Age Group and Educational Level as Determinants of Undergraduate Perceptions of Factors Associated with Sexual Violence in Tertiary Institution

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Abstract- Sexual voilence remains a major public health and human rights concern, particularly within tertiary institutions in developing countries. This study examined whether age group and educational level influence undergraduates' perceptions of factors associated with sexual voilence in a Tertiary Institution. A cross-sectional survey design was employed, involving 100 undergraduate students selected using a simple random sampling technique. Data were collected using a structured and validated questionnaire. Descriptive statistics were used to summarize respondents' socio-demographic characteristics, while associations between age group, educational level, and perceived factors associated with sexual voilence were examined using Pearson's chi-square test and likelihood ratio statistics. To assess the strength of associations, responses were dichotomized and binary logistic regression models were conceptually employed to estimate odds ratios. The results indicated that for most perceived factors, no statistically significant association existed with either age group or educational level (p > 0.05). However, perceptions relating to addiction to pornography and misinterpretation of sexual cues showed statistically significant associations with both age group and educational level (p < 0.05). These findings suggest that undergraduate perceptions are largely homogeneous across demographic categories, with variation observed only for specific psychosocial factors. The study highlights the need for targeted educational and behavioral interventions within tertiary institutions.

Keywords: Rape perception; Age group; Educational level; Undergraduates; Logistic regression; Nigeria

I. INTRODUCTION

Sexual Voilence constitutes a serious violation of human rights and poses significant social, psychological, and public health challenges worldwide. It has been associated with adverse physical health outcomes, mental health disorders, academic disruption, and long-term social consequences for victims (Jewkes, Sen & Garcia-Moreno, 2011). Within tertiary institutions, rape and other forms of sexual violence have attracted growing concern due to their prevalence and the vulnerability of young adults navigating new social environments.

In Nigeria, several studies have documented the persistence of sexual violence among youths and students, attributing its occurrence to factors such as substance abuse, peer pressure, pornography exposure, misinterpretation of sexual cues, and weak institutional deterrents (Abdulraheem & Oladipo, 2010). While these studies provide valuable insights into perceived causes, less attention has been given to whether such perceptions differ across demographic characteristics such as age group and educational level.

Understanding variations in perception is important because perceptions shape attitudes, behaviors, and support for preventive interventions. Age group may reflect differences in maturity and social exposure, while educational level may capture varying degrees of academic and social awareness. However, empirical evidence on whether these characteristics significantly influence perceptions of rape-related factors remains limited, particularly within polytechnic settings.

This study therefore investigates the influence of age group and educational level on undergraduates' perceptions of factors associated with Sexual violence in Tertiary Institutions. By clarifying whether perceptions differ across these demographic categories, the study seeks to inform more targeted and effective preventive strategies.

II. METHODOLOGY

2.1 Chi Square Test of Association

According to Agresti (2019), Karl Pearson's Chi-Square test of association is a non-parametric test that

determines the association between categorical variables. This test utilizes contingency table to analyze the cross count of categorical variables.

Assumptions
- At least two categorical variables must be studied.
- Two or more categories (levels) for each group.
- Independence of observation (i.e. there is no relationship between subject in each group and the categorical variables are not paired in any way).
- Relatively large sample size (i.e. expected frequencies for each cell are at least 1 and expected frequencies should be at least 5 for the majority of the cells).

Test Statistics
The test statistic for Chi-Square test of association is denoted x^2 and computed as

$$x^2 = \sum_{i=1}^{R} \sum_{j=1}^{C} \frac{(O_{ij} - e_{ij})^2}{e_{ij}}$$

Where:

O_{ij} is the observed cell count in the ith row and j^{th} column of the table

e_{ij} is the expected cell count in the ith row and j^{th} column of the table computed as:

$$e_{ij} = \frac{Row_i total * Column_j total}{Grand\ total}$$

The quantity $(O_{ij} - e_{ij})$ is sometimes referred to as the residual of cell (I, j), denoted r_{ij}. The calculated x^2 value is then compared to the critical value from the x^2 distribution table with degrees of freedom $df = (R-1)(C-1)$ and chosen confidence level. The null (H_0) is rejected when $x^2\ value > critical\ x^2\ value$. On the other hand, the R-Statistical package that this study makes use of generate P_{value} which can be compared with $\alpha = 0.05$, The null (H_0) is rejected when $P_{value} < \alpha (0.05)$. Otherwise we have no data evidence to reject H_0.

2.2 Study Design and Population
A cross-sectional survey design was adopted for the study. The target population comprised all undergraduate students in a Tertiary Institution in Nigeria.

2.3 Sample Size and Sampling Technique
A sample size of 100 undergraduate students was selected using a simple random sampling technique to ensure that each eligible student had an equal chance of participation.

2.4 Instrument for Data Collection
Data were collected using a structured questionnaire designed to elicit information on respondents' socio-demographic characteristics (age group and educational level) and their perceptions of factors associated with rape. Perception items were measured on a four-point Likert scale: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD).

