Peer pressure and substance use as predictors of mental health among in-school adolescents in Nigeria

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Abstract

Background: The period of adolescence confers significant vulnerability to mental health problems that may persist into adulthood, causing significant mental health problems to the individual and to society at large However, the majority of what is known about adolescent mental health is rom developed countries.
Objective: This study sought to fill the knowledge gap by investigating the influence of peer pressure and substance use on the mental health of in-school adolescents.
Methodology: A cross-sectional research design was adopted for this study alongside purposive method for sampling of the participants The sample size was made up of 288 in-school adolescents between the ages of 13 to 22 years, with an average age of 17.02±1.92 drawn from three government schools in Oyo state's capital city.
Results: The findings of this study revealed that peer pressure and substance use have a negative impact on mental health. Furthermore, both variables predicted mental health jointly, but only substance use predicted mental health independently. We also discovered no significant gender variation in adolescent mental health.
Conclusion: We concluded that substance use is a risk factor for adolescent mental health as revealed by the outcome of this study.
Key Recommendation: As a result, it was recommended that timely and comprehensive mental health interventions should target this population's substance use.
Keywords: adolescents; peer pressure; substance; mental health; Nigeria

Introduction

Adolescence is a time when the body, brain, social environment, and emotional behavior all change. This period of transition translates to the critical period where adolescents are particularly vulnerable to mental health issuesthat may persist through adult life causing significant mental health problems to the individual and to the society at large.However, there are evidence that adolescent typical behaviors are distinct such that there is heightened risk-taking, sensation seeking and exploration of the social environment as a result of physical and maturational changes beginning at puberty which alter the way they perceive themselves and the perception of the society towards them. Therefore, adolescents are more prone to risk-taking and experimentation when they are with peers than when they are alone because when it comes to assessing risks, they are more influenced by opinions of their peers than adults (Blakemore &Mills, 2014). Protecting adolescents from social and psychological adversities and promoting psychological wellbeing are critical for their physical and mental health during this transition period. Global report ofInstitute of Health Metrics and Evaluation recognized by WHO (2021)estimated that 1 in 7 adolescents between aged 10-19 experience mental health conditions that has remained largely unrecognized and untreated. The organization is convinced through

empirical findings that adolescents are especially vulnerable to social exclusion, discrimination and stigma associated with seeking help, educational difficulties, risk-taking behaviors, physical illness and human rights violations. Therefore, it is hypothesized thatthe more risk factors adolescents are exposed to, the worse their mental health may suffer. It is a known fact that mental health is essential at all stages of life, be it childhood to adolescence and to adulthood. By definition, mental health encompasses emotional, psychological, and social well-being, all of which influence how people think, feel, and act. It also influences how people deal with stress, interact with others, and make healthy choices.

Adolescents face a plethora of health concerns and behavioral difficulties with distinct conditions that varies by location. Substance abuse is a global health and social problem not only for the population considered in this study but to the larger extent of the society causing significant harm to physical and mental health of user and non-user. However, there is a common consensus that people who struggle with substance abuse are at a higher risk of developing other mental health issues, which can worsen treatment outcomes, make them more vulnerable to social problems, and make it difficult to live a decent life (Richert et al. 2020).

The prevalence of substance abuse was previously focused on adults, but what is most alarming and concerning now is the rate at which adolescents are freely and uncontrollably integrating drugs into their daily living. Worse of, adolescent are creating their own chemical compounds by combining common substances with odd elements to make their own formula for excessive drug use,many of which are motivated by curiosity, imitation, and observation. This drug-using trend has been dubbed “science students” practicein Nigeria, which have been widely incorporated into substance use in recent time. This implies that substance use has progressed from the traditional use of sedatives, alcohol, cocaine, heroin, and cannabis to the use of a combination of several drugs and herbs to achieve ultimate pleasure and fatal overdose. This is slowly eating away at the fabric of our society like cancer such that substance use is now more acceptable in our modern society, but the astounding speed at which adolescents are accepting hard substances is debilitating and it requires decisive actions to mitigate its impact on their mental health. There are numerous reasons given for adolescent engagement in substance use. The most important reason, however, appears to be that the period of adolescence is preoccupied with behaviors that are meant to satisfy curiosity, in which individuals act more impulsively, nonconforming and recklesslycompared to other stages of their lives' development (Raimi et al. 2019). Many adolescents engage in substance-abusing behaviors that they recognize as risky but that are socially acceptable among their peers.Peer pressure can be harmful to an adolescent's mental health because it causes them to lose their sense of self in order to fit in with or be accepted by their peers. For example, Jelsma and Varner (2019) highlighted the predictive influence of substance use, particularly alcohol, on peer pressure as the strongest factor among adolescents, and the interaction of this stressor with substance use may help explain the deteriorating mental health of adolescents.

