SELF BLAME, ANXIETY AND DEPRESSION AS DETERMINANTS OF SUICIDAL IDEATION AMONG TERTIARY STUDENTS WITH RECENT HISTORY OF ABORTION

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ABSTRACT

The purpose of this study was to examine self-blame, anxiety and depression as determinants of suicidal ideation among tertiary students with recent history of abortion. The study adopted a quantitative method of analysis using an ex post facto research design for data collection from 202 individuals. Three hypotheses were developed from the literature review and tested using multiple regressions and correlation matrices. Results showed that self-blame (r=0.69, p<.05), Anxiety (r=0.43, p<.05) and Depression (r=0.27, p<.05) have positive significant correlations with suicide ideation among tertiary students with history of abortion. Also, self-blame, anxiety and depression jointly predicted suicide ideation among tertiary students with traumatic experiences of abortion at [R^2=0.638; F (3,199) =35.70; p<.05]. Further analyses show that self-blame (ß=-.312, t=-2.29, p<.05), anxiety (ß=.121, t=3.01, p<.05) and depression (ß=-.005, t=.050, p<.05) also had significant independent influence on suicide ideation among tertiary students with history of abortion. Family type, level of study and length of past abortion experience jointly predicted suicide ideation among tertiary students with traumatic experiences of abortion at [R^2= 0.068; F (3,199) =5.396; p<.05]. However, only level of study was an independent predictor of suicide ideation among tertiary students with traumatic experiences of abortion at (ß=-.379, t=-4.143, p<.05).The results showed that the predictive relationship of self-blame, anxiety, depression on suicide ideation among female tertiary students with recent history of abortion experiences cannot be treated with kids' gloves. This finding and the additional findings that depression, anxiety, and self blame are also independently predictive of suicide ideation among college students have important clinical implications for suicide assessment and prevention. It was recommended that suicide prevention programs, counseling centers, and psychology clinics on college campuses should include suicide attitudes such as depression, anxiety, and self-blame in their assessment and identification of individuals who may be at risk for engaging in suicide behavior.

BACKGROUND TO THE STUDY

Suicidal ideation is defined as wanting to take one's own life or thinking about suicide without actually making plans to commit suicide (Spielberg, 2009). However, the term suicidal ideation is often used more generally to refer to having the intent to commit suicide, including planning how it will be done (Zung & Klose, 2007). Research on suicidal ideation in Africa is scarce.

Generally, the prevalence of suicide tends to be higher in African countries in the east and south, compared to those in the north and west (Schlebusch et al., 2009). There are also considerable gender, ethnic and regional differences, plus differing cultural and religious views of mental illness and suicidal behavior (Kinyanda, Kizza, Levin, Ndyanabangi, & Abbo, 2011; Schlebusch et al., 2009). In the past, suicidal behavior in Africa was thought to be rare, but more recent studies suggest that it is a substantial public health burden (Schlebusch et al., 2009). This burden has been increased by the severe psychosocial stress associated with HIV/AIDS, unwanted pregnancies/abortions, rape which have become enormous public health burdens in Africa. In addition, the stigma, discrimination, isolation, lack of support from family and friends, loss of parents or family members from HIV/AIDS adds to the burden of suicidal behavior (Schlebusch et al., 2009).

In Africa, a good understanding of the full burden of suicidal ideation and behavior is limited by a lack of systematic data collection and high-quality research. Political and socio-economic instability has resulted in a lack of accurate statistics on suicidal behavior, lack of research infrastructure and funds, limited death registers, a lack of expertise in suicide research, inadequate inter-African research collaboration, limited and outdated studies, a

lack of standardized research designs and assessment (Kinyanda, Hjelmeland., Musisi, Kigozi, & Walugembe, 2005).

Suicidal ideation in Africa is likely to be under-reported because of the aforementioned research and resource issues, socio-cultural religious and financial reasons, or misclassification as —undetermined reason for death and accidental death. Suicidal behavior in most of Africa still carries negative cultural sanctions which skew reports of its occurrence, and such behavior still remains a crime in some countries, thereby encouraging perpetuation of non-reporting (Kinyanda et al., 2005; Omigbodun, Dogra, Esan, & Adedokun, 2008; Ovuga, Boardman, & Wassermann, 2005).

