

Emotional Stability and Health-Related Risk Perception as Predictors of Risky Health Behaviours among Nigerian Medical Students

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Abstract

The medical school has often been perceived as physically, mentally and emotionally demanding. This produces stress both physical and psychological stress on the medical students, predisposing them to engaging in behaviors that are inimical to their health. The present study investigated how risky health behaviors among medical students of a teaching hospital in Nigeria could be predicted by emotional stability and health-related risk perception. The study adopted a correlational design. Two hundred and eighty (280) participants were purposively and randomly selected, and data were obtained via a structured questionnaire. The results revealed a significant negative relationship between health-related risk perception and engagement in risky health behaviors ($r=0.363$, $P<.01$), accounting for 13% ($r^2=0.362$) variance in risky health behaviours. This implies that students who perceived higher risk on the job while under training, engaged less in risky health behaviours and vice versa. There was no significant relationship between emotional stability and risky health behaviours ($r=.110$, $p>.05$). But emotional stability and health-related risk perception jointly predicted risky health behaviour ($R^2=.140$, $F(2,276)=22.44$, $p<.01$), with only health-related risk perception ($\beta=.358$, $P<.01$) contributing significantly. Other results showed that male medical students ($x=21.91$) engaged in higher level of risky health behaviors than their female counterpart ($x=19.34$). The need to understand medical students' risky health behaviours and the role of risk perception is evident for the selection and training of medical personnel. Parents, guardians, and career counselors should be guided on the importance of health-related risk perception in determining engagement in risky health behaviours among medical students.

Keywords: Emotional Stability; Health-related risk perception; Risky health behaviours; Medical students

Introduction

University admission is one of the most celebrated achievements among youths in Nigeria. More particularly, there is higher level of elation when the admission has to do with being in the medical school. Entrance into the university is one of the most important stages of change and transition periods in the life of young adults, consequently exposing them to an entirely new environment. When students get out of home to the university, there tend to be rapid changes in biological, emotional, cognitive, and social development which consequently influence their behavior. These changes lead to increase in the stress level, compromise, and behavioral problems in students, including risky behaviors. At this stage, students, who are mostly adolescent and young, are normally curious and experiment with a variety of things which supposedly form part of growing up.

Risky behaviors are behavioral and social disorders that threaten social order. The behaviors have the potential to expose people to harm, or significant risk of harm, which prevent them from reaching their potential in life and which can cause significant morbidity or mortality [1,2] report that despite the actions taken in the past three decades to curb these behaviors, there have been an exponential increase globally. Several researchers [3-5] across the globe have been concerned with the prevalence of risky behaviors as one of the most serious factors threatening the health and psychological welfare of adolescents. It is imperative to as well understanding certain psychological factors that could influence the show of risky health

behaviors among medical students in Nigeria, especially with the increasing wave of cultism among Nigerian university students.

Tertiary medical training across the globe has been regarded as being highly stressful [6]. This calls for promoting and nurturing well-being during medical school, and developing strategies to promote medical students' well-being so as to promote professionalism among medical personnel. Medical students are young adults who are in a transition stage between childhood and adulthood with a lot of significant life events occurring, requiring important decisions, and risky decisions in particular. Risky behaviors are important in the life consequences, health, and psychological and social growth of the young. These behaviors increase the risk of premature death, disability, and increased incidence of chronic diseases [5], hence the importance of risky health behaviors study.

The frequent participation of young adults' risky behaviours is alarming. Risky health behaviours, in this wise, are those actions or inactions performed by an individual that affect his or her health or those of others. Examples of RHB include, among others, smoking, drinking alcohol, drug use, unprotected sex and poor diet, increase in the likelihood of an individual contracting a disease or illness. The first four behaviours are operationalized as risky health behaviors in this study.

Smoking, according to the World Health Organization (WHO), is the action or habit of inhaling and exhaling the smoke of tobacco or a drug. It is a practice in which a substance is burned and the resulting smoke is breathed in to be tasted and absorbed into the bloodstream. Bothner revealed that despite all preventive efforts towards smoking,

among adolescents and young adults, it has not declined [7]. While the prevalence of smoking among young people is on the decline in many European countries, there is a substantial increase in the developing countries. Drinking refers to the consumption of alcohol in a short period of time. According to WHO, alcohol is a toxic substance with properties that produce dependence. They are of the opinion that alcohol is the leading risk factor for premature mortality and disability among those aged 15 to 49 years of which young adults fall into this category.

