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Symptoms of posttraumatic stress, depression, and anxiety as predictors of suicidal ideation among South African university students

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Introduction

Suicidal ideation is common among university students¹ and is considered to be an important focus of public health² as it is associated with a number of adverse outcomes. Suicidal ideation is not only associated with increased risk of fatal and non-fatal suicidal behavior,³ but has also been shown to predict impaired psycho-social functioning, poor future psychological health and other forms of injury-risk behaviors among university students.⁴ One study found that American university students who reported suicidal ideation were significantly more likely than other students to carry a weapon, engage in a physical fight, boat or swim after drinking alcohol, ride with a driver who had been drinking alcohol, drive after drinking alcohol, and rarely or never used seat belts.⁴ Suicidal ideation among college students is associated with university drop-out,⁵ risky sexual behaviour,⁶ and aggressive behaviour.⁷ Suicidal ideation among university students has also been linked to poor psychosocial functioning,⁸ future depressive disorders^{9,10} and adult substance use disorders.¹¹ These findings add support to the argument that those concerned with the health and well-being of university students should attend to suicidal ideation as an important public health issue. As is true in many low and middle income countries, little is known about the prevalence and correlates of suicidal ideation among university students in South Africa (SA). It is within this context that we report on the 2-week prevalence of three forms of suicidal ideation, namely: *passive suicidal ideation* (i.e. thoughts of killing oneself), *suicidal desire* (i.e. a desire to die) and *suicidal intention* (i.e. reports that, given the opportunity, the individual would kill themselves) among a sample (n = 1337) of university students in SA. We also report on symptoms of depression, anxiety and post-traumatic stress disorder (PTSD) as predictors of suicidal ideation and discuss the implications of our findings for promoting the wellbeing of university students.

Suicidal ideation: definition and public health significance

Suicidal behaviour and suicidal ideation are related but separate and distinct suicidal phenomena. Suicidal ideation is a cognitive occurrence characterised by thoughts of death and a desire to die, whereas suicidal behaviour entails observable actions directed towards ending one's life. Although suicidal ideation as a construct has been of interest to suicide

researchers for a number of decades, the definition of this term has changed over time. Initially, the term was used to denote cognitions characterised by intent to act (i.e. intention to act on suicidal thoughts or enact a suicide plan) and thus did not include wishing to be dead or thinking about one's own death.¹² Subsequently a distinction was made between passive and active suicidal ideation. Passive suicidal ideation was defined as a desire to be dead without any intention of taking steps to end one's life, for example wishing to be dead.¹³ By contrast active suicidal ideation was defined as a “desire to make an active suicide attempt”.¹³(p346) The distinction between active and passive suicidal ideation is clinically significant³ with active suicidal ideation indicating increased risk of engaging in suicidal behaviour and thus more serious than passive ideation.¹⁴ In current nomenclature, expert consensus is that the term “suicidal ideation” should be taken to include the wish to die, thoughts of killing oneself without any intent to act on these, and intentions to kill oneself including making suicide plans.^{15,16} Nonetheless, intent to act on suicidal thoughts is still considered to be an important dimension for distinguishing different types of suicidal ideation.¹⁷

Research has demonstrated the utility of suicidal ideation in predicting future suicide attempts.^{3,18} In adolescent and adult populations severe and pervasive suicidal ideation has been shown to predict suicide attempts^{9,19,20} and death by suicide.²¹ For example in a study of 6,891 psychiatric outpatients, single covariate proportional hazard models were used to show that suicidal ideation (as measured by the *Scale for Suicide Ideation*) was a significant risk factor for suicide (Hazard ratio=1.11, 95% CI=1.07-1.15).²¹ In the same study a Cox regression model was used to show that suicidal ideation was a significant risk factor for suicide (Hazard ratio=.80, 95% CI=1.44-5.45).²¹

Some forms of passive suicidal ideation have also been shown to predict death by suicide. For example, individuals reporting a wish to die are 5 to 6 times more likely to die by suicide compared to the general population.¹⁵ However, other forms of passive suicidal ideation, such as the belief that one would be better off dead or thoughts of one's own death, have not been consistently associated with increased risk of death by suicide.¹⁴

Associations between psychiatric illness and suicidal ideation

According to Rihmer²² suicidal behaviour is very rare in the absence of major mental disorders. Studies in high income countries have suggested that over 90% of adult suicide deaths are associated with psychiatric disorders.²³⁻²⁶ Systematic reviews have shown that fatal-suicidal behaviour is associated with depressive disorders,²⁷ psychotic illness,²⁸ and PTSD.²⁹ Systematic reviews have also shown positive associations between non-fatal suicidal behaviour and mental illness.³⁰

