co-workers may interact with the availability of exercise equipment at worksites leading to increased physical activity.

Empirical literature

Previous research has extensively explored factors associated with health behavior such as school type, internet use, and sexual initiation, among other factors in the context of adolescents. However, these studies often lacked clear causal links between the factors on adolescents and strategies to address them. To address this gap, recent reviews were conducted to examine current studies and shed light on their relationships.

Adolescence is a critical developmental phase characterized by physical, mental, and emotional changes that influence health behaviors. Various studies across different regions have explored how adolescents adapt to these changes and how they impact health behaviors. Rahman (2018) conducted a cross-sectional study on 160 high school-going adolescents in Bangladesh aged, 12 to 16 years to assess their health behaviors and status. The findings revealed that while many adolescents were aware of the changes associated with puberty, a significant number were not, leading to anxiety and fear. Health behaviors were largely influenced by adolescents' perceptions of their health and the individuals they confided in. Notably, girls tended to inform their mothers, sisters, or grandmothers about their issues, whereas boys usually confided in friends and peers and rarely disclosed their concerns to family members. This tendency to conceal health issues led to low engagement with qualified health care providers. The study concluded that health education and knowledge on puberty are vital for the smooth transition of adolescents. Several barriers to healthcare were identified, including lack of knowledge about puberty-related health issues, shyness, financial constraints, and family dynamics. These factors disproportionately affected girls, with about 22% reporting unequal attitudes and lack of decision-making power within families as deterrents to seeking health care.

Building on the understanding of gender differences in adolescent health behaviors, Antia et al. (2023) studied 933 adolescents in Georgia and analyze their emotional and health behaviors using Achenbach's Youth Self-Reported (YSR) syndrome scales. The study found that girls with higher internalizing scores were less likely to engage in physical activities, have fewer close friends, and experience more school problems and strained relationships. Boys exhibited similar associations but were more involved in sports. This research emphasizes the need for gender-specific interventions to address emotional and health challenges.

In a similar vein, Vakili et al. (2023) explored high-risk behaviors among 2,420 school-going adolescents in Yazd, Iran. The study revealed that boys were more likely than girls to engage in risky behaviors, such as smoking, alcohol consumption, and substance abuse. Boys also reported higher involvement in physical

altercations, whereas girls experienced greater parental supervision. Physical activity levels were alarmingly low in both genders, with only 18.4% of adolescents meeting the recommended guidelines. The study highlights the importance of addressing gender-specific behaviors to improve adolescent health outcomes.

In the U.S., Olson et al. (2018) examined gender-specific health behavior patterns among young adults. Using data from the National Longitudinal Study of Adolescent to Adult Health, the researchers found that men exhibited higher levels of unhealthy behavior (40%) than women (22%), with women tending to age out of these behaviors more readily. Sociodemographic factors, such as education and marital status, differed in influencing these behaviors by gender. Parental drinking habits had a more significant impact on men, whereas peer drinking had a greater influence on women. These findings underscore the importance of considering gender and social context when addressing adolescent health behaviors.

School environments also play crucial roles in shaping health behaviors. Chen et al. (2021) investigated the effects of different school types on adolescent well-being in Sub-Saharan Africa. The study found minimal differences between public and private school outcomes but identified notable trends in homeschooling and religious schooling. Homeschooling was associated with more frequent volunteer and religious service attendance, whereas religious schooling was linked to healthier lifestyle choices, including lower obesity rates and increased voter registration. These findings suggest that alternative schooling methods may foster different aspects of adolescent development and well-being.

In Bangladesh, Kundu et al. (2023) analyzed health risk behaviors among 412 adolescents and identified three distinct risk groups: low, moderate, and high-risk takers. Boys and older teens were more likely to engage in high-risk behaviors, particularly when parental understanding and involvement were lacking. This study emphasized the influence of parental education and monitoring on adolescent health behaviors, particularly in rural areas. The relationship between internet use and adolescent health behaviors was explored by Gao (2020), who examined students at Jacobs University in Bremen, Germany. The study found positive associations between internet use and physical activity and diet among female students, while male students showed negative associations with physical activity planning. Similarly, Lahti et al. (2021) examined internet use profiles among Finnish adolescents and identified excessive internet use as a risk factor for low mood and tiredness. Gender differences in internet use also emerged, with boys favoring gaming and music, and girls preferring social activities.

