# Personality, loneliness and mental health in a Nigerian sample of university students

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## ARTICLE INFO

## ABSTRACT

Loneliness in young adults has been shown to have effects on social withdrawal, lack of self-confidence, inability to take control of any situation and the inability to make or sustain meaningful relationships. In more severe cases, loneliness has been linked to depression, aggression and hostility. These negative attributes could have implications across other areas of students' life such as motivation, academic performance, suicidal ideation and well-being. Personality also may influence students' mental health status. However, loneliness and personality have not been examined simultaneously in relation to mental health in a Nigerian population. The present study screened for levels of loneliness among a sample of university undergraduates (n = 360, 50% males). The associations of personality, loneliness and mental health were examined. A self-report questionnaire form incorporating the Mental Health Inventory -18, the Ten-Item Personality Inventory, and the UCLA Loneliness Scale was used in data collection. Confirmatory factor analysis revealed perfect fit indices for the three scales among the present sample. It was observed that loneliness was negatively associated with mental health. Agreeableness and neuroticism were also significantly associated with mental health. This associations still held even after controlling for gender and age. The study underscores the relevance of social relationships and personality in mental health interventions.

Mental health problems are among the most important contributors to the global burden of disease and disability (Khan, Hanif, & Tariq, 2015; Chukwuorji, Ifeawgwazi, & Iorfa, 2015). Among a student population, mental health challenges and crisis constitute a serious threat to functional education and thriving. Already, functional consequences of mental health problems and strengths for young people have been well-documented in previous research (Kim, Dowdy, Furlong, & You, 2016). Not only will mental health challenges cause delays for students, they also may translate into poor thriving and low quality of life among them. Mental health challenges/crisis may trigger a wide range of maladaptive lifestyles and psychopathologies among students. It is therefore important that psychologists constantly research and increase understanding on mental health among students. In addition, for the intention of identifying at risk students and channeling proper intervention and prevention strategies, it is important that knowledge regarding how personality, sociodemographic factors and other significant correlates of mental health should be advanced. This study therefore explores the associations between personality and loneliness with mental health among students from a sub-Saharan African community.

Students constitute a segment of the society's population which is faced with enormous challenges. Not only are some of these challenges internal, some are often environmentally induced. These challenges beside the pressure of academics include peer pressure, parental pressure, time management, societal expectations, etc. The challenges of transition into adulthood also manifest into pressures that weigh so much on the student. Ovugo, Boardman and Wasserman (2006) assert that many students who get admitted into universities have lived through a variety of difficulties such as loss of social support, loneliness and loss of emotional support. Besides, some students must fund themselves through school, and this may constitute immense pressure

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for them. Research (Giota & Gustafsson, 2017) has established that so much mental pressure on students translates directly into lower mental health which has deleterious effects on students' general well-being and quality of life. There is reason to believe that the rising levels of suicides, antisocial acts and other forms of maladaptive behaviours in colleges and higher institutions may be due partly to poor mental health among students. This calls for intensified research into a broad spectrum of mental health correlates among students. Previous research has reported that school climate, victimization and financial difficulties are key correlates of mental health among students (Richardson, Elliot, Roberts & Jansen, 2017). Others have outlined discrimination (Cokley, et al., 2017), sleep quality (Ismail, Mahran, Zarzour, & Sheahata, 2017) and internet addiction as well. The present study examines personality and loneliness as predictors of mental health in a sample of Nigerian undergraduate students.

Personality refers to the totality of character attributes and behavioral traits an individual possesses. It is relatively stable over time and influences majorly every aspect of an individual's life. Although there are several hypotheses and theories to personality development, personality researchers have recently converged on the Five-factor model as an adequate representation of the structure of personality traits (Habibi, Sadeghi, Haghrangbar, Madanipour, & Azarnoosh, 2013; Nwoke & Chukwuorji, 2011). The Five Factor theory proposed by McCrae and Costa (1987, 1996) organizes personality traits into five basic dimensions of extraversion, agreeableness, conscientiousness, neuroticism and openness to experience. These dimensions are measured on a continuum and may categorize an individual either as being high or low in the dimensions. Research has shown that some personality traits may indirectly predispose an individual to lower levels of mental health. For instance, Shirazi, Khan and Ansari (2012) reported significant associations between neuroticism, agreeableness, and openness to experience with mental health but not extraversion and conscientiousness with mental health among a student population. Amiri, et al (2017) also reported positive significant correlation between neuroticism with somatic symptoms and depression, and negative significant correlation between extroversion, agreeableness, openness to new experience and conscientiousness with depression among student athletes. Studies relating mental health with personality among other non-student sample have also found similar results (e.g., Josefsson, Cloninger,

