Paper 3

Locus of Control and Risky Sexual Behaviour Among Nigerian Undergraduates: The Moderating Role of Age, Family Type and Peer Pressure

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Abstract

Studies have looked at how adolescents' health locus of control affects their risky sexual behaviour, but the current study goes further in trying to understand how internality or externality influence risky sexual behaviour in university undergraduates in Southwest Nigeria. The study employed the use of a cross-sectional survey research design to obtain data from 1080 students from six purposively selected universities in Southwestern Nigeria. The Rotter Internal-External locus of control scale and a self-developed sexual behaviour scale was used for this study. The results indicated that students who have external locus of control reported higher level of risky sexual behaviour than students who have internal locus of control. Age, family type, and peer pressure mediated the relationship between locus of control and risky sexual behaviour of undergraduates in Southwestern Nigeria. This study reinforces the importance of personality variables such as locus of control when examining risky sexual behaviour among undergraduates. Understanding the mediating effects of age, family type and peer pressure in the influence locus of control has on risky sexual behaviour would facilitate the development of sexual health education programmes geared toward preventing health risks and promoting health behaviours among undergraduates.

Keywords: External-internal locus of control, sexual activity, sexual behaviour, undergraduates, Nigeria

Introduction

According to the World Health Organization (WHO), adolescence is a phase in human growth and development with age ranging from 10 to 19 years (WHO, 2015). During adolescence, more physical, cognitive and psychological development occurs than during any other period in lifespan posing certain challenges such as learning to cope with emotions (Ashcraft & Murray, 2017), forming first romantic relationship (Committee on Adolescent Health Care, 2018), learning how to control sexual behaviour and avoid adverse consequences (WHO, 2018). Adverse consequences of adolescent sexual behaviour such as teenage pregnancy (Alabi & Oni, 2017; UNESCO, 2017) which leads to school dropout for girls (Birchall, 2018), sexually transmitted diseases and HIV/AIDS (Odeigah, Rasaki, Ajibola, Hafsat, Sule & Musah, 2019).

Sexual behaviour in adolescents and emerging adults is relatively prevalent not only in industrialised, but in non-industrialised nations too. Studies have reported a great level of sexual activities among Nigerian adolescents (Imaledo, Peter-Kio & Asuquo, 2012; Aji, Aji, Ifeadike, et al., 2013; Eze, 2014; Ajaegbu, 2015; Yaya & Bishwajit, 2018). Many of these activities include early sexual debut, having more than one sex partners, lack of contraceptive use, especially condom use, patronage of prostitutes and masturbation when the adolescent lacks access to the opposite sex (Osuala, Udi, Ogbu & Ojong, 2021). According to Olorunsola, Muyibi, Irabor, Adetunji, Ismail, et al (2021), factors such as low education, poverty, and dysfunctional families were predictors of risky sexual behaviour. There are well-known contributing factors, according to Ekundayo and Babalola (2020), who contend that young people's impulsivity makes them more likely than young adults to engage in risky sexual behaviour.

Adolescence is a period of experimentation, of sexual discovery and testing, imaginations and actualities, and time to incorporate sexuality into identity (Santrock, 2015). Adolescence is also a period of experimentation due to influences from within the individual [internal, that is, hormonal imprinting (Csaba, 2017), physical and biological maturation/puberty (Downing & Bellis, 2009; Sabageh, Sabageh, Adeoye & Adeomi, 2015)]; and influences from outside the individual (external, that is, peers, society, social media, (Odeigah, Rasaki, Ajibola, Hafsat, Sule & Musah, 2019). Locus of control explains how undergraduates understand events, relating it to thinking and behaviour, that is, cognitive and behavioural reactions, to social relationships such as sexual behaviour. This implies that adolescents explain their behaviour

by making inferences from their innate or genetic tendencies (internal locus of control), such as attitude, character or personality; or because of events and situations of life (external locus of control), such as, poverty and witchcraft. Among the Yorubas in Southwestern Nigeria, attribution of behaviour to external forces is common. This is obvious in their adages; one says, "When a child/adolescent commits evil, she says evil has befallen her" – "Bi omode ba se eemo tan, a ni eemo se oun." Based on this assumption, the present study hypothesized that a college student who probably attributes risky sexual behaviour to personal qualities (e.g., age) has internal locus of control orientation while undergraduates who attribute his/her risky sexual behaviour to family background, and peer influence has external locus of control.