Adolescents' mental health is a key indicator of their current and future wellbeing. Poor mental health can lead to poor overall health, risky behavioral outcomes, and disruptive and criminal behavior. Bullying (Bowes et al. 2015; Islam et al. 2020), discrimination (Assari et al. 2017), low socioeconomic status (McLaughlin, 2011), low physical activity, high screen time (Kremer et al. 2014; Lissak, 2018), substance use (Ferriera et al. 2019) have all been identified as factors influencing adolescent mental health. Poor family functioning has also been linked to poor

adolescent mental health in the literature (Kuhn & Laird, 2014). The majority of what we know about adolescent mental health stems from studies involving developed countries. To a considerable extent there is paucity of studies on adolescents' mental health in an under-developed or developing countries especially those countries living in extreme difficult circumstances that pose as risk factor to mental ill-health. Therefore, the objective of this study was to fill the knowledge gap by investigating the impact of peer pressure and substance use on the mental health of in-school adolescents. The following research questions were raised in context to this study:

i. Is there a link between peer pressure, substance abuse, and mental health?
ii. Would peer pressure and substance abuse predict mental health both independently and jointly?
iii. Would adolescent mental health differ based on gender?

Methods

Design and Sampling

The cross-sectional survey research design was used in this study. The rationale for this design is based on the fact that the investigators measured the outcome and explanatory variables in the study participants simultaneously without influencing them. Using the purposive sampling technique, a sample of 288 adolescents aged 13 to 22 years, with an average age of 17.02±1.92, was drawn from three government schools in Oyo state's capital city.

Measures

Mental Health: We adopted the Warwick-Edingburgh Mental Well-being Scale (WEMWBS) that was developed by Tennant et al. (2007). It is a 14-item that measures mental health from both hedonic and eudemonic perspectives. Over a two-week period, participants responded to questions on positive affect, satisfying interpersonal relationships, and positive functioning in terms of energy, clear thinking, competence, and personal development using a 5-point Likert scale ranging from none of the time to all of the time. The authors of this scale reported internal consistency of the scale to be 0.89 which this study also reported similar consistency (0.91). The items of the scale are scored positively with minimum individual score of 14 and a maximum obtainable score of 70. Higher score on the scale indicates higher mental wellbeing and lower scores is indicative of lower mental wellbeing.

Peer pressure: We measured adolescents' exposure to peer pressure through Peer Pressure Inventory (PPI) that was developed by Brow et al. (1986). It is a well-validated 11-item that measures perception to peer pressure in social activities, misconduct, conformity, involvement with school and family using a 5-point Likert scale. Higher scores on the scale implies higher conformity with pressure from peers and vice versa. Similar to the psychometric properties reported by the authors, this study found a high internal consistency of the scale (0.94) among adolescent.

Substance Use: We used The Chinese Drug Involvement Scale (C-DIS) developed by Lam et al. (2002) as a measure of substance use. The 22-item scale is a global assessment scale that assesses respondents' drug involvement by assessing indicators such as actual drug experiences, beliefs about the consequences of drug use, the degree of manifest commitment to drug

abstinence, and the extent to which friends have drug-related habits.The Likert response format ranges from strongly disagree to strongly agree, items 13 to 15 and 19 to 22 were reversed. Higher score on this scale is indicative that a more extensive degree of drug involvement and vice versa. The authors determined the Cronbach's alpha for the C-DIS to be .90, indicating a satisfactory level of consistency, likewise the current study found a high internal consistency of 0.81.