Hintsanen, Jokela, Pulkki-Råback, & Keltikangas-Järvinen, 2011; Wood & Tarrier, 2010; Cloninger & Zohar, 2011). Clearly, there is a link between different facets of personality and predisposition to varying forms of mental health challenges. We hypothesized that these patterns of associations will be replicated in this study, and therefore personality will predict mental health of students.

Loneliness is the absence of imperative social relations and lack of affection in current social relationships (Rubin, 1982). Research into loneliness has identified two types of loneliness - social and emotional (Weiss, 1973), and then three forms of loneliness - situational, developmental and internal (Tiwari, 2013). Weiss (1973) defined emotional loneliness to be triggered by the absence of an attachment figure and social isolation to be triggered by the absence of a social network. Situational loneliness is explained to be caused by environmental factors (unpleasant experiences, discrepancy between the levels of his/her needs), migration of people, interpersonal conflicts, accidents, disasters, etc. Developmental loneliness refers to loneliness triggered by personal inadequacies, developmental deficits, significant separations, poverty, living arrangements, and physical/psychological disabilities. Internal loneliness has to do with loneliness due to personality factors, locus of control, mental distress, low self-esteem, guilt feeling, and poor coping strategies with situations (Tiwari, 2013).

Loneliness is generally reported more among young adults and children, contrary to the myth that it occurs more in elderly (Mushtaq, Shoib, Shah, & Mushtaq, 2014). This is partly because unlike late adults, young adults may not have completely developed the skill set necessary for coping and adaptation to solitude. Besides, younger age is characterized by need for peer acceptance and association. The negative attributes of loneliness could have implications across other areas of students' life such as motivation, academic performance, suicidal ideation and general wellbeing. Research has shown that not only mental health, but also physical health is affected by loneliness. For mental health, van Beljouw, Verhaak, Cuijpers, van Marwijk and Penninx (2010) reported that higher levels of loneliness predicted higher levels of depression. In congruence to their findings, Holvast et al. (2015) also reported significant effects of loneliness on depressive symptoms. A study in Nigeria by Chukwuorji Amazue and Ekeh (2017) also reported that loneliness predicted poor mental health status

among caregivers. We therefore hypothesize that loneliness will predict mental health in our study.

## Method

### Participants and Procedure

Participants in this study were 360 undergraduate students (50% males, age range = 16-30 years) from a university in Southeastern Nigeria. In terms of age, 241 participants (66.9%) were aged 16-20 years while 119 (33.1%) were aged 21-30 years. In terms of marital status, 350 (97.2) participants were single and 10 (2.8%) were married. By religion, there were Christians (*n* = 355; 92.8%) and adherents of other religious faiths (*n* = 13, 5.2%). The researchers approached students in two lecture venues and sought permission to conduct a survey. The students were informed about the study and asked to indicate their willingness to participate. Those who indicated interest were given the questionnaire pack containing an informed consent form and the questionnaires to fill. Respondents were assured that they were free to withdraw from the study at any point without consequences. Inclusion criteria included a minimum age of 16 years and ability to read and understand English language. Exclusion criteria included life-threatening medical illness, severe cognitive impairment, and active psychosis. Participants did not receive any form of reward or compensation for taking part in the study. A total of 400 copies of the questionnaires were distributed at two lecture venues, however, 40 copies were discarded due to incomplete answers and multiple ticking encountered in the process of scoring. The response rate obtained was therefore 75%. The average response time in the two lecture venues was 8 minutes.