Suicidal ideation is also associated with symptoms of psychopathology, in particular depressive disorders and borderline personality disorder.³¹ One cross-national survey of 84 850 adults across 17 countries found that suicidal ideation was more than 4 times more likely among individuals with mental disorders.³² The study found that suicidal ideation was associated with anxiety disorders (OR=3.4, 95% CI=3.2-3.7), mood disorders (OR=4.7, 95% CI=4.2-5.2), impulse control disorders (OR=3.3, 95% CI=2.8-3.8), and substance use disorders (OR=2.8, 95% CI=2.5-3.2). Co-morbidity also increased the likelihood of suicidal

ideation; individuals with two psychiatric conditions were approximately two times more likely to report suicidal ideation while those with more than two disorders were approximately 6 times more likely to report suicidal ideation than those with no disorder.

Risk factors for suicidal ideation among university students

Risk factors for suicidal ideation among university students include symptoms of psychopathology such as depression² and anxiety³³ as well as drug and alcohol abuse,³⁴ lack of social support from family and friends,^{35,36} conflict with parents,³⁷ affective dysregulation,³⁸ and susceptibility to irritability and negative affect.³⁹ Although suicidal ideation among university students has been associated with depressive symptoms, it has also been found among groups of students with subclinical depressive symptoms.⁴⁰ A study of American students attending a non-traditional commuter college suggested that serious suicidal ideation was associated with living off campus, being gay or bisexual, and having a history of emotional abuse, assault, and unwanted sexual contact.⁴¹ Suicidal ideation among American undergraduate university students has also been significantly negatively associated with positive health attitudes, and positively associated with depression, drug use problems, sleep problems, and with being overweight.⁴² Arria et al² have suggested that suicidal ideation among university students may have a unique aetiology because of the challenges associated with their developmental period. University students typically have to negotiate a number of potentially challenging transitions, including entering young adulthood, changes in family and peer relationships, leaving home, entering a new peer context, increased opportunities for substance misuse and an increase in academic pressure. The stress of dealing with these transitions may contribute to poor psychological functioning and precipitate suicidal ideation even in the absence of psychopathology.

Prevalence and correlates of suicidal ideation and common mental disorders in SA

Data on the prevalence and correlates of suicidal ideation in SA is scant. A notable exception is the work of Joe et al⁴³ who report that in a nationally representative sample (n=4351) of South Africans 18 years and older, the lifetime prevalence of passive suicidal ideation was 9.1 % and active suicidal ideation (i.e. planning to kill oneself) was 3.8%.

One national epidemiological study found that life-time prevalence of mental disorders was 30.3% while 16.5% of the sample met the diagnostic criteria for a common mental disorder at the time of the survey.^{44,45} The most common mental disorders in SA are anxiety disorders, mood disturbances and substance abuse, with 12-month prevalence rates of 8.1%, 4.9% and 5.8% respectively.⁴⁴ Rates of PTSD in SA are comparatively lower, with the 12-month and lifetime prevalence of PTSD reported to be 0.6% and 2.3% respectively.⁴⁴ The prevalence of PTSD in SA is markedly lower than the 8-12% prevalence rate reported by Kessler⁴⁶ for the USA. A small but growing body of literature has shown that there are elevated rates of trauma in SA. For example, Statistics South Africa, reports that the murder rate in 2013/14 was 32.2 per 100,000, which is approximately 5 times higher than the global average.⁴⁷ Over the same time period, 62 649 cases of sexual offences and 46 253 cases of rape reported to the police⁴⁷, although it has been estimated that only one in nine rapes are reported.⁴⁷ In 2014/15, there were 129 045 cases of aggravated robbery and 35 motor

vehicle hijackings.⁴⁷ A study conducted among university students in SA found that approximately 90% of the sample reported at least one traumatic event in their lifetime.⁴⁸

Research suggests that approximately 25% of people exposed to traumatic events will develop PTSD.⁴⁹ The risk factors for developing PTSD include, but are not limited to, previous psychiatric history, childhood abuse and history of other trauma.⁵⁰ Evidence suggest that the severity of the trauma, rather than the type of trauma experienced, strongly influences the development of PTSD.⁵⁰ Given the high rates of trauma in SA⁴⁷ and the marked prevalence of depression and anxiety,^{43,44} it is important for us to establish whether there is a meaningful relationship between suicidal phenomena and symptoms of PTSD, depression and anxiety in SA. It is within the context of these gaps in the literature that we investigated the 2 week prevalence of suicidal ideations and their relationship to symptoms of posttraumatic stress, depression and anxiety among students at a large university in SA.