Drug abuse and risky sexual behaviors are of the most important dangerous behaviors among students that have exposed the individuals and the society at the risk of dangerous infectious diseases such as AIDS and viral hepatitis. These behaviors have reduced years of life due to disability and have been the cause of death of 9.2 million individuals worldwide [8]. Risky Sexual Behaviours (RSB) are those sexual practices engaged in, that increases one's chance of contracting sexually transmitted infections (STIs) and experiencing unwanted pregnancies. The activities of unprotected sex and having multiple sexual partners are grouped under Risky Sexual Behaviours. Unprotected sex refers to having sexual intercourse without the use of a condom. A condom is a contraceptive used during sexual intercourse to prevent pregnancies and the spread of STIs. Cherie explained that young adults are at a high risk of contracting Human Immunodeficiency Virus (HIV) due to their engagement in risky sexual behaviours [9].

Medical students are faced with different challenges and decision making in their lives. At the early stage of medical school, some of them may be adjusting to the rigorous training at medical school and life as young adults, which is the beginning of independence and maturity. At this point in their lives, they go through a lot of physical, psychological and emotional changes which influence their emotional stability. Emotional stability refers to an individual's ability to remain stable and balanced even when faced with pressure or stress. Emotional stability varies from person to person. In the bid of coping, some engage in risky health behaviors. Depression is one of the outcomes of emotional disturbance. Depression is a mood disorder that is characterized by low mood, hopelessness and lack of interest in activities. It is common among emotionally unstable persons. Aniehue report that the prevalence rate of depressive symptoms among Nigerian medical students is 23.3% [10]. They conducted a study to examine how depression is related to smoking, which is a coping behavior, but considered in this context as risky health behavior. Students who smoked regularly had significantly higher levels of depression than those who did not smoke. Vollrath (1999) revealed a link between emotional stability and smoking behavior among university students. Their study revealed that those who scored high on neuroticism engaged less in risky health behaviours than those who scored low on neuroticism.

Emotional stability is related to a set of avoidance, withdrawal and flight behaviours [11]. Emotional stability seems to be naturally related to the idea of being fearless in many circumstances. This suggests that a medical student whose emotional stability is high would less likely engage in risky health behaviors while under training. The emotional intelligence theory explains that an individual who tends towards high emotional intelligence would have the ability to monitor own and other's emotions, to discriminate among them and to use information to guide thoughts and actions. This suggests that emotional intelligence could empower a medical student to be discrete in engaging risky health behaviors. Brackett discovered that college students with lower

emotional intelligence scores were associated with illegal drug use, social deviance and alcohol consumption [12].

The relative importance of exposure to harm brings to limelight how the perception of harm can build up. It is of concern that many of these young people do not perceive their risk factors in spite of indulging in these practices. Research shows that adolescents and young adults who engage in risky behaviours do not have a complete exposure to harm.

This incomplete exposure to harm is due to the way in which the risky behaviour is perceived. This concept is known as Risk Perception. Risk perception is the subjective judgement that people make about the characteristics and severity of a risk. It is the extent to which people interpret and view certain actions and situations as risky or not risky. Health related risk perception thus refers to the subjective judgement that people make about the characteristics and severity of health-related activities.

The way students perceive risky behaviours will determine the level of their involvement in risky behaviours. Mills revealed that risk decision making is linked to a situation's riskiness. They reported that risk perception is negatively correlated with risky behaviours as a higher risk perception is associated with less risk taking, in their study, explained that alcohol use among university students was associated with risk perception.

In a study carried out, those with the belief that alcohol use would enhance social and physical pleasure, produce relaxation and reduce tension endorsed significantly more alcohol use. Weinstein revealed that smokers perceived themselves as lower at risk than other individuals who do not smoke, probably because they perceived smoking as less risky health behavior.

The study of Mills, revealed that those who rated a risky behaviour as risky participated less in that behaviour and vice versa [13]. But in the study by Oduyemi, it was discovered that where majority of the medical students (83.3%) that participated in the study had a good knowledge about alcohol, less than half (46.6%) recognized that alcohol was a risk factor for cancer. With these findings, it becomes a misnomer having a fixed conclusion on the relationship between perceptions of risky behaviors and engaging in risky health behaviors.