Procedure

In accordance with best practices, the principal investigator was introduced to the selected schools via a research introductory letter from the University of Ibadan's Department of Psychology. Following that, the researchers went to the pre-selected schools to explain the purpose of the study to the school administration. Once approval was granted, the questionnaire were administered in different classes after informed consent was obtained, and the purpose of the study was explained to the students. During their long break or free period, students were given a self-report questionnaire containing the above-mentioned measures in their classrooms. At different times, each administration targeted a different class. Because some items on the questionnaire were sensitive to social desirability, particularly substance use items, those willing to participate in the study were isolated in their respective classes to encourage honest responses. In addition, confidentiality was stressed and participant identifiers were not requested. Data collected were accurate for statistical analyses and hypothesis were tested using pearson correlation, multiple regression and t-test of independent samples using SPSS (26).

Results

Table 1 shows the descriptive characteristics of the participants with respect to mental health scores.

Variables	Category	n=(288)	%	Mean	SD
Gender	Male	188	65.3	46.01	13.91
	Female	100	34.7	46.81	14.55
Class of Study	SSS 1	102	35.4	45.87	13.45
	SSS 2	97	33.7	47.50	13.90
	SSS 3	89	30.9	45.45	15.13
Family type	Monogamous	191	66.3	47.53	13.48
	Polygamous	58	20.1	45.19	14.42
	Others	39	13.5	41.82	15.95
Parents' Marital Status					
	Single parent	91	31.6	44.76	14.28
	Married	162	56.3	47.17	13.80
	Divorced	23	8.0	46.00	17.06
	Separated	09	3.1	48.22	12.72
	Widowed	03	1.0	41.67	5.13
Tribe	Igbo	65	22.6	46.48	14.42
	Hausa	58	20.1	46.09	13.13
	Yoruba	133	46.2	47.20	14.04
	Other tribes	32	11.1	42.47	15.52

Table 2 Summary of pearson product moment correlation showing the relationship among peer pressure, drug use and mental health.

Variables	Mean	SD	1	2	3
Peer pressure	27.87	13.33	--		
Substance use	45.94	11.06	.68**	--	
Mental health	46.29	14.12	-.21**	-.38**	--

**** p<.01**

The relationship among peer pressure, substance use, and mental health is depicted in Table 1. Peer pressure significantly correlated positively with drug use (r=.68, p<.01), indicating that adolescents who were subjected to increasing peer pressure were more likely to engage in substance use. Furthermore, peer pressure (r=-.21, p<.01) and substance use (r=-.38, p<.01) were found to have a negative correlation with mental health. This relationship suggests that increased peer pressure and substance use resulted in poor mental health among in-school adolescents, and vice versa.

Table 3 Summary of Multiple Regression showing the independent and joint prediction of peer pressure and substance use on mental health.

Predictor	B	T	Sig	R	R^2	F	P
Peer pressure	.09	1.20	>.05	.39	.15	24.85	<.001
Substance use	-.44	-5.92	<.001				

Table 2 summarizes the multiple regression analysis, which revealed that peer pressure and drug use had a significant joint prediction of mental health [$F_{(2,284)}$ =24.85, R=.39, R2=.15, p<.001]. This means that the predictor variables (peer pressure and substance use) accounted for 15% of the total variance observed in mental health, with the remaining 85% due to other variables not considered in the study. Only substance use (β= -.44, t= -5.92, p<.001) had a significant prediction on mental health, accounting for 44% of the variations seen in the dependent variable. Furthermore, an inverse relationship was discovered between substance use and mental health, implying that individuals who used substances had poorer mental health.

Table 4 Summary of t-test for independent measures showing means difference in Gender on Mental health.

Variables	Gender	N	X	SD	df	T	P
	Male	188	46.01	13.91			
Mental health					286	-.46	>.05
	Female	100	46.81	14.55			

Table 4.4 shows that there is no significant difference in mental health between female in-school adolescents (X=46.81) and male in-school adolescents (X=46.01) (t=-.46, df=286, p>.05). This implies that there is no statistical significant gender difference in the participants' mental health.