### Instruments

*Mental Health Inventory -18*

The Mental Health Inventory -18 (MHI-18) is a revised and shortened version of the original 36-item scale, developed by Viet and Ware (1983) to measure psychological wellbeing and distress. The MHI -18 contains items that measure four aspects of wellbeing/mental health (anxiety, depression, behavioural control and positive affect. Respondents are asked to indicate how often within the past four weeks they have experienced various emotions. The MHI-18 has a Likert type response format ranging from 1 (all of the time) to 6 (none of the time). The subscales and total scores range from 0-100 with higher scores indicating better mental health. Sample items include, "has your daily life been full of things

that were interesting to you?", "have you felt calm and peaceful?" The MHI-18 has demonstrated internal reliability ranging from .83 to .96 (Stead, Shanahan, & Neufeld, 2010). Reliability and confirmatory factor analysis yielded acceptable fits for the present study (see Table 1).

*Ten-Item Personality Inventory*

The Ten Ten-Item Personality Inventory (TIPI) developed by Gosling, Rentfrow and Swann (2003) is a 10-item measure of the Big Five (or Five-Factor Model) dimensions. It is a brief assessment of the Big Five personality dimensions: (1) Extraversion, (2) Agreeableness, (3) Conscientiousness, (4) Emotional Stability, and (5) Openness to Experience. Items are rated on a scale from 1, disagree strongly, to 7, agree strongly. Example items include, "I see myself as extraverted, enthusiastic" (Extraversion) and "I see myself as dependable, self-disciplined" (Conscientiousness). The internal consistency reliability of the TIPI over time has reportedly been low .46 (Brito-Costa, Moisao, Almeida, & Castro, 2015). Reliability and confirmatory factor analysis yielded marginally acceptable fits for the present study (see Table 1).

*UCLA Loneliness Scale*

The University of California, Los Angeles Loneliness Scale (UCLA-LS), developed by Russell, Peplau and Ferguson (1978) is a 20-item instrument designed to measure individuals' subjective feelings of loneliness as well as feelings of social isolation. Sample items include "I am unhappy doing so many things alone", "I am no longer close to anyone", "People are around me but not with me", etc. Participants are required to rate each item as either O ("I often feel this way"), S ("I sometimes feel this way"), R ("I rarely feel this way"), N ("I never feel this way"). The developers reported high reliability, both in terms of internal consistency (coefficient α ranging from .89 to.94) and test-retest reliability over a 1-year period (*r* = .73). Reliability and confirmatory factor analysis yielded good fits for the present study (see Table 1).

### Statistical Analyses

Confirmatory factor analysis and item analysis were conducted to validate the measures. Thereafter, Pearson's correlation (*r*) analysis was conducted among the study variables while hierarchical multiple regression was employed to statistically test the hypotheses for the study.

## Results

Significant correlations were observed between gender and three personality facets (agreeableness, conscientiousness and openness) implying that female students who participated in this study were more agreeable, conscientious and open than their male counterparts. Loneliness and neuroticism also negatively correlated with mental health, suggesting that as loneliness decreases in students, mental health increases and as students tend to be more neurotic, their mental health decreases as well. Agreeableness positively correlated with mental health suggesting that students higher on the agreeableness dimension of personality had better mental health. Significant intercorrelations were also observed among the personality facets. All personality types were negatively correlated with loneliness.

**Table 1: Goodness of Fit indicators for the measures used in the study**

| Model | α | χ2 | Df | χ²/Df | CFI | TLI | GFI | RMSEA (90%CI) |
|---|---|---|---|---|---|---|---|---|
| UCLA-LS | .88 | 220 | 174 | 1.3 | .90 | .85 | .91 | .03(.01-.04) |
| TIPI | .52 | 208 | 53 | 3.9 | .91 | .90 | .89 | .07(.08-.06) |
| MHI-18 | .96 | 26.8 | 5 | 5.3 | .89 | .79 | .97 | .06(.04-.07) |

*Note: RMR: root mean residual ( <0.05 suggests good fit, <0.08 suggests adequate fit, >0.08 suggests poor fit); CFI: comparative fit index (>0.95 suggests good fit, >0.9 suggests adequate fit, <0.9 suggests poor fit); GFI: Goodness of fit indicators; TLI: tucker Lewis Index (> 0.95 indicates good fit, >0.9 suggests adequate fit, <0.9 suggests poor fit ); RMSEA: root mean square error of approximation (< 0.05 is good fit, <0.08 is adequate fit, >0.08 is poor fit) CI: confidence interval; U-LS: UCLA Loneliness scale; TIPI: Ten-Item Personality Inventory; MHI: Mental Health Inventory.*