A possible explanation for these variations is the way people perceive risks and the behavior that ensues. The attitude-behavior consistency theory by Baumeister explains the degree to which people's attitudes (opinions) predict their behavior (actions). Attitude-behavior consistency exists when there is a strong relation between opinions and actions. Consistency concerns the degree to which people's attitudes (opinions) predict their behavior (actions). Perception leads to attitude which may influence behaviour positively or negatively. An individual's risk perception towards a particular health behaviour will help to guide his or her actions; whether he or she will be engaged in risky health behaviours or not.

The influence of gender on risky health behavior has also been studied. Revealed that male youths engaged more in risky health behaviours than female youths. These risky health behaviours entail substantial economic and social costs to the health and well-being and also the society. Understanding the causes of such risky health behaviours, the role emotions and health-related risk perception play in such situations and developing effective intervention strategies aimed at reducing these behaviours is the focus of the present study.

Given the importance of the health of students, who constitute a large volume of young population of the country, and considering the professional role of the medical students in the health sector of the country, there is need to improve their health status. The need for safe staffing in the health sector could help to improve the quality of health in the country, because their lifestyle not only affects their own personal life, but also influences the behavior and life of other individuals in the society.

Because prevention is the best approach to reduce threatening health behaviors at the community level, this study was conducted to investigate certain emotional stability and health-related risk perception as psychological factors that could predispose medical students to risky health behaviors. Therefore, the following hypotheses are tested:

- There will be a significant relationship between emotional stability and risky health behaviors among medical students.
- There will be a significant relationship between health-related risk perception and risky health behaviors among medical students.
- Emotional stability and health-related related risk perception will independently and jointly predict risky health behaviors among medical students.
- Male medical students will score higher on risky health behaviours than female medical students.

Methods

Design: A correlational research design is used in the study. The predictor variables are emotional stability and health-related risk perception while the criterion variable is risky health behaviors.

Participants: Two hundred and eighty (280) undergraduate medical students of the University College Hospital (UCH), Ibadan, Nigeria are randomly selected from the departments of Medicine and Surgery (MBBS), Dentistry, Basic Medical Laboratory Science and Physiotherapy. The participants include 154 (55%) male and 126 (45%) female, with an average mean age of 21.74 and a standard deviation of 3.19.

Instrument: The instrument used is a questionnaire which has four sections. The first section contains relevant demographic information from the participants, which consists of their age, sex, faculty and department. The second section contains the emotional stability subscale of the Big Five Inventory (BFI) by John and Srivastava.

The scale has 8 items, with each statement rated on how much the participants agreed to the statements on a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The Cronbach alpha reliability value is 0.716. The validity was obtained with factor analysis showing one factor of an Eigen Value of 2.024. The reliability coefficient for the pilot study and actual study is 0.789 and 0.731 respectively.

The Health-Related Risk Perception Scale was developed and standardized for the purpose of the present research, and constituted the third section of the scale. The scale was designed to measure how risky health behaviours are perceived on a 5-point Likert Scale, ranging from 1 (Not risky at all) to 5 (Extremely risky). The scale is a 16-item questionnaire with a Cronbach alpha reliability of 0.925 for the pilot study and 0.843 for the actual study with an overall mean of 65.77 and a standard deviation of 13.421. The item-total correlation ranged between 0.419 and 0.796

The Risky Health Behaviours scale formed the fourth section, and was developed and standardized for the purpose of the research. It was designed to measure the engagement of medical students in risky health behaviors. Placed on a 5-point Likert scale, it ranges from 1 (Strongly Disagree) to 5 (Strongly Agree). It contains 13 statements with a Cronbach alpha reliability of 0.864 for the pilot study and 0.806 for the actual study, with an overall mean of 34.78 and a SD of 13.632. The item-total correlation for the scale ranged between 0.511 and 0.762.

Standardization of Scales: The content validity for the two new scales were conducted by five (5) medical doctors at the University College Hospital (UCH), Ibadan, while face validity was accomplished using ten (10) undergraduate students in the medical school.