Suicide ideation has been identified by the WHO as a significant social and mental health concern. The few studies which have been conducted on suicidal behavior in sub-Saharan Africa indicate that it is a public health problem among adults and youth which deserves immediate attention. There have been numerous studies conducted in Western countries regarding risk factors for suicidal behavior, but it cannot be assumed that those same risk factors will apply to youth in sub-Saharan countries including Nigeria. Therefore, it is important for more studies to analyze the correlates of suicidal ideation in sub-Saharan countries so that an accurate assessment of the country specific and regional situation may be conducted and appropriate action taken (Omigbodun et al., 2008). This study focuses on female adolescents traumatized by recent abortion experiences by laying emphasis on self blame, anxiety and depression as determinants of suicide ideation among this population.

Self-blame is one of the most toxic forms of emotional abuse. It amplifies our perceived inadequacies, whether real or imagined and paralyses us before we can even begin to move forward (Formica, 2013). Self-blame can be further described as “assuming personal responsibility for the occurrence of a traumatic event” often when it is clear from an outside viewpoint that the person who engages in self-blame is actually the victim (Janof-Bulman, 1979).

Self-blame is an important correlate of psychological functioning that is generally assessed as a form of coping (Barnett, Martinez & Keyson, 2006; Glinder & Compas, 2009; Graham & Juvonen, 2008; Janoff-Bulman, Timko, & Carlie; 2005; Meyer & Taylor, 2006; O’Neill & Kerig, 2000). Researchers typically find a relationship between high self-blame and poorer emotional adjustment (Aldwin & Revenson, 2007; Arata & Burkhart, 1998; Barnett, Martinez & Keyson, 1996; Meyer & Taylor, 2006). High self-blame may be associated with increased severity and length of depressive episodes (Beck, 1963).
Self-blame may also perpetuate depressive episodes in addition to serving as a symptom of an episode (Beck, 1963).

Although most investigators emphasize the maladaptive nature of self-blame, some researchers have investigated its adaptive effects (Draucker & Stern, 2000; Gildner & Compas, 1999; Peterson, Schwartz & Seligman, 1981; Ullman, 1996). Self-blame may be adaptive to victims of rape or other severe trauma by reducing anxiety associated with control loss (Wortman, 1983). Thus self-blame may be associated with increases in perceived control and the psychological benefits that such increases confer (Janoff-Bulman, 1979; Miller & Porter, 1983).

Depression may range from transient feelings of depression as a reaction to life events along a spectrum to a serious life-threatening illness. There are no clear-cut distinctions along this spectrum and to determine the presence of a depressive disorder, psychiatric classification systems depend upon the accumulation of signs and symptoms, as well as intensity, duration and impact of symptoms on functioning.

Differentiation between feelings of depression/depressive symptoms and a depressive event is important but is not always clear. However, it is clear that depressive symptoms are common in people who have suffered traumatic events as they are in other serious medical conditions (Rodin & Voshart, 2006; Israelski, et al., 2007). These symptoms may be a result of biological factors, as well as psychosocial factors that reflect the meaning that a serious condition has to a particular individual. Ultimately, differentiation between

depressive symptoms and a depressive disorder may not be very important, although the treating clinician must be aware of both. Determining the appropriate type of intervention needed is more important. In some cases, it may be sufficient for the clinician to listen and support; in others, psychotherapy may be the treatment of choice, whereas antidepressant medication, admission to hospital, or even electro-convulsive therapy (and a combination of psychosocial interventions) may be necessary in cases of a serious depressive illness.

Anxiety is a feeling of worry, nervousness, or unease, typically about an imminent event or something with an uncertain outcome. *Anxiety* disorders are thus prolonged exaggerations of our normal and adaptive reaction to fearful, stressful or traumatic events (Parzola, 2011). Anxiety is often part of a complex symptom picture that frequently includes mood disorders and substance use disorders. This co-morbidity makes diagnosis of "pure" anxiety disorders difficult. There are also many general factors and substance related factors that may cause anxiety disorders. Other viral opportunistic infections, medication side-effects, vitamin deficiency states and substance-related withdrawal states are common causes of anxiety disorders secondary to general medical conditions.

