

Exploring The Nexus: Pathological Narcissism, Substance Abuse, and Self-Regulation as Predictors of Suicidal Ideation in College Students

Samuel Toyin Akanbi^{1*}, Elinah Yemisi Olanrewaju¹

¹Department of Special Education and Guidance and Counselling, Faculty of Specialized and Professional Education, Emmanuel Alayande University of Education, Oyo, Nigeria

Received July 15, 2024 | Accepted October 15, 2024 | Published November 30, 2024

Abstract: The study explored the predictors of suicidal ideation among university undergraduates focusing on the roles of narcissism, substance usage, and self-regulation. A correlational approach was adopted for the study. A total of 1,411 undergraduates selected through a multistage random sampling from three Nigerian universities participated in the study. Suicide Ideation Scale ($\alpha = .76$), The Short Self-Regulation Questionnaire ($\alpha = .87$), Drug Abuse Screening Test ($\alpha = .7$), and Pathological Narcissism Inventory ($\alpha = .94$) were used to gather information from the participants. Data collected were subjected to statistical screening through the Pearson Product Moment Correlation and multiple regression. The outcomes showed that a combination of the three main predictors explained a total of 32% ($R^2 = .322$; $F_{(4,1406)} = 166.557$; $p < .01$) of the variance in suicide ideation. Narcissistic Grandiosity ($\beta = -.507$; $t = -14.945$, $P < 0.01$), and Self-regulatory Behaviour ($\beta = -.155$; $t = -6.411$, $P < 0.01$) inversely predicted suicidal ideation while Narcissistic Vulnerability ($\beta = .573$; $t = 16.864$, $P < 0.01$), and Substance Abuse ($\beta = .274$; $t = 11.453$, $P < 0.01$) positively predicted it. The findings underscore the need for comprehensive mental health support systems that address the underlying psychological factors contributing to suicidal ideation.

Keywords: Narcissistic Grandiosity; Narcissistic vulnerability; Pathological narcissism; Self-regulation; Substance usage; Suicidal ideation



Copyright © 2024. The Authors. Published by Psikoislamika: Jurnal Psikologi dan Psikologi Islam. This is an open access article under the CC BY-NC-SA. Link: [Creative Commons — Attribution-NonCommercial-ShareAlike 4.0 International — CC BY-NC-SA 4.0](https://creativecommons.org/licenses/by-nc-sa/4.0/)

Introduction

The growing trend of suicide and suicidal behaviour among young adults in the university setting has been a major public concern. It is reported to be one of the foremost causes of death among this group of people (Kaggwa, 2022). The World Health Organisation (2023) reported that suicide is the fourth primary cause of death among young people of ages 15 to 29 which coincides with the age bracket of the majority of undergraduates. It becomes a public concern as it has serious impacts on individuals, families, university community and the larger society. Suicidal behaviour, whether successful or not, has serious repercussion on emotional wellbeing of the society as individuals may have to battle with deep feeling of grief, guilt and confusion arising from the death of the loved ones (Harrison, et al., 2021). The survivors of suicide are faced with the possibility of depression, substance use, psychiatric disorders, and suicide

^{1*} Corresponding Author: Samuel Toyin Akanbi, email: akanbist@eaueido.edu.ng, Faculty of Specialized and Professional Education, Emmanuel Alayande University of Education, Oyo, Nigeria.

attempts (Spillane, et al., 2017) as well as sense of stigmatisation, unhealthy coping patterns and sensations of shame (Sheehan, et al., 2018). Therefore, interested researchers and agencies have focused attention on decreasing the determinant factors, and devising protective means against suicide and suicidal behaviours.

Generally suicidal behaviour also known as suicidality is described as a terminology incorporating suicidal attempt and preparative behaviour towards perfecting suicide (Moutier, 2023). From this definition, suicide behaviour is portrayed as preparatory behaviour towards committing suicide. Suicide on the other hand is accomplished when an individual involved in self-initiated or dedicated action with the goal or anticipation of dying, including active or passive self-inflicted acts (WHO, 2016). It is defined by Leo, et al (2006) as the undertaking of killing oneself, intentionally originated and accomplished by the person concerned in the full awareness or anticipation of its deadly consequence. The National Institute of Mental Health (2023) defined it as death caused by self-directed injurious behaviour with the intention to die consequent upon the behaviour.

Three major stages of suicidal behaviours which can eventually lead to suicide that have been identified include: ideation, planning and attempt. Suicidal ideations, also regarded suicidal thoughts or ideas, is a wide-ranging word used to define a variety of thoughts, desires, and preoccupations with death and suicide (Harmer, et al., 2024). It is also described as any self-reported passive desire to die or an active desire to take one's own life without associated preparatory behaviour (O'Sullivan, et al., 2011). From these definitions, two types of suicidal ideation are identified: Passive suicidal ideation (a common aspiration to die without any accompanying plan or intent of wreaking dangerous self-harm to kill oneself) and active suicidal ideation which happens when there is a mindful yearning to impose self-injurious behaviours, and the person possesses any degree of desire, above zero, for death to happen as a consequence (Harmer, et al., 2024).

Suicidal planning embraces the drawing up of a specific technique through which the individual proposes to die (Nock, 2008). Suicidal attempt is a further stage in suicidal behaviour which involves a non-habitual act with a non-fatal result purposely began and executed by the individual concerned, causes self-injury, or will be performed without support from others, or involves consumption of a substance higher than the generally established beneficial measure (Jans, et al., 2018). Apter (2010), stressed that for suicidal attempt to happen, there must be a self-initiated, possibly harmful behaviour; a manifestation of plan to die; and nonfatal result.

From the descriptions of suicidality, it is obvious that suicidal ideation forms the basis of all the suicidal behaviours as it embraces the thought and willingness to personally take one's own life. Suicide ideation has been established to be a predictor of both suicide attempts and completed suicides (Ladi-Akinyemi, et al., 2023). Moreso, it has been found to be the most prevalent among all the typologies of suicidality (Mortier, et al., 2018). It therefore follows that if effective remediation and prevention will be provided, issues surrounding suicidal ideation should be effectively focused. Hence, the current study is targeted at Suicidal ideation.