Each was requested to assess each scale item and adjudge whether or not the item measures what it purports measuring, using a Yes or No response alternative. Items on health-related risk perception scale received a minimum of 97.64% support on content validity, and 95.88% on face validity, while that for risky health behavior were 97.64% and 95.88% respectively.

For the reliability, a sample of forty (40) participants was administered a questionnaire containing the two new scales. Their responses were subjected to reliability analyses. A strong reliability measure of 0.925 and 0.864 were obtained for the health-related risk perception and the risky health behaviour scales, respectively.

Item analysis of item-total correlation was used for both scales. The health-related risk perception scale, with an initial 17 items, was developed which was later reduced to 16 items after item-total correlation as one item did not meet up the item-total correlation norm of 0.4. Also, for the Risky Health Behaviours scale, 17 items were reduced to 13 items as 4 of the items did not meet the 0.4 norm for acceptance.

Procedure: The questionnaire that contained all the three scales (emotional stability, health-related risk perception and risky health behaviours) were administered on the participants. Through purposive selection the Departments of Medicine and Surgery (MBBS), Dentistry, Physiotherapy, and Basic Medical Laboratory Science at the University College Hospital (UCH), Ibadan, Nigeria were selected and the participants were selected through systematic random selection, using the class register of the students from the respective departments.

A total sample of 80 students was selected from each of the departments, giving a total sample size of 320, from which 280 responses were fit for analysis. Basically, only respondents who responded being Nigerians were included in the analysis.

Data Analysis: Data were analyzed using the statistical package for social sciences (SPSS) software 20 version. Inferential statistics of Pearson Product Moment Correlation (PPMC) was used to establish the relationship among the independent and dependent variables. Hypotheses one and two were analyzed using the PPMC, hypothesis three with multiple regression and hypothesis four with t-test for independent groups.

Results

The first hypothesis stated that there will be a significant relationship between emotional stability and risky health behaviours. It was tested using Pearson r. The result is presented in Table 1. The result from Table 1 shows that there is no significant relationship between

emotional stability and risky health behaviours $r = .110, p > .05$. This indicates that the emotional stability of a medical student does not translate to engaging in risky health behaviours, therefore, hypothesis one is rejected in this study.

Variables	Mean	SD	N	R	P
Emotional Stability	20.47	4.65	280	0.11	>0.05
Risky Health Behaviours	20.73	7.93	280		

Table 1: Summary of Pearson Correlation between Emotional Stability and Risky Health Behaviours.

The second hypothesis stated that there will be a significant relationship between health-related risk perception and risky health behaviours. This was tested using Pearson r and the result is presented in Table 2. The result shows that there is a significant negative relationship between risky health behaviours and health-related risk perception $r = -.363, p < .01$, meaning that the higher medical students perceive their behaviours as risky, the less they engage in the risky health behaviours. The hypothesis is thus accepted.

Variables	Mean	SD	N	R	P
Risky Perception	63.93	9.76	279	0.369	<0.01
Risky Health Behaviours	20.73	7.93	280		

Table 2: Summary of Pearson Correlation between health-related risk perception and risky health behaviours.

Hypothesis three stated that emotional stability and health-related risk perception will independently and jointly predict risky health behaviours among medical students. Multiple regression analysis was used to test the hypothesis. The result is presented in Table 3.

Variables	B	t	P	R	R ²	F	P
Emotional Stability	0.9	1.61	>0.05	0.374	0.14	22.44	<0.01
Risky Perception	-.0358	-6.4	<0.01				

Table 3: Summary of Multiple Regression table showing joint and independent prediction of emotional stability and health-related risk perception on risky health behaviours.

From Table 3, the results indicate that emotional stability and health-related risk perception significantly predicted risky health behaviours ($R^2 = .140, F(2,276) = 22.44, p < .01$). This means that 14% of the variance in risky health behaviours was accounted for by emotional stability and health-related risk perception. Health-related risk perception ($\beta = -.358, p < .01$) independently predicted risky health behavior, negatively; implying that the higher the perceived risk of health-related behaviours, the lower the participation in risky health behavior, and vice versa. However, emotional stability ($\beta = .090, p > .05$) did not independently predict health behaviours. The hypothesis was thus supported for the joint prediction and independent prediction for only perceived health-related risk.