The same issues regarding anxiety symptomatology vs. disorder, as in depressive disorders, are evident and create methodological difficulties. In addition, the nature of anxiety disorders is continually under review. Confusion surrounds differentiation of trait anxiety (a personality characteristic) from state anxiety (a disorder). There is considerable overlap between symptoms of generalised anxiety disorder and depressive disorders, as well as in genetic loading for both disorders, and it has been suggested that these may be the same disorder expressed with slightly different phenomenologies (Breslau, 2005). On the other hand, anxiety disorders as a group may be disparate, with different genetic underpinnings and psychosocial correlates (Stein, 2006).

STATEMENT OF PROBLEM

Suicide and suicide attempt is currently a major problem among students in our society, because of the inability to identify most of the risk factors in individuals with suicide ideation. In addition, in many developing countries, attempted suicide remains a punishable offence and hospitals therefore do not register cases (SOURCE).

Furthermore, in many places, injuries do not need to be reported and information on them is consequently not collected at any level. Other factors can also affect reporting, such as age, method of attempted suicide, culture and accessibility to health care. In short, the scale of attempted suicide is not clearly known for most countries. Therefore, it becomes increasingly difficult to intervene in suicide ideas and attempts, due to these difficulties in information collection.

Death is no doubt one of the most painful realities of life. The death of someone close leaves both a physical and emotional void that provokes profound feelings of grief, loss, and anger among those who survive (Berman, Jobes & Silverman, 2006). For most youth, however, death happens far away, or at some future time, or to others, especially those who lead lives of excessive risk. Thus in a predominantly youth-oriented culture, particularly among the youth of that culture, death is a topic easily avoided or denied. It is in this context that the death of a young person hurts our sensibilities, especially when that death is self-imposed (Berman & Carroll, 1984). It is in this context that the suicide of a young person hurts the lives of peers and loved ones.

With the dearth in the literature of suicide ideation among young adults from a local perspective, it is pertinent for researchers to identify behavioral indices that are correlates of suicide ideation among adolescents and young adults so as to find a solution to the problem of suicide among this population. Since suicide attempts and ideas are borne out of traumatic events, an insight into the identification of suicide ideation should be carried out among individuals with a history of traumatic events. It is against this backdrop that this

study sets out to investigate psychological factors of self-blame, anxiety and depression as determinants of suicidal ideation among adolescent females with recent histories of abortion.

HYPOTHESES

1. There will be a positive significant relationship between self-blame, anxiety, depression and suicidal ideation among female tertiary students with recent experiences of abortion
2. There will be a positive significant joint and independent effects of self-blame, anxiety and depression on suicidal ideation among female tertiary students with recent experiences of abortion
3. Family type, level of study and length of past abortion experience will jointly and independently predict suicidal ideation among female tertiary students with recent experiences of abortion

METHODS

Research Design

This study adopted an ex post facto research design. The focus was to empirically examine self-blame, anxiety and depression as correlates of suicidal ideation among tertiary students with recent history of abortion. The research was conducted within major tertiary institutions in Oyo state. This preference was based on the accessibility to the research participants. The tertiary institutions of interest were the University of Ibadan, Ladoke Akintola University of Technology, Lead City University, Ajayi Crowther University. The participants for this study were only female tertiary students with recent history of abortion schooling in Oyo State. These participants were arrived at via the assistance of female research assistants who claimed to have had an abortion experience too. However, only students who consented to participate in the study were included in the study.

Sample Size Sampling Technique

Due to the sensitive inclusion criteria of 'abortion history', a total sample size of 202 participants accounted for the research participants. Accidental sampling was employed in the selection of the participants of the study from the selected tertiary institutions. This was because female students were approached individually in no particular order for questionnaire administration. A sample size of 202 participants was eventually achieved after the data collection procedure.