Sexual initiation is another crucial aspect of adolescent health behaviors. Gonçalves et al. (2015) examined sexual initiation among Brazilian adolescents and found, that 18.6% reported sexual initiation by age 14, with boys being more likely to engage in early sexual activity. Early sexual initiation was linked to behavioral risks, such as tobacco and alcohol use, and lower contraceptive use among girls. Similarly, Castro et al. (2015) found that 24.2% of school adolescents in Piauí, Brazil, had initiated sexual activity, with boys, older teens, and those from public schools at higher risk. The study highlights the need for targeted health promotion strategies to address these vulnerabilities.

These studies highlight the complex interplay of gender, social context, and external influences in shaping adolescent health behaviors across different regions. From puberty-related health issues to risk behaviors and internet use, adolescence is a pivotal period for establishing health habits that can have long-term consequences. Tailored interventions informed, by gender and socioeconomic factors, are essential to promote the well-being of adolescents globally.

Hypotheses

- Gender has a significant positive association with the health behaviors of adolescents.
- School type has a significant positive association with the health behaviors of adolescents
- Internet usage has a significant positive association with the health behaviors of adolescents
- Female adolescents who initiate sexual activities early will exhibit negative health behaviors than their male counterparts.

METHODS

Research design and area: This study adopted a correlational design. This research design was adopted for this study because it provides clear evidence of a positive or negative relationship between the variables.

Independent variables (School type, internet use and sexual initiation) and dependent variable (Health Behaviors). The study was conducted in Akwa Ibom state, Nigeria, located in the South East of the country line between latitudes 4°321 and 5° 331 North and longitudes 7° 251and 8° 251 East. Akwa Ibom is bordered on the east by Cross River State, on the west by the River State and Abia State, and on the south by the Atlantic Ocean. The questionnaire was administered in two different Secondary Schools which are; Nuco Secondary School off Ikpa road (private school), and Four Towns Secondary School off Abak road (Public School), all in the Uyo Local Government Area in Akwa Ibom State.

Participants

A total number of two hundred (200) participants which consist of 98 (49%) males and 102 (51%) females were selected from two secondary schools (Nuco secondary school off Ikpa road and Four towns Secondary school off Abak road) using convenience sampling technique. A total of 100 participants were selected from Nuco secondary school, and a total number of 100 participants were also selected from Four Towns Secondary. In Nuco Secondary School, 23 participants were selected from JSS3, 22 from SS1, 28 from SS2 and finally 27 from SS3. In Four Towns Secondary School, 38 participants were selected from SS1, 33 from SS2, and 29 from SS3.Their ages were between 11 and 21 years, with a mean age of 16.

Measures

Two instruments were used in this study, each divided into specific sections. The first instrument was a questionnaire structured, into three sections:

Section A: Demographic information was collected including gender, age (as of the last birthday), school type, and age at sexual initiation.

Section B: The Internet Usage Scale (IUS) developed by Monetti et al. (2011) is, a 12-item scale designed to assess internet usage among adolescents. Items were rated on a 4-point Likert scale (1 = Not at all, 2 = Sometimes, 3 = Often, 4 = A lot). Scores ranged from 12 to 48, with a higher score indicating greater internet usage. The norm for this scale is 23.90 indicting that scores at above 23.90 suggest high internet use, while scores below this threshold indicate low internet use.

Section C: The Health Behavior Checklist (HBC), developed by Vickers, Conway, and Hervig (1990), is a 16-item scale designed to measure health behaviors among adolescents. Items were rated on a 5-point Likert scale (1 = Not at all like me, 2 = Sometimes, 3 = Often, 4 = A lot, 5 = Very much like me). The total score ranged from 16 to 80, with higher scores indicating more positive health behaviors. The norm for this scale is 53.16, where scores at or above this value indicate positive health behaviors, and scores below suggest negative health behaviors. HBCs showed internal consistency with a Cronbach's alpha of 0.74. Split-half reliability indicated an alpha of 0.76 for the first half (items 1–8) and 0.54 for the second half (items 9–16), indicating lower reliability for the second half of the scale.