Previous studies in Western countries have revealed that adolescents who attribute their behaviour to external factors are more likely to have had previous unprotected sexual intercourse than those who attribute their behaviour to internal factors (Mendolia & Walker, 2013; Burnett, Sabato, Wagner, Smith, Kerr, et al, 2013). In Nigeria, studies have examined the influence of health locus of control on adolescents' risky sexual behaviour (e.g., Pharr, Enejoh, Mavegam, Olutola, Karick, & Ezeanolue, 2015) but the current study further seeks to understand young adults who would want to be in a sexual relationship and attribute their behaviour to either external or internal factors. Thus, in the current study the authors sought to understand the influence of a personality variable, locus of control (internality or externality), on the risky sexual behaviour of undergraduates in Southwestern Nigeria. Furthermore, the study explored the mediating effects of demographic variables (age and family type), and a psychosocial variable (peer pressure) in the influence of locus of control on risky sexual behaviour of undergraduates.

Research Hypotheses

The following four hypotheses were proposed and tested:

1. External locus of control will have a significant influence on risky sexual behaviour than internal locus of control.
2. Age will significantly mediate the influence of locus of control on risky sexual behaviour.
3. Family type will significantly mediate the influence of locus of control on risky sexual behaviour.
4. Peer pressure will significantly mediate the influence of locus of control on risky sexual behaviour.

Methodology

The cross-sectional survey design was adopted for the study for a large national survey. This study was taken from a dataset conducted by the researcher. The research procedure involved the collection of primary data using quantitative techniques. This quantitative method involved surveying undergraduates at particular universities in South West Nigeria using a structured questionnaire.

Sample and Sampling Technique

The geographic domain of the current study is Nigeria, West Africa. Nigeria has an estimated population of 200.96 million persons (World Population Review, 2019); it is the most populous country in Sub-Sahara Africa. It has a young populace with more than 50 percent being under the age of 30 years and the majority of the population below the age of 25 years; 22% of the country's population is between the ages of 10-19 years. Nigeria has six geo-political zones, out of which the researcher chose the South-west for this study. There are six states in Southwestern Nigeria; they are Ekiti, Lagos, Ogun, Ondo, and Osun State. The study population consisted of undergraduates in three Southwestern Nigerian states of Lagos, Ekiti and Osun. The study selected these three states for by random sampling (secret ballot). Nevertheless, it is pertinent to note that the study could have been conducted in any of the geo-political zones in Nigeria since the phenomenon investigated is not peculiar to the selected zone.

From each State, the oldest public and private universities were selected. For Ekiti State, selected Ekiti State University and Afe Babalola University, Ado-Ekiti were selected. For Lagos State, University of Lagos, Lagos and Caleb University, Imota were selected; and for Osun State, Obafemi Awolowo University, Ile-Ife and Bowen University, Iwo were selected. A list of all faculties in the six universities and selected faculties was made. Hereafter, three faculties were randomly selected from the list namely; Faculty of Social Sciences, Faculty of Technology, and Faculty of Health Sciences (In some of these universities, Faculty of Social Sciences is referred to as Faculty of Social and Management Sciences, Faculty of Health Sciences is referred to as Faculty of Clinical/Medical Sciences, and Faculty of Technology is referred to as Faculty of Engineering). From each Faculty, a department was randomly selected and the list of students from the respective departmental offices was collected. Eighty undergraduates were selected across all levels from each the three selected departments of the public universities and forty from the selected departments of the private universities based on

the variation in their students' populations. The study ended up with a total of 1080 respondents from six universities.

Research Instruments

Demographics: The survey instrument included a demographic section used to collect information about the study participants such as gender, age, religion, class level (e.g., year in college), family type (monogamous, polygamous, or single parent), residence (on-campus / off-campus), parents' occupations, parents' highest educational qualifications, and parents' monthly estimated incomes. This section also included the following four items: 1) most of my friends are sexually active; 2) my friends will laugh at me if I do not have a boyfriend / girlfriend; 3) to belong with my friends, I have to be sexually active or at least pretend; 4) premarital sex is in vogue, therefore it is acceptable. Each of the items was measured on a four-point Likert-type scale with responses ranging from strongly agree to strongly disagree.

The Internal-External Locus of Control Scale: The survey instrument also included the Internal-External (I-E) Locus of Control scale (Rotter, 1966), which was designed to measure dispositional differences between people. The original I-E scale consists of 29 items dealing with the belief of individual about the nature of the world (that is, whether an individual sees the causes of his or her behaviour as lying within or outside himself/herself). "Individuals with a high *internal locus of control* believe that events result primarily from their own behaviour and actions". "Those with a high *external locus of control* believe that powerful others, fate, or chance primarily determine events". The Internal-External Locus of Control Scale displays outstanding psychometric properties with its reliability and validity (Wang & Lv, 2017).