The appearance of suicidal ideation among tertiary institutions students globally and in developing nations especially is raising concern as studies have shown that thought of suicide is high among emerging

adults. For instance, Kukoyi, et al (2023) expressed that Nigeria, together with other developing nations, is reported to have a higher occurrence rate of suicidal ideation when equated with developed countries. Among undergraduates in Bayesa State, South-southern Nigeria, Tobin and Oge (2021) found prevalence rate of suicide thought to be 18 per cent. Also among the south-western Nigeria undergraduates, Lawrence (2022) reported a slight prevalence of suicidal predispositions. Also, Aroyewun, et al (2022) found the prevalence to be higher among female undergraduates. Among two state tertiary institutions students in Lagos State Nigeria, Ladi-Akinyemi, et al (2023) found prevalence of suicidal ideation to be as high as 22 per cent. This pervasiveness is a signal that actual suicide may be high in the coming years among young undergraduates if not checked.

Previous studies which have sought the antecedents of suicidal ideation have confirmed different factors predictive of suicidal ideation. Such factors include relationship with parents/guardian, degree of academic performance, pressure and pleasure, marital strain of parents, economic condition of students, depression and health difficulty (Tobin & Oge, 2021). Other predisposing factors identified by Ajibola and Agunbiade (2022) are broken intimate relationship and involvement in substance misuse. Kukoyi et al (2023) also found self-esteem, social support, and environmental factors to be connected with suicidal ideation. Other examined risk factors include emotional dysregulations and gambling disorder (Akpunne, et al, 2022). While all these factors and some others have been suggested to predict suicidal ideation and behaviour among young adults and the general populace, other intrapersonal personality and risk-taking factors that could serve as antecedents of suicidal ideation, are not widely researched into although they are common among young adults, especially undergraduates. Based on this, the current study focuses on narcissism, substance usage and self-regulatory behaviour as they predict suicidal ideation among undergraduates.

Conventionally, narcissism is defined by Pincus et al (2009) as individuals' ability to keep a moderately positive self-image within a range of self-, affect-, and field-regulatory means, and it is the cause of persons' desires for endorsement and support in addition to the drive to openly and secretly look for self-enhancement experiences from the society. This definition seemed to present narcissism as facilitating and healthy behaviour. However, it becomes pathological when individuals manifest a predisposition to be entitled, egotistical, self-absorbed, and vain, using their large social ability and inclination towards manipulative behaviour to force themselves into positions of authority or public eminence (Holtzman & Donnellan 2015). Therefore, pathological narcissism comprises dysfunctional efforts to regulate the self and is made up of two characteristics which are narcissistic grandiosity and narcissistic vulnerability (Dashineau, et al., 2019).

According to Semenyna (2018), grandiose narcissism is related with an excessively pushy and exaggerated perception of self, as well as a tendency to be sociable and extraverted while vulnerable narcissists are characterised by emotional feeling, persistent fears of rejection or neglect, and manipulative predispositions. Vulnerable narcissism is portrayed by defensiveness, self-doubt, and resentment. In this regard, Dashineau, et al (2019) explained that the two typologies of narcissism do not result in same behavioural outcomes. While narcissistic grandiosity is linked with particular deficiency in interpersonal skills, vulnerability is related with all forms of maladjustment. Vulnerable narcissism projects different varieties of dysfunction while narcissism grandiosity functions as a moderate protecting

factor. These two pathological narcissism types have been found prevalent among Nigerian undergraduates (Akanbi, 2021).

A review of the literature on relationship between pathological narcissism and suicidal ideation has always yielded strong connection. For example, Gabbard (2022) reported that suicidal possibility is not uncommon in individuals with high level of narcissism. However, there has been disagreeing results on the relationship of the two typologies of narcissism with suicidal behaviour. Specifically in the grandiose component of narcissism, varying results have been reported by researchers. For instance, Ponzoni, et al (2021) reported no significant association between grandiose narcissism and suicidal ideation. Jaksic, et al (2017) found narcissistic grandiosity to demonstrate significantly weaker association with the suicidal ideation. Brailovskaia, et al (2021), in their study described the relationship between the two construct as positive indicating that presence of narcissism grandiosity could likely raise suicidal ideation in individuals.

Explaining the probable reason for the positive correlation, Rohmann et al (2019) asserted that it is the desire for personal respect, attention and regard, which are peculiarities of grandiose narcissists, when not received as expected that may raise the risk suicide ideation. Williams, et al (2021) equally explained that suicidal ideation appears to perform the task of repairing a sense of control and self-worth in narcissistic persons in a condition of emotional dysregulation. Conversely, Sprio, et al (2021) found inverse association between narcissistic grandiosity and suicidal ideation noting that grandiose narcissism looked to be a defensive factor against suicidal outcomes. On the contrary to dissimilarities in result on grandiose narcissism and suicidal ideation, there appeared to be congruence of results on relationship between vulnerable narcissism and suicidal ideation. For instance, the studies of Sprio, et al (2021), Williams, et al (2021), Brailovskaia, et al (2021) Ponzoni, et al (2021), Zobel, et al (2021) reported positive association between the two variables.

Another variable examined in this study is substance abuse, This concept and its related terms such as substance use, drug abuse, drug dependency and Substance Use Disorder (SUD) have been used in the literature with little variance in definition but with similar consequences. Substance abuse is described by Rice and Dolgin (2008) as prolonged or persistent use of any chemical substance to alter conditions of body or mind, other than medically acceptable reasons resulting in outcomes that are harmful to the person's physiological or mental wellbeing or the wellbeing of others. The American Psychiatric Association (2013) in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) conceptualised SUD as a problematic pattern of consuming alcohol or another substance that brings about impairment in lifestyle or obvious distress.

Substance abuse becomes dependence when an individual irrepressibly desire and consume substances notwithstanding the possible or actual damage to the individual and the general public that may be caused by it (Rice & Dolgin, 2008). For the focus of this paper, substance abuse refers to nontherapeutic use (in quantity, potency, rate or manner) of an array of drugs both permissible and proscribed by law that has the potency to impair the physical and mental health of the user and the society. Among the substances that are frequently abuse by emerging adults include alcohol, cannabis, marijuana, bhang, hashish, Amphetamine, different varieties of cough syrups, nicotine, Steroids

tranquillising tablets, morphine, heroin, cocaine and tobacco among others (Oshikoya, & Alli, 2006; Okoro, & Lahai, 2021).

Available studies have shown that abuse of drug is a potential risk for suicidal ideation. For example, Breet et al (2018) discovered a steady association between all forms of substance abuse and suicidal ideation and behaviour. Melkam, et al (2022) also found a direct association between substance use and suicidal ideation. The study of Anyama (2022) also obtained a positive influence of drug abuse on suicidal tendencies. Abdalla et al. (2019) found out that substance use like alcohol, cannabis and cocaine were positively related with suicidal ideation. Hesse, et al (2020) equally discovered direct connection between the two constructs.