Procedure

The study occurred within the premises of two different schools as previously stated. Nuco secondary school Uyo, and Four Towns Secondary School, Abak Road Uyo

Each participant received an informed consent letter along with the survey instruments. With the assistance of two research assistants, the questionnaires were personally distributed to the participants over a period of two working days. Participants were instructed to thoroughly review the instruments before completing them. Subsequently, the questionnaires were collected, properly filled out questionnaires were scored and analyzed. Out of 200 distributed copies, 192 questionnaires were retrieved, collated, and subjected to statistical analysis, resulting in an impressive response rate of 96%.

Statistics

To address the research problems and test the hypotheses, the study employed Pearson product moment correlation coefficient (Pearson r) for data analysis. The Pearson was used to establish the type of relationship exist between the variables in this study. An independent t-test was used to test hypothesis 4, to reveal significant difference in health behaviors between male and female adolescents who initiated sexual activities early.

Each hypothesis was evaluated using SPSS (Software Package for Social Sciences), specifically IBM SPSS Statistics version 23.

RESULT

Table 1: Summary of frequencies, percentages, mean, and standard deviations of demographic factors among adolescents (N = 192)

Demographic Factors	**N**	**%**
Age		
Mean age = 16.70 (SD: 2.06) Minimum age = 14 years Maximum age = 21 years	192	100.0
Age at sexual initiation		
11-17 years	136	70.8
18-21 years	56	29.2
Gender		
Male	86	44.8
Female	106	55.2
School Type		
Public	85	44.3
Private	107	55.7
Total	**238**	**100.0**

The descriptive results in Table 4.1 indicated that the age of adolescents was a minimum of 14 years and a maximum of 21 years with, an average age of 16.70 years (SD = 2.06). The gender distribution showed that 86 (44.8%) male respondents' female respondents 106 (55.2%). Descriptive Statistics was also used to test school type and its results showed that adolescents participated in public schools were 85 (44.3%) and 107 (55.7%) adolescents participated in public and private schools. The result of this study reports that 136 (70.8%) adolescents were initiated into sexual activities between the ages of 11 and 17 years, while 56 (929.2%) were initiated into sexual activities between the ages of 18 and 21 years.

Table 2: Summary of correlation matrix of study variables in exploring the contributory influence of the study variables on the health behavior of adolescents

Variables	**Age**	**GE**	**ST**	**AOSI**	**IU**	**HB**
Age	1					
GE	-.06	1				
ST	.20**	-.07	1			
AOSI	.61**	.03	-.07	1		
IU	.21**	-.07	-.08	-.04	1	
HB	.28	.17*	.08	.10	.35*	1

Note: GE = Gender; ST = School Type; AOSI = Age of Sexual Initiation; IU = Internet Usage; HB = health Behavior.

***Correlation is significant at the 0.05 level.**

****Correlation is significant at the 0.01 level.**

The zero-order correlation matrix results in Table 4.2 indicate that school type was positively related to age ($r = .20$; $p<0.01$); while age of sexual initiation was positively associated with age ($r = .61$; $p<0.01$). Internet use was directly related to age ($r = .21$; $p<0.01$) while health behavior was directly related to age and internet use ($r = .17$; $p<0.05$; $r = .35$; $p<0.05$) respectively.

Table 3: Summary of Pearson Correlation for the Association between Gender and Health behaviors among adolescents in inner city

		Gender	Health behavior
Gender	Pearson Correlation	1	.240**
	Sig. (2-tailed)		.000
	N	192	192
Health behavior	Pearson Correlation	.240**	1
	Sig. (2-tailed)	.000	
	N	192	192

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

The results of the association between gender and adolescents' health behaviors as presented in Table 4.3, revealed a positive association between gender and health behaviors, r (192) = 0.24, p<0.01, 2-tailed level of significance. This implies that male gender was linked to health behaviors of adolescents. Gender is an important construct in any attempt to address health-related behaviors among adolescents. The way girls behave in relation to their health behaviors is quite different from their male counterparts because of many factors. As revealed earlier in this work, boys tend to pay more attention to their physical well-being and are more involved in physical exercises than their females' counterparts (Blair, 2021). It was also reported that females develop poorer eating habits than the male (Weiss, et al. & Costa, et al. (2018). As used in this study, gender means male and female. Data gathered from both genders and subjected to analysis, revealed that gender had a direct association with the health behaviors of adolescents**.** The first hypothesis, which stated that gender will have a significant positive association with the health behaviors of adolescents, was supported.