**Table 2: Intercorrelations between study variables**

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Gender | 1 | | | | | | | | | |
| 2. Age | -.10 | - | | | | | | | | |
| 3. Marital Status | .08 | .11* | - | | | | | | | |
| 4. Religion | .03 | .06 | .06 | - | | | | | | |
| 5. Mental Health | .05 | -.03 | .03 | -.02 | - | | | | | |
| 6. Loneliness | -.09 | .04 | .02 | .07 | -.21** | - | | | | |
| 7. Extraversion | -.03 | .05 | -.05 | -.05 | -.01 | -.19** | - | | | |
| 8. Agreeableness | .16** | .01 | -.07 | -.13* | .19* | -.22** | .07 | - | | |
| 9. Conscientiousness | .15** | -.04 | -.07 | -.09 | .02 | -.17** | .01 | .43** | - | |
| 10. Neuroticism | .08 | -.04 | -.11* | -.09 | -.11* | -.30** | .10 | .46** | .41** | - |
| 11. Openness | .13* | -.06 | -.05 | -.09 | .05 | -.23** | .10 | .26** | .43** | .28** |

*Note. N = 360, * = p < .05 (two-tailed), ** = p < .01 (two-tailed), *** = p < .001 (two-tailed). Gender was coded 0 = male, 1 = female; marital status: 0 = single, 1 = married, 2 = divorced; Religion was coded 0 = Christians, 1= others.*

**Table 3: Hierarchical multiple regression predicting substance abuse by loneliness and personality dimensions**

| Variable | Step 1 β | Step 2 β | Step 3 β |
|---|---|---|---|
| *Controls* | | | |
| Gender | .05 | .03 | .06 |
| Age | -.03 | -.02 | -.00 |
| Marital Status | .02 | .02 | .02 |
| Religion | -.03 | -.01 | -.02 |
| *Predictors* | | | |
| Loneliness | | -.21*** | -.22*** |
| Extraversion | | | -.05 |
| Agreeableness | | | .19** |
| Conscientiousness | | | -.01 |
| Neuroticism | | | -.14* |
| Openness | | | .01 |
| Adjusted $R^2$ | -.01 | .03** | .05* |
| $\Delta R^2$ | .01 | .04** | .03* |
| $\Delta F$ | .36 | 16.14** | 2.48* |

*Note. N = 360, * = p < .05 (two-tailed), ** = p < .01 (two-tailed), *** = p < .001 (two-tailed).*

Results of the hierarchical multiple regression in Table 3 in which mental health was the criterion variable indicated that the demographic variables (that is., gender, age, marital status and religion), entered in Step 1 of the equation as controls, collectively accounted for 0.1% variance in mental health. This variance was however not statistically significant. When loneliness was entered in Step 2 of the equation, it accounted for 4.4% additional variance observed in mental health over and above the control variables. Thus, our first hypothesis was confirmed. Furthermore, when personality dimensions were entered in Step 3 of the equation, and they collectively accounted for 3.3% additional variance in mental health over and above the control variables but a little below loneliness. Thus, personality was also a significant predictor of mental health. However, only agreeableness ($\beta = .19$, $p<.01$) and neuroticism ($\beta = -.14$, $p< .05$) were significant in predicting mental health. Therefore, the second

hypothesis that personality will predict loneliness was partly confirmed.

## Discussion

In this study, we evaluated the relationship between personality, loneliness and mental health in a Nigerian sample of undergraduate students in a university in South-Eastern Nigeria. In this sample, we found partial support for our hypothesis that personality and loneliness will significantly predict mental health. Particularly, two dimensions of personality (agreeableness and neuroticism) significantly predicted mental health in the positive and negative directions respectively. Students who were higher on the agreeableness dimension of personality reported better mental health than their counterparts who had lower scores on the agreeableness dimensions. This result is consistent with findings of previous studies (e.g., Haslam, Whelan, & Bastian, 2009) who found similar patterns of association with subjective wellbeing, an index of mental health. Also, Shirazi, Khan and Ansari (2012) reported significant positive associations between agreeableness and mental health. Agreeableness is characteristic of sympathetic, cooperative, warm, considerate and kind individuals. Agreeable individuals are less likely to suffer from social rejection and may be full of social networks (which boost thriving and consequently, mental health).