The association between self-regulation and suicidal ideation is also considered in this study. Diehl, et al (2006) viewed self-regulation as a behaviour that is connected to both action and attention control and is regarded as the ability to maintain one's attention fixed on a particular goal regardless of disturbances. Self-Regulatory behaviour is defined by Shanker (2010) as the ability to stay calm, remain resolute and firm which is analogous to having self-discipline. It is the process through which individuals manage their own emotional and physiological conditions along with their actions (Ozhiganova, 2018). It is equally described by Harrison and Muthinvi (2013) as a deep internal mechanism that triggers mindful, intentional and thoughtful behaviours of persons which gives them the ability to stop a particular behaviour or institute a new one. Four components of self-regulatory behaviour could be identified which according to Schraw, et al (2006) include goal setting, self-monitoring, self-instruction, and self-reinforcement. A perusal of self-regulatory concept shows that inability to self-regulate one's behaviour can lead to several antisocial behaviour including desire to control and abuse others, and unlawful character that develops from a connection of participation in antisocial activities, and self-disruptive behaviour (Boduszek, et al., 2016; Perez, et al., 2016).

Studies have been conducted and found strong correlation between self-regulatory behaviour and psychological health (de la Fuente, 2017; Garzón-Umerenkova, 2018). However, there is paucity of finding on the relationship between self-regulation and suicidal ideation. Notwithstanding, studies that examined the association of emotional regulation (a domain specific part of self-regulation) and suicidal ideation found negative association between the two. For example, Singh and Pathak (2020) found that emotional regulation significantly influenced suicidal ideation among young adult. Raudales, et al (2020) found emotional dysregulation to positively correlate with suicidal ideation. Likewise, Wolff, et al (2019) discovered that there was strong positive connection between emotional dysregulation and non-suicidal self-injury. Moreover, Chukwuemeka, and Obi-Nwosu (2021) found that emotional regulation is potent to decrease suicidal ideation among young people. From these past studies, it is predictable that self-regulatory behaviour would have a negative correlation with suicidal ideation among young adults in university.

Rationales for the Study

The increasing cases of suicide among university undergraduates' population has beckoned on more research efforts to arrest the occurrences. Although cases of suicide are believed to be underreported in Africa, perhaps due to traditional taboos and stigmatisation accompanying suicide, social media and

national dailies often report cases of suicide among this population. The more worrisome issue is the seeming contagiousness and similarity in the manner in which African (especially Nigerian) undergraduates reportedly commit suicide (chemical poisoning). This suggests there are avenues through which suicide is learnt, obviously through social media (Swedo, et al., 2021) In addition, university students face unique stressors and challenges capable of increasing the risks of suicidal ideation. These undergraduates are largely parts of the prospective human capitals of every nation, it therefore suggest that increasing number of suicide will decrease the number of potential workforce of the nation. Therefore, by understanding the factors contributing to suicidal ideation, more effective prevention and intervention strategies can be developed.

There are considerable number of studies that have examined suicidality among university students in Nigeria and Africa at large. Nevertheless, many of them have focused more on other phases in the suicide development such as suicidal attempts and complete suicide. Not much attention has been on suicidal ideation which forms the basis of suicidal behaviours. Moreover, the focus of many available studies has often been on prevalence of suicidal behaviour among the population (Tobin & Oge, 2021; Ladi-Akinoyemi, et al., 2023; Kukoyi, et al., 2023). Very few of the studies (e. g Ajibola and Agunbiade, 2022; Akpunne, et al, 2022) have focused on the risk factors of suicidal ideation in African perspective. Rather, efforts were directed toward the antecedents of suicidality in general. Hence there has been an omission on certain personality variables found to be common among young adults that are likely to influence suicidal thoughts. For instance, pathological narcissism has been found prevalent among Nigerian undergraduates (Akanbi, 2021) and has been found to associate with suicidal prone behaviours such as depression (Akanbi, et al., 2023). However, no known study has examined pathological narcissism in relation to suicidal ideation in Nigeria and other developing society, although it has been found associated among college students in developed societies.

Furthermore, while emotional regulation has been shown to play a role in suicidal ideation prevention as earlier reviewed; such literature is scarce in African perspective. This incomplete understanding of risk factors of suicidal ideation has made it difficult to develop effective culturally relevant prevention and intervention strategies for suicidal ideation. In addition, the rate of drug usage is currently high among university undergraduates (Olanrewaju, et al., 2022) and suicidal ideation is equally high. Although there have been some studies connecting the two variables, more study is needed to establish the connection between the two, to enhance better knowledge. In the light of this, the current study sought to explore the nexus among pathological narcissism, substance abuse, self-regulatory behaviour and suicidal ideation among undergraduates.

Hypotheses

The following hypotheses were tested at .05 alpha level

1. There is significant relationship between each predictor (pathological narcissism, substance abuse, self-regulatory behaviour) and suicidal ideation among undergraduates.
2. There is significant joint influence of narcissism, substance abuse, and self-regulatory behaviour on suicidal ideation among undergraduates.

3. There is significant independent contribution of narcissism, substance abuse, and self-regulatory behaviour to the prediction of suicidal ideation among undergraduates.

Method

The study adopted a correlational research design. The population of the study are all undergraduates in Oyo State, Nigeria. Three public universities in the state were selected randomly for the study. They are University of Ibadan (Including the affiliate campus at Federal college of Education, Oyo), Ladoké Akintola University of Technology, Ogbomosho (LAUTECH) and Emmanuel Alayande College of Education (An affiliate of Ekiti State University, Ado-Ekiti: EKSU). Multistage random sampling was used to select the participants. Three universities were picked through simple randomisation. Four faculties were randomly selected from each of the universities, after which 120 participants were picked from each faculty across their academic levels. Out of targeted 1,440 participants, 1,411 of the research instrument were completely filled and found useable. The researchers recorded 98% success of the instrument administration. The breakdown of the participants based on their demographic factors is shown in Table 1

Procedure

Selected 300 Level undergraduates of Ekiti State University undergoing Research Methods and Data Analysis (GCE 311) that were trained in data collection and analysis served as research assistants in the study. The participation in the study was voluntary and information provided was made confidential. The study is nonclinical. In spite of this, the consent of the participants was sought. The study was made to be anonymous as anything that could identify the participants was avoided. They were made to understand that they could opt out of the exercise at any point they fill they could not continue. The respondents were not given incentive. The instrument administration took a period of two weeks across the participating universities.