Table 4: Summary of Pearson Correlations, showing the association between school type and Health behaviors among adolescents in inner city

		School type	Health Behavior
School Type	Pearson Correlation	1	.356**
	Sig. (2-tailed)		.001
	N	192	192
Health Behavior	Pearson Correlation	.356**	1
	Sig. (2-tailed)	.001	
	N	192	192

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

The results of the association between school type and health behaviors of adolescents, as stated in Table 4.4 revealed a positive or direct association between school type and health behaviors, r (192) = .36, p<0.01, 2-tailed level of significance. This means that the type of school the adolescents attend is associated with their health behaviors. Thus, school type is another important variable in any attempt to address the inherent negative health behaviors of adolescents. The School type as used in the study (public and private schools) has been seen to have a direct or positive relationship with adolescents' health behaviors. Most adolescents tend to spend more time in school, and as such, they adopt more attitudes from their peers or teachers in school in which behaviors can be positive or negative. After obtaining an amount of data from public and private schools, and carrying out

an analysis on the collected data, the second hypothesis, which stated that school type has a significant positive association with the health behaviors of adolescents, was accepted.

Table 5: Summary of Pearson Correlation for the Association Between internet Use and Health behavior among youths in inner city

		Internet Use	Health Behavior
Internet Use	Pearson Correlation	1	.551**
	Sig. (2-tailed)		.002
	N	192	192
Health Behavior	Pearson Correlation	.551**	1
	Sig. (2-tailed)	.002	
	N	192	192

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

The results, as stated in Table 4.5, revealed a positive/direct association between internet use and health behaviors, r (192) = 0.55, p<0.01, 2-tailed level of significance. This finding implies that adolescents with high internet use were more susceptible to engage in negative health behaviors than those with low internet use. In light of these findings, internet usage is seen as a key factor in addressing health-related behaviors among adolescents. Having collected data from adolescents who had access to the internet, the data subjected to analysis revealed that adolescents who stayed long hours on the internet (High internet usage) tend to develop negative health behaviors such as obesity, lack of sleep, starvation and many other negative health behaviors, compared to adolescents who spent minimum hours on the internet (low internet usage), Therefore, the third hypothesis, which stated that internet usage will have a significant positive association with the health behaviors of adolescents, was accepted.

Table 6: Summary of independent t-test result showing the difference in health behaviors Between male and female adolescents who engage in sexual activities early

Criterion	**Gender**	**N**	**Mean**	**Std**	**Df**	**T**	**P**
Health Behaviors	Male	86	38.26	7.09	190	-2.01	<0.05
	Female	106	44.38	8.12			

The results on the difference in health behaviors between male and female adolescents who engaged in sexual activities early as stated in Table 4.6 revealed a significant difference between male and female adolescents in their health behavior [t (190) = -2.01, p<0.05]. This finding implies that female adolescents who engage in sexual activities have significantly different health behaviors from their male counterparts. The female mean represented in the table is (x = 44.38) and the male mean is (x 38.26). With the data collected from both male and female adolescents and subjected to analysis using an independent t-test, the mean scores showed that females who engage in sexual activities early tend to develop negative health behaviors compared with their male counterparts. With these studies and the proven results, the fourth hypothesis, which stated that female adolescents who initiate sex early will exhibit more negative health behavior than their male counterparts, was also accepted.

The Pearson Product Moment Correlation Coefficient (Pearson r) was used to test the first hypothesis, which proposed that gender had a significant positive association with adolescent health behaviors. The hypothesis was confirmed, demonstrating that gender plays a key role in shaping these behaviors. Research supports this, with boys generally more engaged in physical activities and better physical well-being than girls (Blair, 2021). However, girls, are more prone to poor eating habits (Weiss et al., Costa et al., 2018). These findings are consistent with those of Fleming et al. (2015), Olson et al. (2017), and Hume et al. (2012), all of whom found a positive association between gender and health behaviors. Additionally, Costa et al. (2018) and Weiss et al. (2018) highlighted gender disparities in eating behaviors, with girls adopting more varied and often negative habits. Vakili et al. (2003) further reported that high-risk health behaviors are more common in boys.