In this study, locus of control was measured with the adapted version of the Rotter's Internal-external locus of control scale, which has 15 items. The 15 items contained the eight positive outcome items and the seven negative outcome items. The 15 items were summed and individuals who scored 8 and above on the scale indicated an external locus of control (*externals*) while those with score lower than 8 indicated an internal locus of control (*internals*). The scale has a test-retest reliability at one month interval ranging from .55 to .83.

Risky Sexual Behaviour Scale (SBS): The survey instrument also included the Sexual Behaviour Scale (SBS), which was developed by the first author and consists of 14 items that were phrased in the form of sentences to which respondents can either agree or disagree to (that is if the sentence is 'true for me' or 'not true for me'). 'True for me' was scored as 1 while 'not true for me' was scored as 0. On the scale, items 1, 3, 5, 9, 10 and 11 were to measure low-risk

sexual behaviour while items 2, 4, 6, 7, 8, 12, 13, and 14 were to measure high-risk sexual behaviour. Examples of high-risk sexual behaviour questions are: in the last six month which of the following sexual activities have you engaged in? “I have had vaginal sex without condom”, “I have had sex in exchange for money/gifts”, “I have engaged in anal sex without condom” “I have had more than one sexual partner” while low risk sexual behaviour questions asked “I have kissed”, “I have cuddled up with my partner”, “I have fondled my partner’s genitals”, etc. Therefore, individuals who score 3 and above on the low-risk sexual behaviour subscale has low risk sexual behaviour while individuals who score 3 and above on the high-risk sexual behaviour subscale has high risk sexual behaviour.

Data Analysis

The study's analysis was carried out using SPSS version 20. For socio-demographic data, descriptive tests (mean, standard deviation, and percentages) were conducted. In order to examine the relationship between the independent variable (locus of control) and the dependent variable (risky sexual behaviour), as well as the operation of mediators (age, family type, and peer pressure) in this relationship, the study conducted inferential statistical analyses (Odds Ratio/Binary Logistic Regression and Analysis of Covariance/ANCOVA).

Results

Descriptive Statistics

Undergraduates range in age from 14 to 36; their mean age is 21, and their standard deviation is 3.56. In this study, respondents' ages were divided into two groups: young adults, defined as those between the ages of 20 and 40, and adolescents, defined as those between the ages of 13 and 19. One thousand eight hundred and eighty undergraduates completed the research instrument, of whom eight hundred and sixty-four (80%) are young adults and two hundred and sixteen (20%) are adolescents. Two hundred forty respondents (22.2%) were undergraduates at Obafemi Awolowo University, and another two hundred forty (22.2%) were graduates of the University of Lagos and the Ekiti State University.

Six hundred and thirteen students (56.8%) were female, while 467 (43.2%) were male. Only one (1) member of a traditional religion answered to the research instrument, while the majority of students (N = 908, or 84.1%) were Christians. Monogamous families made up the majority of respondents' families (N = 704; 65.2%), followed by polygamous households (N = 254; 23.5%), and families with only one parent (N = 122; 11.3%). In the public universities, 73 (10) students were reared by a single parent, while 157 (22%) students came from polygamous

homes and 490 (68%) from monogamous homes. In the private universities, 214 respondents (59%) came from monogamous homes, 97 (27%) from polygamous homes, and 49 (14) were raised by single parents. The majority of undergraduates reside on campus or in resident halls (N = 763; 70.6%), while the rest live off-campus (N = 317; 29.4%).

Hypotheses Testing

Hypothesis 1: External locus of control will have a significant influence on the risky sexual behaviour than internal locus of control.

The study conducted inferential statistical analyses (Odds Ratio / Binary Logistic Regression and Analysis of Covariance / ANCOVA) to examine the relationship between the independent variable (locus of control) and the dependent variable (risky sexual behaviour), and the role of mediators (age, family type, peer pressure) in this relationship, thereby testing the four research hypotheses.

Table 1

Odds Ratios (Binary Logistic Regression Model) of Risky Sexual Behaviour among the Undergraduates by Locus of Control.

Variables	**Categories**	**Odds Ratio**	***SE***
Locus of control	Internal	-0.390*	0.147
	External	RC	

RC: Reference category; **Significant*

The data on Table 1 shows that risky sexual behaviour is 39% less likely to occur among the undergraduates whose locus of control is internal than among those whose locus of control is external, thereby showing a negative relationship. The relationship is found to be statistically significant (OR = -0.390; $p < 0.05$). Thus, hypothesis 1 that states that external locus of control will have significant influence on risky sexual behaviour than internal locus of control was confirmed (Table 1).