2.5 Validity and Reliability
The questionnaire was subjected to face and content validity by experts in statistics and social sciences. A pilot study was conducted, and internal consistency of the perception items was assessed using Cronbach's alpha, which yielded an acceptable reliability coefficient.

2.6 Data Analysis
Data were analyzed using descriptive and inferential statistical methods. Frequencies and percentages were used for descriptive analysis. Pearson's chi-square test and likelihood ratio chi-square statistics were employed to examine associations between age group, educational level, and perceived factors associated with rape.

To assess the magnitude and direction of associations, perception responses were dichotomized into Agreement (SA/A) and Disagreement (D/SD), and binary logistic regression models were conceptually employed to estimate odds ratios (ORs) with corresponding confidence intervals. All tests were conducted at a 5% level of significance.

2.7 Ethical Considerations
Participation in the study was voluntary, and informed consent was obtained from all respondents. Anonymity and confidentiality of responses were assured.

III.   RESULTS   Chi Square Test of Association

Table 3:1: Association between Age group and perceived factors that causes Rape

	PERCEIVED FACTORS THAT CAUSES SEXUAL VIOLENCE	P - VALUE
AGE GROUP	Consumption of alcohol and drug use can lead to Sexual Violence	0 . 1 5 0
	Night crawling can expose individuals to Sexual Violence	0 . 4 5 0
	Seductive living can lead to Sexual Violence	0 . 2 4 8
	Addition to pornography can induce Sexual Violence	0 . 0 0 5
	Depression from failed relationship can lead to Sexual Violence	0 . 4 1 9
	Misread cues given out by an individual can propel sex and aggression and lead to Sexual Violence	0 . 0 1 0
	The pressure from peer group can lead to Sexual Violence	0 . 3 6 1
	Previous experience of sexual abuse can instigate Sexual Violence.	0 . 1 2 1
	Having an emotionally unsupportive family can cause Sexual Violence	0 . 4 2 5
	Global trend such as free trade between countries can aid girl-child trafficking and Sexual Violence	0 . 4 3 9
	Idleness as a result of economic meltdown can result to Sexual Violence	0 . 2 4 9
	Poverty as a result of unemployment can lead to Sexual Violence	0 . 4 7 5
	Societal norms supportive of rape can encourage Sexual Violence	0 . 1 7 9
	Weak laws and policies related to sexual violence can encourage Sexual Violence	0 . 1 9 4
	Delayed or ignored punishment of rapist can instigate other to engage in Sexual Violence	0 . 3 6 1
	Societal norms supportive of men's superiority and women's submission can encourage Sexual Violence	0 . 2 9 1

Discussion: Chi-square analysis revealed that age group was not significantly associated with most perceived factors associated with rape ($p > 0.05$). Consequently, the null hypothesis of no association was retained for these factors. However, statistically significant associations were observed between age group and perceptions of addiction to pornography and misinterpretation of sexual cues ($p < 0.05$), indicating that these perceptions vary across age categories.

Table 3.2: Association between Educational level and perceived factors that causes Rape

	PERCEIVED FACTORS THAT CAUSES SEXUAL VIOLENCE	P - VALUE
EDUCATIONAL LEVEL	Consumption of alcohol and drug use can lead to Sexual Violence	0 . 1 1 7
	Night crawling can expose individuals to Sexual Violence	0 . 4 1 3
	Seductive living can lead to Sexual Violence	0 . 2 4 1
	Addition to pornography can induce Sexual Violence	0 . 0 0 4
	Depression from failed relationship can lead to Sexual Violence	0 . 4 2 5
	Misread cues given out by an individual can propel sex and aggression and lead to Sexual Violence	0 . 0 0 2
	The pressure from peer group can lead to Sexual Violence	0 . 3 2 4
	Previous experience of sexual abuse can instigate Sexual Violence	0 . 1 1 1
	Having an emotionally unsupportive family can cause Sexual Violence	0 . 4 1 5
	Global trend such as free trade between countries can aid girl-child trafficking and Sexual Violence	0 . 4 5 8
	Idleness as a result of economic meltdown can result to Sexual Violence	0 . 2 4 9
	Poverty as a result of unemployment can lead to Sexual Violence	0 . 4 6 0
	Societal norms supportive of rape can encourage Sexual Violence	0 . 1 0 6
	Weak laws and policies related to sexual violence can encourage Sexual Violence	0 . 1 3 5
	Delayed or ignored punishment of rapist can instigate other to engage in Sexual Violence	0 . 1 6 2
	Societal norms supportive of men's superiority and women's submission can encourage rape	0 . 2 2 9

Discussion: Similarly, educational level showed no statistically significant association with the majority of perceived factors (p > 0.05). Significant associations were found only for addiction to pornography and misinterpretation of sexual cues (p < 0.05), suggesting that perceptions of these factors differ by academic standing.