The second hypothesis, which stated that school type had a significant positive association with adolescent health behaviors, was also confirmed. This indicates that the school environment plays a critical role in shaping adolescent health behaviors, which is supported by studies by Nagy-Pénzes (2022) and Chen et al. (2022), who found that school type and satisfaction influence adolescents' health and development.

The third hypothesis proposed that high internet usage is associated with negative health behaviors, which was confirmed as well. Adolescents with high internet use often exhibit behaviors such as poor eating, insufficient sleep, and sedentary lifestyle. These findings are supported by Bélanger et al. (2011), who linked internet usage to sedentary behaviors and obesity, and Exelmans and Bulck (2017), who found that evening internet use was associated with poor sleep quality. Similar results were reported by Park et al. (2018) and Fereita et al. (2020), highlighting the negative impact of excessive internet use on the health adolescent.

Finally, an independent t-test confirmed the fourth hypothesis, which stated that female adolescents who engage in early sexual activity exhibit more negative health behaviors than male adolescents. The data revealed a significant difference in health behaviors between males and females who initiated sex early, with females showing more negative outcomes. This is supported by studies by Huschka (2019), Santelli (2013), and Roach (2018), who found that early sexual initiation in women is linked to risky behaviors like multiple partners and substance use. Additionally, Meier (2007) and Godeau et al. (2008) found that early sexual initiation in females is associated with depression, increased risk of STIs, unintended pregnancies, and other adverse health outcomes. These findings suggest the need for greater attention to the health of female adolescents', particularly regarding sexual behaviors and education.

Conclusion and Recommendations

This study explored the factors influencing the health behaviors of adolescents, focusing on school type, internet use, and early sexual initiation. The findings revealed several important associations. First, school type was had a significant positive impact on adolescents' health behaviors, suggesting that the environment in which young people learn plays a crucial role in shaping their lifestyle choices. Second, internet usage was positively associated with health behaviors, with excessive use linked to negative outcomes such as poor eating habits and insufficient sleep. Third, early sexual initiation was also associated with adolescent health behaviors, with female adolescents who engage in early sexual activity exhibiting more negative health outcomes than their male counterpart.

Based on these findings, several conclusions were drawn. It is evident that school type influences the health behaviors of adolescents, highlighting the need for schools to foster environments that promote healthy living. Additionally, high internet usage is associated with negative health behaviors, indicating the importance of managing online activities among young people. Furthermore, early sexual initiation, particularly among females, is associated with adverse health outcomes, such as risky behaviors and emotional distress. This underscores the need for targeted interventions to address early sexual activity.

Considering these conclusions, the following recommendations are made to promote healthier behaviors among adolescents. First, schools must play a proactive role in monitoring and guiding students. Teachers, lecturers, and instructors should be vigilant in identifying and addressing risky behaviors while, also encouraging good hygiene practices, such as wearing clean uniforms.

Second, parents and guardians play a key role in regulating the internet use by adolescents. Families need to establish clear boundaries, such as limiting internet access at night, to ensure adequate rest. Adolescents should also be discouraged from using phones during meals, studying, or household chores to help them develop more balanced routines.

Finally, broader community involvement is needed to address early sexual initiation. Government agencies, schools, churches, and media platforms should collaborate to raise awareness of the risks of early sexual activity. Comprehensive sex education should be integrated into school curricula and taught in churches to ensure that young people are well informed. Additionally, adolescents who contract sexually transmitted infections (STIs) because of early sexual activity should have access to free medical care and laboratory tests. It is essential that these young people are treated with compassion and are not stigmatized for their health conditions.

In conclusion, this study highlights the need for a collective effort from schools, families, and the wider community to foster healthier behaviors among adolescents. By addressing the influences of school type, internet use, and early sexual initiation, we can create a supportive environment that promotes the well-being of young people.

REFERENCES

Alexandre Lemyre, Natalia Poliakova & Richard E. Bélanger (2019) the Relationship between Tobacco and Cannabis Use: A review, Substance Use & Misuse, 54:1, 130-145, DOI: 10.1080/10826084.2018.1512623.