Measures

Four psychological apparatus were adopted to harvest data from the respondents. They are:

Suicide Ideation Scale (SIS): The scale was developed by (Rudd, 1989) and revalidated by Luxton et al. (2011). It contains 10 items designed to assess and screen the appearance or otherwise of suicidal contemplation, the degree of the ideation, and manifestation or nonappearance of previous suicidal efforts. The participants were asked to rate each of the items the way they behaved over the past years. The scale is rated on a 5-point Likert rating format ranging from Never (1), Infrequently (2), Sometimes (3), Frequently (4), and Always (5). The scores of the participants ranged between 10 and 50. The author reported internal consistency of $\alpha = .86$. For the current study, the outcome yielded $\alpha = .75$.

The Short Self-Regulation Questionnaire (SSRQ): The 31-items SSRQ developed by Carey, et al (2004) was used to measure the self-regulatory behaviour of the participants. It is a self-report scale with two major components (impulse control and goal-setting). The scale is operated on a five-point rating design from Strongly Disagree (1) to Strongly Agree (5). The minimum and maximum scores participants can have

are 31 and 155 respectively. The Cronbach alpha value of the scale as reported by the authors is $\alpha = 0.91$. In the present study, it yielded $\alpha = 0.87$

Table 1
Demographic Variables of the Participants

Variable	Sub-variable	Frequency	Percentage (%)
UNIVERSITY	EKSU	472	33.5
	LAUTECH	465	33.9
	UNIBADAN	474	33.6
Total		1411	100
Age	16-20 Years	521	36.9
	21-25 Years	694	49.2
	26-30 Years	196	13.9
Total		1411	100
Sex	Male	779	55.2
	Female	632	44.8
Total		1411	100
Religion	African Traditional Religion	105	7.4
	Christianity	724	51.3
	Islam	562	39.8
	Unspecified	20	1.4
Total		1441	100

The Drug Abuse Screening Test (DAST-20): DAST-20 developed by Skinner (1982) was primarily constructed to offer concise, self-report tool for population diagnosis, clinical case finding and therapy assessment study on substance abuse. The scale contains 20 items with the response formats of Yes (1) and No (0). Items 4 and 5 were scored in reverse order. Higher score indicates severe drug abuse. The internal consistency reliability value of $\alpha = .92$ was reported by the author. In this study, Cronbach value of $\alpha = .73$ was recorded.

Pathological Narcissism Inventory (PNI): The 52 items PNI was adopted to measure both grandiosity and vulnerability types of narcissism among the participants. Developed by Pincus, et al. (2009), the scale is of self-report format with 18 items measuring narcissistic grandiosity. The other 34 items were constructed to measure narcissistic vulnerability. The response format ranged between “Not at all like me” (1) and “Very much like me” (6). Higher grade indicates higher narcissistic behaviour. The Cronbach alpha value of the whole scale for this study is $\alpha = .94$. The values of $\alpha = .85$ and $\alpha = .93$ respectively were recorded for narcissism grandiosity and vulnerable narcissism subscales.

Statistical Exploration

The participants’ demographic information was analysed with descriptive statistics with simple percentage. The Pearson Product Moment Correlation and Linear Multiple Regression was used to answer the research questions

Result

The first hypothesis predicted that there would be significant relationship between each predictor variable (narcissism, substance usage, self-regulatory behaviour) and suicidal ideation. Pearson Product

Moment Correlation was computed and the outcomes showed that all the predictor variables significantly correlated with suicidal ideation. Basically, as contained in Table 2, the results showed that grandiose narcissism demonstrated negative significant relationship with suicidal Ideation ($r = -.088$; $p < .01$). In a similar way, the result showed inverse correlation between self-regulatory behaviour and suicidal ideation ($r = -.246$; $p < .01$). This suggested that increase in each of grandiose narcissism is likely to dwindle suicidal ideation among undergraduates. On the contrary, the table further showed a positive significant association between grandiosity vulnerability and suicidal ideation ($r = .233$; $p < .01$) as well as between substance usage and suicidal ideation ($r = .384$; $p < .01$). This implies that the more the manifestation of grandiose vulnerability behaviour and substance usage, the more the increase in suicidal ideation. The hypothesis is therefore confirmed

Table 2*Descriptive Statistics and Correlation Matrix of the Predictor and Criterion Variables*

S/N	Variables	N	Mean	SD	1	2	3	4
1.	Suicidal Ideation	1411	17.37	4.35				
2.	Narcissistic Grandiosity	1411	58.46	14.68	-.088**			
3.	Narcissistic Vulnerability	1411	111.96	29.18	.233**	.745**		
4.	Substance Abuse	1411	5.72	5.00	.384**	.155**	.271**	
5.	Self-Regulation	1411	86.11	24.81	-.246**	.326**	.232**	-.213**

** . Correlation is significant at the 0.01 level (2-tailed).

The collinearity statistics for the key variables: drug abuse, self-regulation, narcissistic grandiosity, and narcissistic vulnerability were examined. The results indicated that drug abuse had a tolerance value of 0.848 and a Variance Inflation Factor (VIF) of 1.182, suggesting minimal collinearity. Self-regulation showed a tolerance of 0.820 and a VIF of 1.219, also indicating low collinearity. Narcissistic grandiosity had a tolerance of 0.420 and a VIF of 2.385, while narcissistic vulnerability presented a tolerance of 0.419 and a VIF of 2.389. Although the VIF values for all variables were below the critical threshold of 10, indicating that multicollinearity is not a significant issue in this study, narcissistic vulnerability exhibited the highest collinearity among the predictors. Overall, the findings suggest that none of the variables exhibit severe multicollinearity, indicating that the predictors can still be reliably used in the regression model without significantly compromising the stability of the regression coefficients.

The second hypothesis also predicted significant joint effects of the predictor variables on suicidal ideation among undergraduates. The hypothesis was tested by computing the linear multiple regression analysis for the variables. As displayed in Table 3, the combination of narcissism (grandiosity and vulnerability), substance usage and self-regulatory behaviour accounted for a total of 32% of the variance in suicidal ideation. Moreover, the table exhibited that the ANOVA of the multiple regression statistics produced a significant ratio value ($R^2 = .322$; $F(4,1406) = 166.557$; $p < .01$). This is an indication that the three predictor variables: Narcissism (grandiosity and vulnerability), substance usage and self-regulatory

behaviour are jointly powerful to influence suicidal ideation among undergraduate students. The hypothesis is also confirmed

Table 3
Linear Multiple Regression of Suicidal Ideation, Narcissism, Substance Abuse and Self-Regulation

Source	Sum of Square	Df	Mean Square	F	Sig.
Regression	8592.793	4	2148.198	166.557	.000
Residual	18134.093	1406	12.898		
Total	26276.886	1410			
R=.567a		R ² =.322		Adj. R ² =.320	
				Std.Err. Est.359133	

Going by the hypothesis which hypothesised significant independent contribution of each of the predictor variables on suicidal ideation, the outcome from the linear multiple regression coefficient, as presented in Table 4, confirmed that the three predictor variable: Narcissism (grandiosity and vulnerability), substance usage and self-regulatory behaviour significantly and independently predicted suicide ideation. The corresponding proportion of each predictor to suicide ideation is along this line: narcissistic grandiosity ($\beta = -.507$; $t = -14.945$, $P < 0.01$), narcissistic vulnerability ($\beta = .573$; $t = 16.864$, $P < 0.01$), substance abuse ($\beta = .274$; $t = 11.453$, $P < 0.01$), and self-regulatory behaviour ($\beta = -.155$; $t = -6.411$, $P < 0.01$). This is a pointer that each of the predictors is a powerful influencer of suicide ideation among undergraduates.