Research Instruments

Four instruments were utilized in eliciting relevant information relating to the participants of the study. The questionnaire consisted of 5 sections. The instruments, authors and psychometric properties are described below.

Section A: Demographic Information

This section consisted of items that described the demographic characteristics of the participants of the study. Items in this section include age, family background, level of study and have you had an abortion question.

Section B: Self Blame Scale

This section consisted of a four item self-blame sub scale Cognitive Emotion Regulation Questionnaire (CERQ) by (Garnefski, Kraaij, & Spinhoven, 2002). The scale contains item referring to thoughts of putting the blame of what one has experienced on oneself. Items are measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The psychometric properties of the Self blame scale have been proven to be good (Garnefski, Baan, & Kraaij, 2005; Garnefski et al., 2002b; Kraaij et al., 2003), with

Cronbach's alpha coefficients in most cases well over .70 and in many cases even over .80. Furthermore, the CERQ has been shown to have good factorial validity, good discriminative properties and good construct validity (Garnefski et al., 2002b). In this study, the Cronbach alpha for this scale was established at 0.70

Section C: Depression Scale

Zung Self-Report Depression Scale is a 20-item self-report index that covers, in varying degree, a broader spectrum of symptoms including psychological, affective, cognitive, behavioral, and somatic aspects of depression. Respondents are instructed to rate each item on a scale ranging from 0 to 4 in terms of "how frequently" they have experienced each symptom, instead of "how severe." A total score is derived by summing the individual item scores (1–4), and ranges from 20 to 80. The items are scored as follows: 1 = a little of the time, through 4 = most of the time, except for items 2, 5, 6, 11, 12, 14, 16, 17, 18, and 20 which are scored inversely (4 = a little of the time). In terms of validity, the Zung SDS has been reported to have a Cronbach alpha ranging between 0.68 and 0.76. In this study, the Cronbach alpha for this scale was established at 0.84

Section D: Anxiety Scale

Zung's Self Rating Anxiety Scale (SAS) contains 20 items that evaluate the most frequent symptoms of an anxiety disorder (five affective and fifteen somatic symptoms). It is scored in the same manner as the SDS and ranges from 20-80 with higher scores indicating higher levels of anxiety. Based on the commonly used threshold of 45 to define a clinically relevant case, this scale has been found to have an alpha of 0.85, a sensitivity of 89%, and a specificity of 92%. It correlates well with other measures of anxiety. In this study, the Cronbach alpha for this scale was established at 0.76

Section E: Suicidal Ideation Scale

The Suicidal Ideation Scale (Rudd, 1989) is a 10 item scale measuring the severity of suicidal ideation in the subject. The scale utilizes a 5-point Likert scale, with responses ranging from "never" (scored as 1) to "always" (scored as 5). Full scale scores are calculated by summing the values of the responses. Possible full scale scores range from a low of 10 (indicating no suicidal ideation) to a high of 50 (indicating a high level of suicidal ideation). Studies conducted using the SIS resulted in high levels of internal consistency reliability (mean coefficient alpha=.86). Its items exhibit face validity, looking as if they measure current suicidal ideation in subjects. The SIS has been found to be correlated moderately with measures of depression ($r=.55$, $p<.001$) and hopelessness ($r=.49$, $p<.001$), providing evidence for its construct validity. In this study, the Cronbach alpha for this scale was established at 0.72

Procedure

The researcher assisted by female research colleagues made arranged visits to the tertiary institutions of interest. Female students were approached individually and intimated about the study. They were told by the female research assistants that, they had had an abortion experience. Basically, this was to tune up the response rate of the intending participants who were favorably disposed to share their own abortion experiences. Their consent was sought and only those who willingly gave their verbal consent were included in the study. Questionnaires were distributed individually among consenting female students in the various departments within each institution.