B. Stephen Carpenter II & Kevin M. Tavin (2010) Drawing (Past, Present, and Future) Together: A(Graphic) Look at the Reconceptualization of Art Education, Studies in Art Education, 51:4, 327-352, DOI: 10.1080/00393541.2010.11518812

Bassols AM, Boni R, Pechansky F. Alcohol, drugs, and risky sexual behavior are related to HIV infection in female adolescents. Rev Bras Psiquiatr 2010; 32(4): 361-8. 9.

Bassols AM, Boni R, Pechansky F. Alcohol, drugs, and risky sexual behavior are related to HIV infection in female adolescents. Rev Bras Psiquiatr 2010; 32(4): 361-8. 9.

Baumann P, Belanger RE, Akre C, Suris JC. Increased risk of early sexual initiation: time makes a difference. Sex Health 2011; 8(3): 431-5. 10.

Malta DC, Silva MAI, Mello FCM, Monteiro RA, Porto DL, Sardinha LMV, et al. Saúde sexual dos adolescentes segundo a Pesquisa Nacional de Saúde dos Escolares. Rev Bras Epidemiol 2011; 14(Suppl 1): 147-56.

Bélanger RE, Akre C, Berchtold A, Michaud PA. A U-shaped association between Internet use intensity and adolescent health. Pediatrics. 2011;127(2). Available at: http://pediatrics.aappublications.org/content/127/2/e330 [PubMed]

Blair, S.N. Physical inactivity: The greatest public health problem of the 21st century. Br Sports Med 2021, 43:1-2.

Brannon, L., Feist, J., & Updegraff, J. (2013). Health psychology: An introduction to behavioral and health. Cengage Learning.

Brauner-Otto, S.R, Axinn, W.G. Parental family experiences, the timing of first sex, and contraception. Soc Sci Res 2010; 139(6): 875-93

Brown, L.K, DiClemente, R.J, Reynolds LA AIDS Education and Prevention: Official Publication of the International Society for AIDS Education, 01 Jan 1991, 3(1):50-59 PMID: 2036291

Brown, L.K., Diclemente, R.J., & Reynolds, L.A. (1991). HIV prevention for adolescents: Utility of the health belief model. AIDS Education and Prevention, 3, 50-59. Google Scholar

Busse, P., Fishbein, M., Bleakley, A., & Hennessy, M., (2010). Role of Communication with Friends in Sexual Initiation. Communication Research 37(2), 239–255.doi: 10.1177/0093650209356393

Carpenter CJ. A meta-analysis of the effectiveness of health belief model variables in predicting behavior. Health Commun. 2010;25(8):661–9.

Cavallo, Alberto. 2017. "Are Online and Offline Prices Similar? Evidence from Large Multichannel Retailers." American Economic Review, 107 (1): 283-303. DOI: 10.1257/aer.20160542

CDC-U.S. Department of Health and Human Services. (2003). Physical Activity and Health: A Report from the Surgeon General. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic disease Prevention and Health Promotion.

Chen X, Chen H. Differences in COVID-19 preventive behaviors between urban and rural residents: lessons learned from a cross-sectional study in China. *International Journal of Environmental Research and Public Health*. 2020;17(12):4437. doi: 10.3390/ijerph17124437. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Chen Y, Hinton C, VanderWeele TJ (2021) Plos one, 10 Nov 2021, 16(11):e0258723 https://doi.org/10.1371/journal.pone.0258723 PMID: 34758035 PMCID: PMC8580227

Chen Y, Hinton C, VanderWeele TJ (2021), School types in adolescence and subsequent health and well-being in young adulthood: An outcome-wide analysis. PLoS ONE 16(11): e0258723. doi: 10.1371/journal.pone.0258723

Christina Jane Jones, Helen Smith & Carrie Llewellyn (2014), Evaluating the effectiveness of health belief model interventions in improving adherence: a systematic review, Health Psychology Review, 8:3, 253-269, DOI: 10.1080/17437199.2013.802623

Cohen, D. A. (2012). Exploring the relationship between parental income and sexual sensation seeking.

Costa, E. Ramos, S. Vero, H. B Arros, and C.Lopes (2018).,"Determinants of eating disorders symptomatology in Portuguese adolescents," Archives of Pediatrics and Adolescent Medicine, vol. 162, no 12, pp.1126–1132.