Table 4
Regression Coefficient of Suicidal Ideation, Narcissism, Substance Abuse and Self-Regulation

	Unstandardised Coefficients		Standardised coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	17.574	.476		36.884	.000
Narcissistic Grandiosity	-.150	.010	-.507	-14.945	.000
Narcissistic Vulnerability	.085	.005	.573	16.864	.000
Substance Abuse	.238	.021	.274	11.453	.000
Self-Regulation	-.027	.004	-.155	-6.411	.000

Discussion

The current study aimed at unravelling the potency of pathological narcissism, substance abuse, and self-regulation in predicting suicidal ideation among university undergraduates. The study found the three psychological variables to significantly and compositely predict suicidal ideation among undergraduates. The outcome is not strange as researchers like Williams, et al (2021) has found that individuals with a combination of narcissism and emotional dysregulation can engage in suicidal ideation as a means of revamping a sense control and self-esteem. Generally, pathological narcissism portrayed by an embellished sense of self-importance and a continuous need for admiration can lead university students to see any academic setbacks as a peril to their self-regard. This can create a sequence of emotional regulation difficulties, where they struggle to cope with negative emotions and resort to maladaptive

coping mechanisms such as substance abuse. Substance abuse, in turn, further exacerbates emotional dysregulation by impairing judgment and exacerbating mood swings. As a result, individuals may experience intense feelings of hopelessness and despair, increasing their vulnerability to suicidal ideation. So, these factors are not just independent risks for suicidal ideation, they could interact in a way that increases the overall suicidal risk.

Grandiose narcissism was found in this study to demonstrate an inverse relationship with suicidal ideation. This means increase in narcissistic personality disorder is likely to decrease suicidal ideation. This outcome is not in tandem with the earlier study of Ponzoni, et al. (2021) and Jaksic, et al (2017) who found no notable relationship between the two variables. It is not also in congruence with the study of Rohmann et al (2019), Williams, et al (2021, and Brailovskaia, (2021) who found the two variables positively associated because grandiose narcissists are likely to result into suicidal ideation when the longing for self-gratification and societal approval are not met to the desired level. The study is however aligned with the study of Sprio, et al (2021) who discovered inverse association between grandiosity and suicidal ideation.

One possible explanation for this inverse association is rooted in the grandiose narcissist's robust sense of self-esteem and inflated self-image. Grandiose narcissists often exhibit high levels of self-confidence and a belief in their superiority over others. Consequently, they may perceive themselves as invulnerable to the emotional pain and despair typically associated with suicidal ideation. Their inflated self-image may serve as a protective factor, shielding them from experiencing thoughts of self-harm or suicide as they view such actions as beneath their grandiose self-concept.

Moreover, grandiose narcissists tend to engage in various coping mechanisms, such as externalising blame or seeking admiration from others, to maintain their self-enhancing narratives and avoid confronting negative emotions. This tendency to externalise distress and seek external validation may serve as a buffer against suicidal ideation, as they are less likely to internalise feelings of worthlessness or hopelessness. Additionally, grandiose narcissists may perceive suicide as an admission of weakness or failure, which contradicts their deeply ingrained belief in their own superiority and invincibility. Therefore, the inverse relationship between grandiose narcissism and suicidal ideation may be attributed to a combination of high self-esteem, reliance on external validation, and the perception of suicide as incompatible with their grandiose self-image.

Vulnerable narcissism was found, in correspondence to the study of Sprio, et al (2021), Williams, et al (2021), Brailovskaia, et al (2021) Ponzoni, et al (2021), and Zobel, et al (2021) among others, to positively predict suicidal ideation.. Among the examined variables, vulnerable narcissism was found to be the most potent in predicting suicidal ideation. There is considerable number of reasons that could be attributed to this relationship among undergraduates. Firstly, students high in vulnerable narcissism often experience intense self-doubt and fear of rejection, which can intensify their thoughtfulness to perceived threats to their self-worth. This amplified feeling may lead to extreme contemplation over perceived failures or criticism, eventually culminating in feelings of hopelessness and despair, which are known precursors to suicidal ideation. Additionally, the discrepancy between the inflated self-respect archetypal

of narcissism and the reality of their perceived incompetence can create profound internal conflicts, intensifying feelings of worthlessness and despondency.

Furthermore, students with high vulnerable narcissism may lack effectual coping mechanisms to deal with academic and life setbacks or perceived threats to their self-image. Instead of seeking social support or profitable solutions, they may resort to maladaptive surviving approaches such as avoidance or substance abuse, which can further aggravate their distress and increase their exposure to suicidal ideation. Moreover, the chronic interpersonal difficulties often associated with narcissism, like complications in forming and maintaining meaningful relationships, can further isolate students high in vulnerable narcissism, dispossessing them of important sources of support and worsening their feelings of loneliness and bleakness. Consequently, students with vulnerable narcissism may have a distorted thinking pattern that make them believe that suicide is the only way to solve their problems.

This study also discovered that substance abuse positively predicted suicidal ideation. This indicates that the more the substance abuse, the more the likelihood of suicidal ideation. This finding is consistent with the recent studies which have unswervingly showed a disturbing positive association between substance abuse and suicidal ideation (e.g. Breet et al., 2018; Abdalla et al., 2018; Hesse, et al., 2020; Anyama, 2022). Generally, abuse of substance is suggested to be a coping device for young adults in the university setting against stress and depression and other mental health challenges. On the other hand, abuse of substance can also lead to depression and other mental health challenges which are known risk factors of suicidal ideation. Therefore, the current finding suggests that abuse of substance serves as both a coping mechanism and a risk factor for suicidal ideation, creating a dangerous cycle that can escalate without adequate interaction. Other reason that could be attributed to this relationship between abuse of substance and suicidal thought is the ability of the substance abuse to disrupt normal brain functioning, leading to impulsivity and poor decision making which can increase the risk of engagement in suicidal activities. Moreover, students who abuse substance are often linked with social isolation and alienation, which are also risk factors for suicidal ideation.