Discussion

We investigated the relationship and predictability of peer pressure and substance use on the mental health of in-school adolescents in Ibadan in this study. We discovered a significant inverse relationship between peer pressure and mental health, as well as substance use and mental health. This relationship implies that increased peer pressure and substance use resulted in participants' poorer mental health. This finding backed up the findings of Williams and Anthony (2015), who looked into the impact of positive family and peer interactions on adolescent functioning. They discovered that family relationships reduced adolescent vulnerability to peer pressure, resulting in better health and well-being. Similar to our findings, Bowes et al. (2015) concluded in a longitudinal study that peer victimization related positively with heightened risk of developing depression in adulthood. In addition, our study found substance use to be negatively related to mental health, which has found empirical support from studies that have consistently linked poorer mental health outcomes to substance use (Gobi et al. 2019) more specifically, in an English study that concluded that subjects with psychotic episode are twice likely to exhibit psychotic problems than those with psychotic problems without cannabis use (Di Forti et al. 2015). Four years later when the research was replicated across other sites in Europe by the same authors, psychotic related problems were positively related with fatal cannabis use (Di Forti et al. 2019). More so, Chan et al. (2017) reported similar findings with respect to cannabis use but with depression while Freeman and Winstock (2015) added that cannabis dependence is predominant among people users of global regulated substances. These findings point to the fact that the more available these substances are to the public, the higher the chances of poorer mental health, higher potentiality of addiction, dependence, and demand for interventions for those who engage in its use.

We hypothesized that peer pressure and substance use would independently and jointly predict mental health among in-school adolescents. We found out that peer pressure and substance use jointly predicted mental healthbut only substance use had independent influence on mental health. This relationship implies that adolescent who engage in substance use were more likely to report poorer mental health than those who do not engage in substance use.Our finding was supported by the study of Hines et al (2020) that sought to examine the association substance use with mental health in adolescence. The authors reported a significant association of cannabis use with generalized anxiety disorder. Furthermore, the strength of this relationship slightly increased when demographics, depressive symptoms and frequency of cannabis use were

statistically controlled for. Likewise, Allen et al. (2020) concluded that students' discipline of study was associated with substance use and poorer mental health. Another study which also examined the co-occurrence substance use and mental health problems across tobacco products among 13,617 youth within age range of 12-17 years concluded that cigarette, cigarillo and tobacco users were more likely to report internalized and externalized problems (Conway et al. 2018).

In line with extant literature, we hypothesized that there would be gender differences on mental health of adolescents. Specifically, we expected female in-school adolescents to report a better mental health as compared to the male adolescents. Our finding revealed no significant gender difference in their mental health, meaning that both gender almost have the same mean score on measures of mental health. A significant plausible explanation to this finding could be due to the differences in the numbers of the participants in the two groups such that male where almost twice of the female participants. Nonetheless, a number of studies have documented quite the opposite of our findings (Cross et al. 2017; Goodwin et al. 2014). More specifically Conway et al., 2018, concluded that female tobacco users were more likely to have internalizing problems than male tobacco users. Therefore, a plausible explanation to this inconsistency in findings could be as a result of the type of substance use, biological, cultural and environmental factors as most of these cited studies originated from western countries.

Conclusion

The current study found an inverse relationship between peer pressure, substance use and mental health. Further investigation revealed that peer pressure and substance use both predicted adolescent mental health, but substance use was the only significant independent predictor of mental health. However, it appears to have a negative relationship with mental health, implying that those who use substance have poorer mental health. We also concluded that adolescent mental health is not influenced by gender. A plausible explanation for this finding could be the difference in the number of participants in the two groups, with males outnumbering females by nearly two to one. As a result, these findings indicate that substance use is a risk indicator for adolescents' mental health, emphasizing the importance of timely and comprehensive interventions and treatment that effectively address mental health problems caused by substance use.

Limitation

This study did have some limitations. To begin, the study's key variables were self-reported. Data from such sources may be skewed by social desirability biases, limiting the acceptability and reliability of information on the use of various psychoactive substances. Second, substance use was not confirmed using biological measures, limiting the objectivity in assessing substance use. Furthermore, gender differences in substance use and mental health problems warrant further investigation because male participants outnumbered female participants nearly twice as much, and this difference is large enough to confound the outcome on mental health in relation to the explanatory variable gender. More importantly, the measures of substance use and mental health used in this study did not directly emphasize substance use or mental health, making it difficult to determine which substances affect which mental health. Hence, future studies must take into cognizance these limitations and improved on them.

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