Table 3.3: Likelihood Ratio between Age group and perceived factors that causes Sexual Violence

	PERCEIVED FACTORS THAT CAUSES SEXUAL VIOLENCE	P - VALUE
AGE GROUP	Consumption of alcohol and drug use can lead to Sexual Violence	0.256
	Night crawling can expose individuals to Sexual Violence	0.475
	Seductive living can lead to Sexual Violence	0.071
	Addition to pornography can induce Sexual Violence	0.129
	Depression from failed relationship can lead to Sexual Violence	0.363
	Misread cues given out by an individual can propel sex and aggression and lead to Sexual Violence	0.005
	The pressure from peer group can lead to Sexual Violence	0.897
	Previous experience of sexual abuse can instigate Sexual Violence	0.097
	Having an emotionally unsupportive family can cause Sexual Violence	0.000
	Global trend such as free trade between countries can aid girl-child trafficking and Sexual Violence	0.714
	Idleness as a result of economic meltdown can result to Sexual Violence	0.130
	Poverty as a result of unemployment can lead to Sexual Violence	0.068
	Societal norms supportive of rape can encourage Sexual Violence	0.676
	Weak laws and policies related to sexual violence can encourage Sexual Violence	0.122
	Delayed or ignored punishment of rapist can instigate other to engage in Sexual Violence	0.267
	Societal norms supportive of men's superiority and women's submission can encourage Sexual Violence	0.183

3.3 Logistic Regression Interpretation

Discussion: Binary logistic regression analysis indicated that respondents' likelihood of agreeing that pornography addiction and misread sexual cues contribute to rape varied significantly by age group and educational level. For other factors, odds ratios were not statistically significant, reinforcing the findings from the chi-square analysis.

IV. DATA VISUALIZATION

Figure 3.1: Line plot of Association between Age group and perceived factors
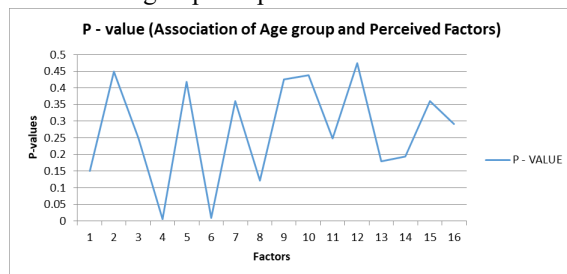

Figure 3.2: Line plot of Association between Educational level and perceived factors
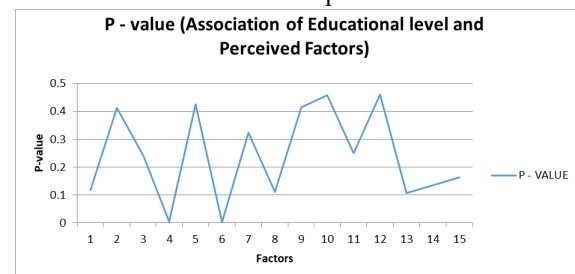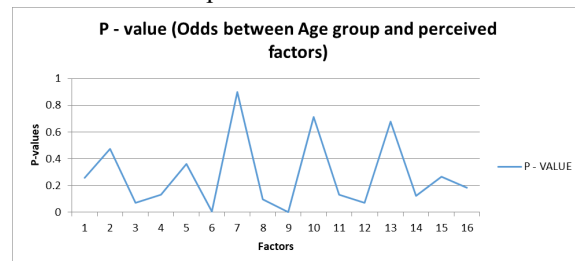

Figure 3.3: Line plot of Odds of Age group and perceived factors

V. DISCUSSION

This study examined whether age group and educational level influence undergraduates' perceptions of factors associated with S e x u a l V i o l e n c e. The findings indicate that perceptions are largely homogeneous across demographic categories, as neither age group nor educational level significantly influenced most of the factors examined. This suggests that students share broadly similar views regarding the causes of S e x u a l V i o l e n c e, possibly due to shared social experiences and exposure within the campus environment.

However, significant differences were observed for perceptions related to addiction to pornography and misinterpretation of sexual cues. These findings align with previous studies emphasizing the role of media exposure and communication breakdown in sexual violence (Jewkes et al., 2011; Afe et al., 2017). Younger students or those at lower educational levels may perceive these issues differently due to varying levels of maturity, exposure, and social awareness.

The results highlight the importance of focusing preventive interventions on behavioral and psychosocial dimensions rather than assuming broad demographic differences in perception.

VI. CONCLUSION

The study concludes that age group and educational level do not broadly influence undergraduates' perceptions of factors associated with S e x u a l V i o l e n c e. Only specific psychosocial factors—particularly pornography addiction and misinterpretation of sexual cues—show significant variation across demographic categories. These findings underscore the need for targeted educational and behavioral interventions within tertiary institutions.

VII. RECOMMENDATIONS

1. Tertiary institutions should implement comprehensive sexual education programs emphasizing media literacy and healthy sexual communication.

2. Counseling and student support services should address pornography-related behaviors and misconceptions about sexual cues.

3. Institutional policies should be strengthened to promote awareness, reporting, and prevention of sexual violence.

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