The association between self-regulatory behaviour and suicidal ideation was found to be negative. The result agrees with the earlier studies of Wolff, et al (2019), Singh and Pathak (2020), Raudales, et al (2020), and Chukwuemeka, and Obi-Nwosu (2021) which discovered that individuals who are able to effectively regulate their emotions are likely not to engage in suicidal thought. The reason for this outcome is apparent in that, self-regulation embraces numerous intellectual, emotive, and behavioural processes that give room for students to manage their impulses, emotions, and behaviours effectively. Affected Students are better equipped to cope with stressors, regulate their emotions, and engage in adaptive problem-solving strategies, which in turn reduce the likelihood of experiencing suicidal thoughts or behaviours.

Furthermore, self-regulation plays a crucial role in mediating the impact of risk factors for suicidal ideation, such as depression, anxiety, and impulsivity. Effective self-regulation can buffer the effects of these risk factors by promoting resilience and adaptive coping mechanisms. For example, university students with strong self-regulation skills are more likely to seek social support, engage in healthy lifestyle

habits, and utilise positive coping strategies when facing adversity. As a result, they are less susceptible to developing suicidal ideation even in the presence of significant psychosocial stressors.

Conclusions

The present study has unravelled the potency of pathological narcissism, substance abuse and self-regulation in predicting suicidal ideation among university undergraduates. The study found that students with narcissism grandiosity were not positively associated with suicidal ideation whereas, those with narcissism grandiosity were prone to it. In addition, it was found that substance abuse and self-regulation deficit were positively associated with suicidal ideation. The power of these three variables in predicting suicidal ideation underscores the importance of implementing targeted interventions and preventive measures on college campuses. These findings highlight the need for comprehensive mental health support systems that address the underlying psychological factors contributing to suicidal ideation. It also stressed the importance of considering the individual traits and behaviour, such as narcissism and substance use along with emotional regulation ability in understanding and addressing suicidal ideation among this population. By addressing these variables and other associated risks, universities can better support the wellbeing of their undergraduate populations and reduce the prevalence of suicidal thoughts and behaviours.

References

- Abdalla, R. R., Miguel, A. C., Brietzke, E., Caetano, R., Laranjeira, R. & Madruga, C. S. (2019) Suicidal behaviour among substance users: data from the second Brazilian national alcohol and drug survey (II BNADS). *Brazilian Journal of Psychiatry*, 41, 437–40.
- Ajibola, A. O. & Agunbiade, O. M. (2022) Suicide ideation and its Correlates among university undergraduates in South Western Nigeria. *Community Health Equity Research and Policy* 43(1), 45-58. <https://doi.org/10.1177/0272684X211004929>.
- Akanbi, S. T. (2021). Grandiose against vulnerable narcissism among undergraduate students in Oyo State, Nigeria: Differential effect of some demographic factors. *Journal of Humanities Therapy*, 12(1), 111–135. <https://doi.org/10.33252/jht.2021.06.12.1.111>.
- Akanbi, S. T., Terwase, J. M., & Aki, B. D. (2023). The influence of psychological hardiness, narcissism, and perfectionism on depression tendency among undergraduate students. *Academic Journal of Psychology and Counseling*, 4(2). 127-156. <https://doi.org/10.22515/ajpc.v4i2.7470>
- Akpunne, B.C., Akinnawo, .E. O., Akpunne, S. I. & Kumuyi, D. O. (2022). Suicidal Behaviour among Nigerian Undergraduates: Associations with Gambling Disorder and Emotional Dysregulation. *Health Scope*, 11(2), e121797. <https://doi.org/10.5812/jhealthscope-121797>.
- American Psychiatric Association, DSM-5 Task Force. (2013). Diagnostic and statistical manual of mental disorders: DSM-5™ (5th ed.). American Psychiatric Publishing, Inc..<https://doi.org/10.1176/appi.books.9780890425596>.
- Anyama, S. C. (2022). Perceived influence of drug abuse on undergraduates' suicidal tendencies in the University Of Lagos. *International Journal of Educational Research*, 10(1), 131-138.

- Apter A. (2010). Clinical aspects of suicidal behaviour relevant to genetics. *European Psychiatry, 25*(5), 257-259
- Aroyewun B. A., Adeyemo S. O. & Olukolade, O. (2022). Prevalence of suicidal ideation among sample of university undergraduate students in south-western Nigeria. *KIU Journal of Health Sciences, 2*(1) 1-12
- Boduszek, D., Debowska, A., Dzingra, K. & DeLisi, M. (2016). Introduction and validation of Psychopathic Personality Traits Scale (PPTS) in a large prison sample. *Journal of Criminal Justice, 46*, 9 - 17. DOI: <https://doi.org/10.1016/j.jcrimjus.2016.02.004>.
- Brailovskaia, J., Teismann, T., Zhang, X. & Margraf, J. (2021) Grandiose narcissism, depression and suicide ideation in Chinese and German students. *Current Psychology 40*(2), <https://doi.org/10.1007/s12144-019-00355-1>.
- Breet E, Goldstone, D, & Bantjes, J. (2018). Substance use and suicidal ideation and behaviour in low- and middle-income countries: a systematic review. *BMC Public Health, 18*(1), 549. <https://doi.org/10.1186/s12889-018-5425-6>.
- Carey, K.B., Neal, D.J., & Collins, S.E. (2004). A psychometric analysis of the self-regulation questionnaire. *Addictive Behaviours, 29*, 253-260.
- Chukwuemeka, N. A., & Obi-Nwosu, H. (2021). The moderating role of emotion regulation on the relationship between depression and suicidal ideation among students. *Practicum Psychologia, 11*(1), 98-118.
- Dashineau, S. C., Edershile, E. A., Simms, L. J. & Wright, A. G. (2019). Pathological narcissism and psychosocial functioning. *Personality Disorder, 10*(5), 473–478.
- de la Fuente, J. (2017). The theory of self- vs. externally-regulated learning: fundamentals, evidence, and applicability. *Frontiers in Psychology 8*, 1675. <https://doi.org/10.3389/fpsyg.2017.01675>
- Diehl, M., Semegon, A.B., & Schwarzer, R. (2006). Assessing attention control in goal pursuit: A component of dispositional self-regulation. *Journal of Personality Assessment, 86*, 306—317.
- Gabbard, G. O. (2022). Narcissism and suicide risk. *Annals of General Psychiatry 21*(3). <https://doi.org/10.1186/s12991-022-00380-8>.
- Garzón-Umerenkova, A., de la Fuente, J., Amate, J., Paoloni, P. V., Fadda, S. & Pérez, J. F. (2018) A linear empirical model of self-regulation on flourishing, health, procrastination, and achievement, among university students. *Frontiers in Psychology. 9*, 536. <https://doi.org/10.3389/fpsyg.2018.00536>.
- Hanke, S., Rohmann, E., & Foerster, J. (2019). Regulatory focus and regulatory mode—keys to narcissists' (lack of) life satisfaction? *Personality and Individual Differences, 138*, 109–116. <https://doi.org/10.1016/j.paid.2018.09.039>.
- Harmer, B., Lee, S., Duong, T. V. H. & Saadabadi, A. (2024). Suicidal Ideation. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing;-. PMID: 33351435.
- Harrison, G., & Muthivhi, A. (2013) Mediating self-regulation in kindergarten classrooms: An exploratory case study of early childhood education in South Africa. *Journal of Education, 57*, 79- 102.