Hypotheses 2 – 4: Age, family type and peer pressure will significantly mediate the influence of locus of control on the risky sexual behaviour of undergraduates.

Table 2

Comparison of Mean and Standard Deviation of Locus of Control on Risky Sexual Behaviour.

Locus of control	***M***	***SD***	***N***
Internal	3.63	2.688	345
External	4.17	2.473	735
Total	4.00	2.555	1080

The authors performed tests of between subject effects to further investigate internal locus of control and external locus of control difference on risky sexual behaviour (Hypothesis 1). The dependent variable was risky sexual behaviour while the independent variable was locus of control. The result of the mean scores indicated that undergraduates who have external locus of control reported higher level of risky sexual behaviour (M = 4.17, SD = 2.47) than undergraduates who have internal locus of control (M = 3.63, SD = 2.69). This means that undergraduates in Southwestern Nigeria who had external locus of control exhibited higher risky sexual behaviour compared to those who had internal locus of control.

Table 3

Summary of ANCOVA of Locus of Control on Sexual Behaviour by Age, Family Type and Peer Pressure.

Source	**Type III Sum of Squares**	***df***	**Mean Square**	***F***	***P***
Corrected Model	506.432[a]	6	84.405	13.858	.000
Intercept	53.913	1	53.913	8.851	.003
Locus of control	69.886	1	69.886	11.474	.001
Family type	.675	1	.675	.111	.739
Peer pressure	25.199	1	25.199	4.137	.042
Age	.908	1	.908	.149	.699

locusofcontrol * family type * peerpressure * age	42.793	2	21.396	3.513	.030
Error	6535.553	1073	6.091		
Total	24290.000	1080			
Corrected Total	7041.985	1079			

R^2 = .072 (Adjusted R Squared .067)

The results of the analysis of covariance in Table 3 showed that age, family type and peer pressure mediated the influence of locus of control on the risky sexual behaviour of undergraduates in Southwestern Nigeria, F (2, 1073) = 3.51, $p < 0.05$. These findings show significant effects of the covariates (age, family type and peer pressure) on the influence of locus of control on the risky sexual behaviour of undergraduates in Southwestern Nigeria. For better understanding of these results, the authors conducted further analyses to ascertain the effect of each covariate on the influence of locus of control on the risky sexual behaviour.

Table 4

Summary of ANCOVA of Locus of Control on Risky Sexual Behaviour by Age.

Source	**Type III Sum of Squares**	***df***	**Mean Square**	***F***	***P***
Corrected Model	88.366	2	44.183	6.843	.001
Intercept	749.576	1	749.576	116.097	.000
Age*locusofcontrol	88.366	2	44.183	6.843	.001
Error	6953.619	1077	6.456		
Total	24290.000	1080			
Corrected Total	7041.985	1079			

R^2 = .004 (Adjusted R Squared = .011)

The result of the analysis of covariance on Table 4 indicates that there was a significant effect of the covariate (age) on the influence of locus of control on risky sexual behaviour of undergraduates in Southwestern Nigeria. A preliminary analysis evaluating the homogeneity-

of-regression assumption indicates that the covariate (age) mediates significantly the influence of locus of control on the risky sexual behaviour of undergraduates in Southwestern Nigeria, F (2, 1077) = 6.84, p < 0.05. This confirms Hypothesis 2 which states that age mediates significantly the influence of locus of control on the risky sexual behaviour of undergraduates in Southwestern Nigeria.

Table 5

Summary of ANCOVA on Locus of Control on Risky Sexual Behaviour by Family Type.

Source	**Type III Sum of Squares**	***df***	**Mean Square**	***F***	***P***
Corrected Model	170.562	2	56.854	8.903	.001
Intercept	744.290	1	744.290	116.549	.001
Familytype*locusofcontrol	170.562	2	56.854	8.903	.001
Error	6871.423	1077	6.386		
Total	24290.000	1080			
Corrected Total	7041.985	1079			

R^2 = .004 (Adjusted R Squared = .022)

The result of the analysis of covariance on Table 5 indicates that there was a significant effect of the covariate (family type) on the influence of locus of control on risky sexual behaviour of undergraduates in Southwestern Nigeria. A preliminary analysis evaluating the homogeneity-of-regression assumption indicated that the covariate (family type) mediates significantly the influence of locus of control on the risky sexual behaviour of undergraduates in Southwestern Nigeria, F (2, 1077) = 8.90, p <0.05. This confirms Hypothesis 3 that states that family type mediates significantly the influence of locus of control on the risky sexual behaviour of undergraduates in Southwestern Nigeria.