It is imperative that only questionnaires that reflected yes to the question, "have you had an abortion" in the demographic section were considered for the research and valid for statistical analysis. Respondents were encouraged to ask clarification questions during the giving of instructions and completion of the instruments. Participants were assured that there were no right or wrong answers to questionnaire items, and that information supplied would

only be useful if they provided sincere responses. They were also assured that responses supplied would be used strictly for research purposes and a high degree of confidentiality would be maintained. Of all the questionnaires that were distributed among the selected tertiary institutions, only 202 questionnaires were successfully retrieved for data analyses. Data was analyzed using SPSS. Descriptive statistics & inferential statistic were applied on the data collected.

RESULTS

Hypothesis One

There will be a significant relationship between self-blame, anxiety, depression and suicidal ideation among tertiary students with recent history of abortion experiences. This hypothesis was tested using Pearson correlation. The results are presented in Table 1

Table 1: Correlation matrix showing the relationships among self-blame, anxiety, depression and suicidal ideation

VARIABLES		1	2	3	4
1.	Suicide Ideation			.	
2.	Self Blame	0.69**			
3.	Anxiety	0.43**	0 .76		
4.	Depression	0.27**	0.51**	0.56**	

***** Correlation is significant at 0.01 levels (2-ttailed)***

Results from Table 1 showed that self blame (r=0.69, p<.05), Anxiety (r=0.43, p<.05) and Depression (r=0.27, p<.05) have positive significant correlations with suicide ideation among tertiary students with history of abortion. This implies that each of the independent variables has positive associations with suicide ideation. The hypothesis is therefore accepted.

Hypothesis Two

There will be significant joint and independent effects of self-blame, anxiety and depression on suicidal ideation among female tertiary students with history of abortion experiences. This hypothesis was tested using multiple regression analysis. Results are presented in Table 2.

Table 2: Multiple regression analysis showing significant joint and independent influence of independent variables on the Suicide ideation

Predictors	R	R^2	F	P	ß	t	P
Self -Blame					-.312	-2.29	<.05
Anxiety	.799	.638	35.70	<.05	.121	3.01	<.05
Depression					.005	.050	<.05

Results from table 2 showed that self-blame, anxiety and depression jointly predicted suicide ideation among tertiary students with history of abortion experiences [R^2=0.638; F (3,199) =35.70; p<.05].The R value of 0.799 shows a multiple relationship of the predictor variables and suicide ideation. The R^2 value of 0.638 shows that, the predictor variables jointly accounted for 63.8% variance on suicide ideation among this population. Further analyses show that self-blame (ß=-.312, t=-2.29, p<.05), anxiety (ß=.121, t=3.01, p<.05) and depression (ß=-.005, t=.050, p<.05) also had independent significant influence on suicide ideation among tertiary students with history of abortion. The hypothesis is therefore accepted.

Hypothesis Three

Family type, level of study and length of past abortion experience will jointly and independently predict suicidal ideation among tertiary students with recent history of abortion experiences. This hypothesis was tested using multiple regression analysis. Results are presented in Table 3.

Table 3: Multiple regression analysis showing significant joint and independent influence of demographic variables on the Suicide ideation

Predictors	R	R^2	F	P	ß	t	P
Family type					.172	1.946	>.05
Study level	.261	.068	5.396	<.05	-.379	-4.143	<.05
Length of abortion experience					.039	.683	>.05

Results from Table 3 showed that family type, level of study and length of past abortion experience jointly predicted suicide ideation among tertiary students with history of abortion experiences [R^2= 0.068; F (3,199) =5.396; p<.05]. The R value of 0.261 shows a multiple relationship of the predictor variables and suicide ideation. The R^2 value of 0.068 shows that, the predictor variables jointly accounted for 6.8% variance on suicide ideation among this population. However, only level of study was a significant independent predictor of suicide ideation among tertiary students with traumatic experiences of abortion at (ß=-.379, t=-4.143, p<.05). The hypothesis is thus partially accepted.

DISCUSSION

Hypothesis one stated that there would be a significant relationship between self-blame, anxiety, depression and suicidal ideation among tertiary students with history of abortion experiences. Results from the analysis confirmed this hypothesis by indicating a positive correlation of self-blame, anxiety and depression with suicide ideation. There is therefore an association of self-blame, anxiety and depression with suicide ideation, implying that self-blame, anxiety and depression are viewed as suicide associated behaviours.