- Harrison, O. M., Shankleton, J. L. Veldhof, M. L. & Abraham, S. P. (2021). The impact of suicide on family functioning. *International Journal of Science and Research Methodology*, 20 (2), 94-108
- Hesse, M., Thylstrup, B., Seid, A. K. & Skogen, J. C. (2020). Suicide among people treated for drug use disorders: a Danish national record-linkage study. *BMC Public Health*. 20(1), 146. <https://doi.org/10.1186/s12889-020-8261-4>.
- Holtzman, N. S., & Donnellan, M. B. (2015). The roots of narcissus: Old and new models of the evolution of narcissism. In V. Zeigler-Hill, L. L. M. Welling, & T. K. Shackelford (Eds.), *Evolutionary Perspectives on Social Psychology* (pp. 479–489). New York: Springer International Publishing.
- Jaksic, N., Marcinko, D., Hanzek, M. S., Rebernjak, B. & Ogrodniczuk, J. S. (2017). Experience of Shame Mediates the Relationship Between Pathological Narcissism and Suicidal Ideation in Psychiatric Outpatients. *Journal of Clinical Psychology* 73(1), 670-168. <https://doi.org/10.1002/jclp.22472>.
- Jans, T., Vloet, T. D., Taneli, Y. Warnke A. (2018). Suicide and self-harming behaviour. In J. M. Rey (ed), IACAPAP e-Textbook of Child and Adolescent Mental Health. Geneva: International Association for Child and Adolescent Psychiatry and Allied Professions
- Kaggwa, M. M., Arinaitwe, I., Muwanguzi, M., Nduhuura, E., Kajjimu, J., Kule, M., Najjuka, S. M., Nkola, R., Ajuna, N., Wamala, N. K., Machacha, I., Mamun, M. A., Ho, C. S., Griffiths, M. D. Rukundo, G. Z. (2022) Suicidal behaviours among Ugandan university students: a cross-sectional study. *BMC Psychiatry* 22, 234. <https://doi.org/10.1186/s12888-022-03858-7>
- Kukoyi, O., Orok, E., Oluwafemi, F., Oni, O., Oluwadare, T., Ojo, T., Bamitale, T., Jaiyesimi, B. & Iyamu, D (2023). Factors influencing suicidal ideation and self-harm among undergraduate students in a Nigerian private university. *Middle East Current Psychiatry*, 30,(1). <https://doi.org/10.1186/s43045-022-00274-1..>
- Ladi-Akinyemi, T., Okpue, A. P., Onigbinde, O. A., Okafor, I. P., Akodu, B. & Odeyemi, K. (2023) Depression and suicidal ideation among undergraduates in state tertiary institutions in Lagos, Nigeria. *PLoS ONE* 18(4), e0284955. <https://doi.org/10.1371/journal.pone.0284955>
- Lawrence, k. (2022). Prevalence of Suicidal Tendencies and Associated risk factors among Nigerian university students: A quantitative survey. *The Open Psychology Journal*, 15. <https://doi.org/10.2174/18743501-v15-e2204141>.
- Leo, D. D., Burgis, S. L., Bertolote, J. M., Kerkhof, A. J., & Bille-Brahe, U. (2006). Definitions of suicidal behaviour: lessons learned from the WHO/EURO multicentre Study. *Crisis*, 27 1, 4-15.
- Luxton, D. D., Rudd, M. D., Reger, M. A. & Gahm, G. A. (2011): A Psychometric study of the Suicide Ideation Scale. *Archives of Suicide Research*, 15(3), 250-258.
- Melkam, M., Demilew, D., Kassew, T., Fanta, B., Yitayih, S., Alemu, K., Muhammed, Y., Getnet, B., Abetu, E., Tarekegn, G. E., Oumer, M., & Nenko, G. (2022). Suicide ideation and/or attempt with substance use and associated factors among the youth in northwest Ethiopia, community-based. *BMC Psychiatry*, 22(1), 507. <https://doi.org/10.1186/s12888-022-04157-x>.
- Mortier, P., Cuijpers, P., Kiekens, G., Auerbach, R. P., Demyttenaere, K., Green, J. G., Kessler, R. C., Nock, M. K. & Bruffaerts, R. (2018). The prevalence of suicidal thoughts and behaviours among