David Taylor, Michael Bury, Natasha Campling, Sarah Carter, Sara Garfied, Jenny Newbould, Tim Rennie (London UK: National Institute for Health and Clinical Excellence, 1-215, 2006

E. C. Weiss, D. A. Khan L. K., and Serdula M. K., Serdula "Weight-control practices among US adults, 2001-2002," The American Journal of Preventive Medicine, vol. 31, no. 1, pp. 18– 24,2006.

Ekeland E, Heian F, Hagen KB. Can exercise improve self-esteem in children and young adult? A systematic review of randomized controlled trials. Br J Sports Med. 2005; 39: 792–798. 10.1136/bjsm.2004.017707 [PMC free article] [PubMed] [CrossRef] [Google Scholar]

Eunhee Park, Misol Kwon. Originally published in the Journal of Medical Internet Research (http://www.jmir.org), 03.04.2018.

Exelmans L, Van den Bulck, J. Binge viewing, sleep, and pre-sleep arousal. J Clin Sleep Med. 2017;13(8):1001–1008.

Ferreita EZ, Oliveira AMN, Medeiros SP, Gomes GC, Cezar-Vaz MR; Ávila JA. Internet influence on the biopsychosocial health of adolescents: an integrative review. Rev Bra Enferm. 2020;73(2):e20180766. doi: http://dx.doi.org/10.1590/0034-7167-2018-0766

Flórez, C. E. (2005). Factores socioeconómicos y contextuales que determinan la actividad reproductiva de las adolescentes en Colombia [Socioeconomic and contextual determinants of adolescent reproductive activity in Colombia]. Revista Panamericana de Salud Pública, 18(6), 388–402. doi: 10.1590/S1020-49892005001000002

Ganader, S. C., and Henson, J. M. (2009). Tramadol use and self-evaluation as predictors of sexual sensation seeking in South America. Sexual Health, 6(4), 332-337. Retrieved from https://doi.org/10.1071/SH09010 on December 11, 2022

Givaudan, M., Van De Vijver, F., & Poortinga, Y. (2005) Identifying of precursors of safer sex practices among Mexican adolescents with and without sexual experience: An Exploratory Model. Journal of Applied Social Psychology 35 (5), 1089-1109. doi: 10.1111/j.1559-1816. 2005.tb02161.x

Gonçalves, H.; Machado, E.C.; Soares, A.L.G.; Camargo-Figuera, F.A.; Seering, L.M.; Mesenburg, M.A.; Guttier, M.C.; Barcelos, R.S.; Buffarini, R.; Assunção, M.C.F.; et al. Sexual initiation among adolescents (10 to 14 years old) and health behaviors. Rev. Bras. Epidemiol. 2015, 18, 25–41. [Google Scholar] [CrossRef] [PubMed]

H. Lahti, N. Lyyra, L. Hietajärvi, J. Villberg, L. Paakkari, Profiles of internet use and health in adolescence: A person-oriented approach International Journal of Environmental Research and Public Health, 18 (13) (2021),6972, 10.3390/ijerph18136972 View article View in Scopus Google Scholar

Hochbaum G, Rosenstock I, Kegels S. Health belief model. In: United states public health service; 1952.

Horanicova, S., Husarova, D., Gecková, A. M., De Winter, A. F., & Reijneveld, S. A. (2022). School satisfaction and its associations with health and behavioral outcomes among 15-Years old adolescents. *International Journal of Environmental Research and Public Health*, 19(18), 11514. https://doi.org/10.3390/ijerph191811514

J. Sallis, N. Owen Ecological models of health behavior

Jessor, R., and Turbin, M. (2014). Determinants of sexual behaviors among US and Chinese adolescents. *Journal of Youth Adolescence* 43, 1037–1051. doi: 10.1007/s10964-014-0130-y.

Johan Giesecke, Anne Johnson, Anne Hawkins, Ahilya Noone, Angus Nicoll, Jane Wadsworth, Kaye Wellings, Julia Field First published:1994 https://doi.org/10.2307/2983507

K. Glanz, B.K. Rimer, K. Viswanath (Eds.), Health Behavior: Theory, Research, and Practice (fifth ed), Jossey-Bas, San Francisco (2015), pp. 43-64

Mahmood Vakili, mahboobahsadat Mirzadeh, Mohsen Mirzael, Mozhgan Modarresl, Heliyon 9 (6), 2023

Khatia Antia, Justina Račaitė,Volker WinklerChild and Adolescent Psychiatry and Mental Health 17(17), Article number: 44 (2023) Cite this article2023

Kundu LR, Al Masud A, Islam Z, Hossain J. Clustering of health risk behaviors among school-going adolescents in Mymensingh district, Bangladesh. BMC Public Health. 2023 Sep 23;23(1):1850. doi: 10.1186/s12889-023-16766-6. PMID: 37740226; PMCID: PMC10517506.