These findings are congruent with past research and provide further evidence that depression, anxiety and self blame are risk factors for suicide ideation (Eshun, 2003; Garlow et al., 2008; Gibb et al., 2006; Heisel et al., 2003; Hirsch et al., 2007; Joe et al., 2007; Kisch et al., 2005; Singh & Joshi, 2008; Stephenson et al., 2006;). For instance, Garlow et al (2008) found that anxiety and depression were positive correlates of suicide ideation among young adults. Self blame and inability to forgive oneself have also been noted to have positive significant correlations with suicide ideation and attempts (Singh & Joshi, 2008)

Hypothesis two stated that there would be significant joint and independent effects of self-blame, anxiety and depression on suicidal ideation among tertiary students with recent experiences of abortion. Results indicated that self-blame, anxiety and depression jointly and independently predicted suicide ideation tertiary students with recent experiences of abortion. This implies that the psychological variables of self blame, depression and anxiety

play a significant role in the occurrence and manifestation of suicidal thoughts and ideations. While the joint prediction of the variables implies that the combination of all three variables exhibited by an individual has a significant probability of inciting suicidal ideation, the independent prediction of each variable also suggests that isolated manifestations of any of these variables in behavioural patterns can equally result in suicidal ideation.

Several studies have corroborated the joint influence of self blame, depression and anxiety on suicidal ideation. For instance, Boyd and Sharper (2006) identified behavioural patterns of suicide victims as a combination of guilt, self-blame, depression and anxiety. The independent prediction of the variables also conforms to outcomes of similar studies in literature. For instance, Arria, O'Grady, Caldeira, Vincent, Wilcox and Wish (2010) developed a multi-dimensional model that might explain college suicide ideation. They concluded that depressive symptoms, internal conflict and affective dysregulation were among the factors that independently predicted suicide ideation. In another study, Ben-Zeev, Young and Depp (2012) utilized an experience sampling paradigm to identify real-time predictors of suicidal ideation in inpatients. Time-lagged analyses revealed that momentary ratings of sadness and anxiety predicted subsequent suicidal thoughts in the following hours.

Hypothesis three stated that family type, level of study and length of past abortion experience will jointly and independently predict suicidal ideation among tertiary students with recent history of abortion experiences. Results showed that while family type, level of study and length of past abortion experience jointly predicted suicidal ideation among tertiary students with recent experiences of abortion, only level of study was an independent predictor of suicidal ideation. This implies that the different levels of study of the participants had significant impact in the manifestation of suicidal thoughts. The plausibility of this result could lie in the fact that students higher levels of study would be more experienced in coping with past traumatic events than their less experienced counterparts in lower levels of study who might not be able to cope with similar traumatic events and resort to suicidal thoughts. This point of view is buttressed by Lim and Choi (2011) who asserted that suicide attempts and rates were significantly higher among teenagers than adults, implying that experience in life realities is a mediator of suicidal ideation and behaviour.

IMPLICATIONS OF THE STUDY

The findings of this research are robust and important. The results present strong evidence that abortion experiences have a predictive relationship of self blame, anxiety, depression on suicide ideation among young adult, tertiary students. This finding and the additional findings that depression, anxiety, and self blame are also independently predictive of suicide ideation among college students have important clinical implications for suicide assessment and prevention. The findings suggest that suicide prevention programs, counseling centers, and psychology clinics on tertiary campuses should include suicide attitudes such as depression, anxiety, and self blame in their assessment and identification of individuals who may be at risk for engaging in suicide behavior.

Clinicians and practitioners can use high levels of depression, anxiety, and self-blame to identify young adult tertiary students who are at risk for experiencing suicide ideation. Research shows that individuals differ in their reasons for viewing suicide as an acceptable action (Droogas et al., 1982; Ingrams & Ellis, 1995; Gibb et al., 2006). Understanding the conditions under which someone finds suicide to be an acceptable action and knowing his or her levels (e.g. high or low) of depression could provide important information related to that person's suicide risk. Thus, treatment may be provided before suicide ideation even occurs or before a person progresses in the suicide process beyond the stage of suicide ideation.