Hypothesis four stated that male medical students will score significantly higher on risky behaviours than female medical students. It was analysed using t-test for independent groups. The result is presented in Table 4. From Table 4, it is revealed that there is

significant difference between male and female on risky health behaviours $t(277) = 2.72, p < .05$. From the observation of the two means, it is seen that the male students ($x = 21.91$) scored significantly higher on risky health behaviours than the female medical students ($x = 19.34$). This result confirms the stated hypothesis; hence, it is accepted in this study.

Gender	N	x	SD	df	t	P
Male	153	21.91	8.44	277	2.72	<0.05
Female	126	19.34	7.07			

Table 4: Summary table of independent t-test showing difference between male and female on risky health behaviours.

Discussion

The study examined emotional stability and health-related risk perception as predictors of risky health behavior among Nigerian medical students. It was hypothesized that there will be a significant relationship between emotional stability and risky health behaviours. Results rejected this hypothesis by showing that there was no significant relationship between emotional stability and risky health behaviours. The result for the hypothesis did not support earlier findings by Aniebue which reported significant relationship between the emotional stability of medical students and their smoking behaviour, as students who smoked regularly had significantly higher levels of depression (emotionally unstable students) than those who did not smoke. The difference in result might have resulted from the fact that the present study examined risky health behaviors, rather than just smoking behavior. Brackett also reported emotional stability as not predicting risky health behaviours; this negates the findings of the present findings. However, they studied college students and not university students.

This result also supported that of, where university students scored high on neuroticism (that is they were emotionally unstable), engaged less in risky health behaviours than persons low on neuroticism.

The second hypothesis stated that there will be a significant relationship between health-related risk perception and risky health behaviours. Results supported this as there was a significant negative relationship between health-related risk perception and risky health behaviours. This means that high risk perception resulted in low participation in risky health behaviours and vice versa. The finding supports that of Mills which reveals that risk decision making is linked to a situation's riskiness and it was also revealed that risk perception was negatively correlated with risky behaviours. The study by Weinstein confirms the result of the prediction of health-related risk perception on risky health behaviours as the study revealed that current smokers perceive themselves as lower at risk than other individuals who do not smoke [14]. revealed that risk perception was related to alcohol use. This finding is also in support of the present findings. The finding could be due to the fact that perception leads to attitude which leads to behaviour. This result is explained by the attitude-behaviour consistency theory [15]. So, the attitude of medical students was influenced by their perceptions of risky healthy behaviours which in turn determined whether they engaged in them or not.

The third hypothesis stated that emotional stability and health-related risk perception will independently and jointly predict risky

health behaviours. The result confirmed this hypothesis as health-related risk perception independently predicted risky health behaviours, emotional stability and health-related risk perception jointly predicted risky health behaviours. However, emotional stability did not independently predict risky health behaviours. It implies that although emotional stability and health-related risk perception jointly predicted risky health behaviors, only the contribution of health-related risk perception is significant in the joint prediction. This shows the importance students place on their perception of riskiness in the behavior they put up.

Lastly, hypothesis four stated that male medical students will score higher on risky health behaviours than female medical students. Results supported this hypothesis by showing that male medical students scored higher on risky health behaviours than female medical students. This hypothesis was also supported by Galambos finding, which revealed that male youths engaged more in risky health behaviour than female youths [16,17]. The present finding, thus, raises some areas of behavior where gender difference could be observed. Culturally, male children are encouraged into risky behaviors than females. This might explain the result of gender difference obtained in the present study.

This study concluded that health-related risk perception independently predicted risky health behaviours. It was also reported that health-related risk perception and emotional stability jointly predicted risky health behaviours. In addition, male medical students participated more in risky behaviours than their female counterparts. These findings place risk perception as a very important factor in determining engagement in risky health behaviours. One implication of this study is that parents/guardians together with teachers of medical students should stress the dangers of engaging in behaviours that put their health at a risk, and positively influence their perception of risky events. Male medical students should also be focused on more, because this study reveals that they are more likely to engage in risky health behaviors than their female counterpart. Another implication of this study is the need for educational institutions to organize intervention programs targeted at raising awareness on health promoting behaviours. In addition to this, counsellors or psychologists should be made available in the medical institutions so that youths could have access to counselling services. Further studies should be carried out with a more representative sample.

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