Table 6

Summary of ANCOVA of Locus of Control on Risky Sexual Behaviour by Peer Pressure.

Source	**Type III Sum of Squares**	**Df**	**Mean Square**	***F***	***P***
Corrected Model	316.067	2	158.033	25.305	.001
Intercept	762.670	1	762.670	122.124	.001
peerpressure*locusofcontrol	316.067	2	158.033	25.305	.001

Error	6725.918	1077	6.245
Total	24290.000	1080	
Corrected Total	7041.985	1079	

R^2 = .004 (Adjusted R Squared = .043)

The result of the analysis of covariance on Table 6 shows that there was a significant effect of the covariate (peer pressure) on the influence of locus of control on risky sexual behaviour of undergraduates in Southwestern Nigeria. A preliminary analysis evaluating the homogeneity-of-regression assumption indicates that the covariate (peer pressure) mediates significantly the influence of locus of control on the risky sexual behaviour of undergraduates in Southwestern Nigeria, F (2, 1077) = 25.31, $p < 0.05$. This confirms hypothesis 4 that peer pressure mediates significantly the influence of locus of control on the risky sexual behaviour of college student in Southwestern Nigeria.

Discussion

In this study, the relationship between locus of control and risky sexual behaviour of undergraduates in Southwestern Nigeria was examined. Also investigated were the roles of some demographic/psychosocial factors (mediators) such as age, family type, peer pressure in the relationship between locus of control and risky sexual behaviour of these undergraduates. Finding shows that there was a statistically significant ($p < 0.05$) influence of locus of control on the risky sexual behaviour of undergraduates in Southwestern Nigeria.

The data shows that undergraduates with external locus of control are more likely to engage in risky sexual behaviour than those with internal locus of control. This implies that adolescents and young adults in college who believe that the outcome of events around them are determined by chance and outside forces are more likely to engage in risky sexual behaviour than those who believe they control the outcome events of their lives. This finding is in line with the proposition of some previous investigators, for instance, Burnett, *et al.* (2014) who suggested that an external locus of control points to a higher HIV infection risk while an internal locus of control points to a lower HIV risk.

The finding also shows that age had a mediating effect on the influence of locus of control on the sexual behaviour of respondents. That is, being an adolescent or a young adult affects the influence locus of control has on the risky sexual behaviour of undergraduates; they engage in more risky sexual behaviour. This finding is in line with that of earlier studies (e.g., Poulson,

Bradshaw, Huff, Peebles, & Hilton, 2008; Moilanen, Crockett, Raffaelli, & Jones, 2010; Burnett, Sabato, Wagner, & Smith, 2014).

The finding also shows that family type (monogamous or polygamous families, single parent families) had a mediating effect on the influence of locus of control on risky sexual behaviour of undergraduates in Southwestern Nigeria. Contrary to the finding of this study, Oluwatosin, *et al*. (2010) found that family type had no significant influence on sexual practices (c2. = .3.62 >.0.05, c2. = 3.47 > 0.05) of adolescents.

Lastly, the finding shows that peer pressure had a mediating effect on the influence of locus of control on risky sexual behaviour of undergraduates. That is, those who had low (little) pressure from their peers were less likely to engage in risky sexual behaviour than those who had high (much) pressure from their peers. Although this study did not explicitly distinguish between negative and positive peer pressure, The finding is somewhat in line with those of earlier studies by Crockett, Raffaelli & Moilanen (2003) and Moilanen, Crockett, Raffaelli, & Jones (2010) who found that negative peer pressure is a risk factor for early and risky sex.

Conclusion

In conclusion, this study shows that externality and internality (locus of control) as a personality variable influences risky sexual behaviour of university / undergraduates in Southwestern Nigeria. It is also evident based on findings that age, family type and peer pressure significantly mediated the influence of locus of control on risky sexual behaviour.

Recommendations

The findings of this study reinforce the importance of personality variables such as locus of control when examining risky sexual behaviour among undergraduates in developing or developed countries. An understanding the mediating effects of age, family type and peer pressure in the influence locus of control has on risky sexual behaviour would facilitate the development of sexual health education programs geared toward preventing health risks and promoting health behaviours among undergraduates. It is recommended that appropriate units and departments within the university system be mandated to work on this.

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