Laraque, D., Mclean, D. E., Brown-Peterside, P., Ashton, and Diamond, B., 1997. "Predictors of Reported Condom use in Central Harlem Youth as Conceptualized by the Health Belief Model." Journal of Adolescent Health. 21(5): 318-327.

Lin, P., J. M., Simoni, and, V. Zemon, 2005. "The Health Believe Model, Sexual Behaviours, and HIV Risk among Taiwanese Immigrants."AIDS Education and Prevention 17(5):469-483. Luginaah, I.N., Yiridoe, E. K.

Lin, P., J.M., Simoni, &, V. Zemon, (2005). The health belief model, sexual behaviors, and HIV risk among Taiwanese immigrants. AIDS Education and Prevention, 17, 469-483.

Lucélia da Cunha Castro, Vera Alice Oliveira Viana, Andréa Cronemberger Rufino, Alberto Pereira Madeiro (2015). Epidemiologia e Serviços de Saúde 32, 2023.

Monika Goyal, Rachel Witt, Jeffrey Gerber, Katie Hayes, Theoklis Zaoutis, Journal of Adolescent Health 52 (2), S84, 2013

Munro, S., Lewin, S., Swart, T, Volmink, J. A review of health behavior theories: how useful are these for developing interventions to promote long-term medication adherence for TB and HIV/AIDS? BMC Public Health 2007, 7:104 doi: 10.1186/1471-2458-7-104.

Nigerian Journal of Health promotion, Vol. 14, 2021. Enugu Nigeria O.Y. Oshodi et al. Afr J Psychiatry (Johannesbg). 2010 Mar.

Patton GC, Sawyer SM, Santelli JS, Ross DA, Afifi R, Allen NB, et al. Our future: a Lancet commission on adolescent health and wellbeing. Lancet. 2016 Jun 11;387(10036): 2423-78.doi:10.1016/S0140-6736(16)00579-1. Epub 2016 May 9.

Paul J. Fleming et al. Curr Opin Psychol. 2015. Free PMC article.

Prochaska J.O., Velicer, W.F. The proposed transtheoretical model of health behavior change. Am J Health Promot. 1997 Sep-Oct;12(1):38-48. doi: 10.4278/0890-1171-12.1.38. PMID: 10170434.

R. Petosa, K. Jackson - Health education quarterly, 1991 Volume 18, Issue 4 Pages: 463 - 476 Article first published: December 1991 Issue published: December 1991 PubMed: 1757268

Rahman (2018). Health Behavior of Adolescents: A Study on High School Students. Shahjalal University of Science and Technology.

S. Shirley Feldman , Rebecca A. Turner & Araujo K. (1999). Interpersonal Context as an Influence on Sexual Timetables of Youths: Gender and Ethnic Effects, Journal of Research on Adolescence. 9:1, 25-52, DOI: 10.1207/s15327795jra0901_2

Salmon, C. (2012). Birth order, effect on personality, and behavior. Encycl. Hum. Behav., 353–359. doi: 10.1016/B978-0-12-375000-6.00064-1

Sunday, O. A., (2015). Factors influencing sexual sensation seeking among students in Nigeria. International Journal of Adolescent Medicine and Health, 27(3), 283-290.

Tingling Gao (2020). Interrelations of Internet Use and Health Behaviors, Perceived Quality of Life and Work-life Balance: Findings from Web-based studies in Germany.

U.S. Physical Activity Guidelines Advisory Committee. (2021). Physical Activity Guidelines Advisory Committee Report, 2008. Washington, DC: U.S. Department of Health and Human Services.

World Health Organization. Mental Health Atlas-2011 Country Profiles. Available online: http://www.who.int/mental_health/evidence/atlas/profiles/per_mh_profile (accessed on 2 June 2015).