The results support the notion that an interactive number of personal and contextual factors contribute to the variance in suicidal ideation. This emphasizes the importance of including a variety of skills in capacity building programs to empower adolescents in managing difficult situations. Based on the research there is a need for school-based

workshops and seminars to equip adolescents with skills such as problem-solving, positive reinterpretations and positive visualization to empower teenagers when they are confronted with difficult challenges. The need to raise awareness about risk factors concerning suicide should be encapsulated within a suicide prevention programme, which could be incorporated into life-orientation subjects in order to not only raise awareness, but simultaneously make these socially taboo issues a topic of discussion within the correct milieu to ensure timely identification of individuals who may be at risk for suicidal behaviour.

LIMITATIONS AND FUTURE DIRECTIONS

It is important to interpret the results of this study in light of its limitations. The inclusion of more variables such as the coping/cognitive modality, which was excluded from this research, could yield a greater understanding of this complex phenomenon. The sample's age-span was too narrow to secure a clear understanding of the prevalence of suicidal ideation and age, as adolescents in the younger phase of adolescence (secondary schools learners) were excluded from this study.

Also, focusing on only students with abortion experiences in general rather than those who were directly involved in a suicide attempt may have robbed this study of valuable information regarding the dynamics incorporated. It is also possible that the contribution of the variables measured in this study when applied to persons who have attempted suicide may yield very different results.

The sample size comprised of tertiary students within Oyo state. Thus, making inferences based on the particular research setting and population in this study could be valid; however generalizations about other regional settings and students in other parts of the country may not yield valid results. Future studies should therefore concentrate on stratified populations across the nation while considering differences in ethnicity and cultural values.

As noted by some researchers, a common concern of self-report data is social desirability (i.e., the bias in self-report data accounted for by respondents' desire to look good, which is because of the respondents' need for self-protection and social approval). Since the data for this study were collected using self-report questionnaires, the participants' responses may have been influenced by social desirability. This, in turn, might have affected the predictive power of some independent variables on the criterion variables. In addition, it is to be acknowledged that, as mentioned above, the data for the four scales were self-reported and therefore may carry all the known validity problems associated with this type of data.

Suicidal ideation is a multi-causal and dynamic concept presenting a challenge to future researchers, since so many aspects and changes in time, technology and other situational and dispositional factors combine to influence this eventual way of thinking. Studying those who have reached such a point in their lives (unsuccessful suicides) may offer a deeper understanding of the dynamics involved in the build-up to suicidal ideation. The findings obtained in this research are a step in the right direction in trying to determine which factors are significant determinants in suicidal ideation. In some ways these findings are good news for families, as the influence of the family was not found to make an overwhelming contribution to suicidal ideation.

Future research will therefore have to consider other factors such as the influence of peer pressure, gang-related pressure, religion, rejection and loneliness, poor problem-solving skills, conflict management and substance abuse, as well as the influence of academic pressure on adolescents as contributing variables. This will enable behavioural scientists to better understand the interplay between the various factors that contribute towards suicidal ideation. Greater clarity is needed in terms of the moderating factors such as race, gender and age, which may be better explained by a sample extending over a wider age range.

Further research should conduct longitudinal studies to examine the extent to which suicide attitudes change over time, determine factors that may influence individuals' suicide attitudes to change, and explore how such factors contribute to changes in suicide attitudes. When seeking to replicate the current findings or exploring new ideas in this area of research, future research should attempt to utilize multi-method assessments of each variable, such as self-report measures accompanied by personal interviews conducted by the researcher.

Pertaining to adolescents, it is recommended that suicidal ideation be explored with additional variables such as race, gender, personality factors, self-efficacy with a special focus on the combination of risk and protective factors as determinants of suicidal ideation. It is further recommended that longitudinal studies be undertaken to enable researchers to observe the developmental influences that interact with different variables at specific developmental stages. In this way researchers will be able to differentiate between the variables that are more prevalent at different stages, thereby increasing the focus of intervention programmes for different age groups.

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