Students who were higher on the neuroticism dimension of personality reported poorer mental health. This is congruent with earlier research findings (e.g., Shirazi, et al, 2012; Yang, Chiu, Soong, & Chen, 2008). Neuroticism is characterized by low self-control, quick arousal, and negative emotions such as anxiety, frustration, guilt, etc. Previous research (Hengartner, Ajdacic, Wyss, Angst, & Rossler, 2016) had established that neuroticism predicts more severe and impaired depressive symptoms. Also, because neuroticism is associated with lower problem-solving abilities (D'Zurilla, Maydeu-Olivares, & Gallardo-Pujol, 2011) more neurotic students are prone to consistently having low grades which may in turn translate into moodiness and depressive episodes. For instance, a neurotic student may perform poorly on a test and because s/he may also have difficulty coping with negative emotions (Kokkonen & Pulkkinen, 2001), s/he is more prone to experience severe moodiness, sadness, depression and other negative emotions. The other three personality dimensions of openness, conscientiousness and extraversion had null relationships with mental health.

From this sample also, we found significant support for our hypothesis that loneliness will predict mental health. An inverse association was found between loneliness and mental health such that students with higher levels of loneliness reported poorer mental health. This finding agrees with Mellor, Stokes, Firth, Hayashi and Cummins (2008) who indicated that loneliness was associated with mental health. In a 5-year longitudinal study, Cacioppo, Hawkley, and Thisted (2010) found evidence that loneliness predicts depression even when they controlled for age, gender, ethnicity, neuroticism, stressful life events, and social support. Loneliness although quite subjective creates a distressing feeling of discrepancy between a students' desired and actual level of social connection and therefore may have negative impacts on students' mental health. This means that the pathway or psychological mechanism through which loneliness translates into poor mental health may not be a direct one but may be influenced by unavailability of social networks. This forms an important consideration for future research. Moreover, research incorporating a model of loneliness, social support and mental health have found significant interaction effects of loneliness and social support on mental health. Kang, Park, & Wallace (2016) reported that loneliness mediated the relationship between social support and quality of life. Other research (Barg, Huss-Ashmore, Wettink, Murray, Bogner, & Gallo, 2006) have highlighted that social support buffers the association between loneliness and mental health. The present finding contributes to the growing knowledge on the relationship between loneliness and mental health in a student population and more specifically support the relevance of loneliness for the analysis and understanding of mental health among students.

The results of this study highlight potential areas of priority for future research in educational psychology. We suggest that the first step is to assess the generalizability of these findings across other sub Saharan student campuses and among a non-school attending young adults' community. This will help the development and implement of prevention and intervention strategies/programs based on findings from previous research and those outlined above. This is because the development of prevention and intervention programs aimed at alleviating loneliness may prove effective in enhancing mental health among students in Nigeria. In counselling and psychotherapy, professionals may do well to focus attention on more neurotic individuals as they tend to have poorer mental health than others. Attempts

at reducing impulsivity, building self-control and emotion regulation techniques may also prove helpful in interventions for neurotic students.

## Limitations of the study and suggestions for further studies

A potential limitation of this study (as is always with other survey studies) is the use of self-reported measures of loneliness. Students experiencing loneliness are prone to judging their loneliness levels more negatively which may lead to measurement errors. Hefner and Eisenberg (2009) have suggested that a solution problem related to this may be to employ other concurrent measures from the perspective of third parties, such as friends or family members. Also, in most studies of loneliness and mental health, including ours, it is quite difficult to determine definitively whether loneliness leads to mental health problems, or if students with mental health problems get lonelier because of the symptoms of their disorders or other related factors. This is further made difficult because of the study design. The cross-sectional design prevented investigation of the causal relationship between personality traits, loneliness and mental health.

## Conclusion

Poor mental health among students has become a major public health concern in well developed and developing nations. This is because the rate of psychopathologies and suicides on campuses is increasing at an alarming rate. This calls for intense counselling and therapeutic activities in school environments and intensified research into correlates of mental health among students. These will inform the development of intervention and prevention strategies for school psychologists, educational psychologists and counselling psychologists practicing in school environments. The findings from such research will also help inform formation and implementation of policies that revolve around maintaining sound mental health of students.

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