- college students: a meta-analysis. *Psychological Medicine*, 48(4), 554–65.
<https://doi.org/10.1017/S0033291717002215>.
- Moutier, C. (2023). Suicidal Behaviour. MSD Manual Professional Version.
<https://www.msmanuals.com>.
- National Institute of Mental Health (2023). Suicide.
<https://www.nimh.nih.gov/health/statistics/suicide>.
- Nock, M. K., Borges, G., Bromet, E. J., Cha, C. B., Kessler, R. C. & Lee, S. (2008). Suicide and Suicidal Behaviour. *Epidemiologic Reviews*, 30, DOI: 10.1093/epirev/mxn002
- O’Sullivan, M., Rainsford, M., & Sihera, N. (2011). Suicide prevention in the community a practical guide. Health Service Executive. <https://www.healthpromotion.ie/hp-files/docs/HSP00849.pdf>.
- Okoro, R. N. & Lahai, U. (2021). Drug use among undergraduates in Maiduguri, Northeast Nigeria. *International Journal of Health and Life Sciences*, 7(2), 1-7.
- Olanrewaju, J. A., Hamzat, E. O., Enya, J. I., Udekwu, M. O., Osuoya, Q., Bamidele, R., Feyisike, J. O, Johnson, B. S., Olanrewaju, I. & Owolabi, J. O. (2022). An assessment of drug and substance abuse prevalence: a cross-sectional study among undergraduates in selected south-western universities in Nigeria. *Journal of International Medical Research*, 50(10). 3000605221130039.
<https://doi.org/10.1177/03000605221130039>.
- Oshikoya, K.A. & Alli, A. (2006) Perception of Drug Abuse amongst Nigerian Undergraduates. *World Journal of Medical Sciences*, 1, 133-139.
- Ozhiganova, G. V. (2018). Self-regulation and self-regulatory capacities: Components, levels, models. *RUDN Journal of Psychology and Pedagogics*, 15 (3), 255—270. <https://doi.org/10.22363/2313-1683-2018-15-3-255-270/>
- Perez, N. M., Jennings, W. G., Piquero, A. R., Baglivio, M. T. (2016). Adverse childhood experiences and suicide attempts: The mediating influence of personality development and problem behaviours. *Journal of Youth and Adolescence*, 45, 1527-1545.
- Pincus, A. L., Ansell, E. M., Pimentel, C. A., McCain, N. M., Wright, A. G. C., & Levy, K. N. (2009). Initial construction and validation of the pathological narcissism inventory. *Psychological Assessment*, 21, 356–379.
- Ponzoni, S., Beomonte Zobel, S., Rogier, G. & Velotti, P. (2021). Emotion dysregulation acts in the relationship between vulnerable narcissism and suicidal ideation. *Scandinavian Journal of Psychology*, 62, 468–475.
- Raudales, A. M., Short, N. A. & Schmidt, N. B. (2020). Emotion Dysregulation as a Prospective Predictor of Suicidal Ideation in an at-Risk Mixed Clinical Sample. *Archives of Suicide Research*, 24(2), S310-S322, <https://doi.org/10.1080/13811118.2019.1598526>
- Rice, F. P., & Dolgin, K. G. (2008). *The adolescent: Development, relationships and culture*. (12th Ed.) Boston: Pearson Education, Inc.
- Rohmann, E., Hanke, S., & Bierhoff, H.-W. (2019). Grandiose and vulnerable narcissism in relation to life satisfaction, self-esteem, and self-construal. *Journal of Individual Differences*, 40(4), 194– 203.
<https://doi.org/10.1027/1614-0001/a000292>

- Rudd, M. D. (1989). The prevalence of suicidal ideation among college students. *Suicide and Life-Threatening Behaviour* 19, 173–183.
- Schraw, G., Crippen, K., & Hartley, K. (2006). Promoting self-regulation in science education: metacognition as part of a broader perspective on learning. *Research in Science Education*, 36, 111-139.
- Semenyna, S. W. (2018). Narcissism. In T.K. Shackelford, V.A. Weekes-Shackelford (eds.), *Encyclopaedia of Evolutionary Psychological Science*. Retrieved from https://doi.org/10.1007/978-3-319-16999-6_675-1.
- Shanker, S. (2010). Self-regulation: calm, alert and learning. *Education Canada*, 50(3), online at eric.ed.gov/?id=EJ918823.
- Sheehan, L., Corrigan, P. W., Al-Khouja, M. A., Lewy, S. A., Major, D. R., Mead, J., Redmon, M., Rubey, C. T., & Weber, S. (2018). Behind closed doors: The stigma of suicide loss survivors. *OMEGA- Journal of Death and Dying*, 77(4), 330–349. <https://doi.org/10.1177/0030222816674215>.
- Singh, R. N. & Pathak, N. (2020). Effects of Emotional Regulation on Suicidal Ideation. *Journal of Psychosocial Research*, 15(1), 237-245
- Skinner, H.A. (1982). The Drug Abuse Screening Test. *Addictive Behaviours*, 7(4), 363–371.
- Spillane, A., Larkin, C., Corcoran, P., Matvienko-Sikar, K., & Arensman, E. (2017) What are the physical and psychological health effects of suicide bereavement on family members? Protocol for an observational and interview mixed-methods study in Ireland, *BMJ Open*, 7(3). e014707. <https://doi.org/10.1136/bmjopen-2016-014707>.
- Sprio, V., Madeddu, F., & Calati, R. (2021). Can narcissism be considered a risk factor for suicidal thoughts and behaviours? A systematic review of the literature. *European Psychiatry*, 64(S1), S582-S582. <https://doi.org/10.1192/j.eurpsy.2021.1553>.
- Swedo, E. A., Beauregard, J. L., de Fijter, S., Werhan, L., Norris, K., Montgomery, M. P., Rose, E. B., David-Ferdon, C., Massetti, G. M., Hillis, S. D. & Sumner, S. A. (2021). Associations between social media and suicidal behaviours during a Youth suicide cluster in Ohio. *Journal of Adolescent Health* 68(2), 308-316. <https://doi.org/10.1016/j.jadohealth.2020.05.049>.
- Tobin, V. D & Oge, P. T. (2021). Determinants of suicidal intention among undergraduate students in Bayelsa State. *Niger Delta Journal of Sociology and Anthropology*, 2(1), 50-66.
- Williams, R.; Casini, M.P.; Moselli, M.; Frattini, C.; Ronningstam, E. (2021). The Road from Pathological Narcissism to Suicidality in Adolescence: An Empirical Study. *International Journal of Environmental Research and Public Health*, 18, 9761. <https://doi.org/10.3390/ijerph18189761>
- Wolff, J. C., Thompson, E., Thomas, S. A. & Nesi, J. (2019). Emotion dysregulation and non-suicidal self-injury: A systematic review and meta-analysis. *European Psychiatry*, 59, 25-36.
- Wolff, J. C., Thompson, E., Thomas, S. A., Nesi, J., Bettis, A. H., Ransford, B., Scopelliti, K., Frazier, E. A., & Liu, R. T. (2019). Emotion dysregulation and non-suicidal self-injury: A systematic review and meta-analysis. *European Psychiatry*, 59, 25–36. <https://doi.org/10.1016/j.eurpsy.2019.03.004>

World Health Organisation (2023). Suicide. Retrieved from <https://www.who.int/news-room/factsheets/detail/suicide>.

World Health Organization (2016). Practice manual for establishing and maintaining surveillance systems for suicide attempts and self-harm. Geneva, Switzerland: World Health Organization.

Zobel, S., Mirizio, V., & Velotti, P. (2021). Suicide in narcissism: Can shame-proneness make a difference? *European Psychiatry*, *64*(S1), S586-S586.
<https://doi.org/10.1192/j.eurpsy.2021.1563>.

This page is intentionally left blank