Method

The total population (n = 17 000) of registered undergraduate students at a large SA university were invited by e-mail to participate in an online survey. Participants were asked to respond to an electronic web-based survey that took approximately 10 to 15 minutes to complete. The data were automatically recorded using *Checkbox 4.7* software. To encourage participation in the project, participants were entered into a draw to win a book voucher. The survey was translated into Afrikaans and back-translated to assess accuracy so that students could elect to complete the survey in English or Afrikaans. English and Afrikaans are two of the official languages of SA and are the mediums of instruction at this university.

Ethical permission was obtained from the Research Ethics Committee of the University. The Student Counselling Centre endorsed the study and agreed to provide counselling for participants who were identified as emotionally distressed.

Data were collected via the following instruments:

- a. **Biographical information.** Participants were asked their age, a description of their race, gender, year of study as well as their place of residence.
- b. **Symptoms of posttraumatic stress.** Trauma symptoms were assessed using the PTSD Symptom Scale: Self Report Version (PSS-SR),⁵¹ which assessed the nature of symptoms as well as the frequency with which they occurred. The PSS-SR is a 17 item self-report scale designed to measure the range and frequency of PTSD symptoms. The PSS-SR has been found to have high test-retest reliability, high concurrent validity and high internal consistency as well as a positive correlation with other self-report instruments assessing symptoms of PTSD.⁵² Foa et al³¹ found that the PSS-SR demonstrated satisfactory psychometric properties in a sample of female victims of recent assault. Internal consistency for total symptoms was 0.91. (0.78 for re-experiencing symptoms, 0.80 for avoidance symptoms and 0.82 for arousal symptoms). These results were replicated

in the present student sample where Cronbach's alpha was found to be 0.92. Validity was established in relation to a diagnosis by psychiatrists based on clinical interviews for PTSD, for which kappa was found to be 0.68.

- c. **Symptoms of depression.** The Beck Depression Inventory (BDI) was used to assess symptoms of depression. The BDI is a 21 item self-report measure which is widely used and has excellent psychometric properties.⁵³ Each item consists of four statements with a 0-3 rating, and a high score could indicate severe depression. Overall, the BDI is psychometrically sound with internal consistency as measured by Cronbach's alpha ranging from 0.92 to 0.94 for adults and test-retest (one week interval) reliability scoring 0.75. The BDI also correlates well with other measures of depression severity.⁵³
- d. **Symptoms of anxiety.** The Beck Anxiety Inventory (BAI) was used to assess symptoms of anxiety. The BAI is a 21 item, multiple choice, self-report inventory that measures the level of anxiety in adults and adolescents. The items in the BAI describe the emotional, physiological and cognitive symptoms of anxiety. Each item contains a description of a symptom of anxiety in one of its four expressed aspects, namely, subjective (unable to relax), neurophysiological (numbness or tingling), autonomic (feeling hot), and panic-related (fear of losing control). The BAI is psychometrically sound with internal consistency as measured by Cronbach's alpha ranging from 0.92 to 0.94 for adults and test-retest (one week interval) reliability at 0.75. Concurrent validity has been established with the Hamilton Anxiety Rating Scale revised.⁵⁴
- e. **Suicidal ideation.** Information on the prevalence and range of suicidal ideation was obtained from item 9 on the BDI, which asks individuals if they currently have no thoughts of killing themselves (absence of suicidal ideation), thoughts of killing themselves without any intention to follow through (passive suicidal ideation), a desire to be dead (suicidal desire), or if they would kill themselves given the opportunity (suicidal intention). We understood these cognitions to occur on a continuum and thus scored them on a continuous 4-point scale from 0 (absence of suicidal ideation) to 3 (marked suicidal intention) with higher scores taken to indicate more serious suicidal ideation.

Data were entered into Statistical Package for the Social Sciences' (SPSS v. 19) and analysed using descriptive and multivariate statistics. In preparation for the hierarchical regression analysis, the data were examined for deviations from normality, variance distribution, and the presence of outliers.

All data sets were positively skewed, thus violating the assumption of a normal distribution. This was to be expected given that we were measuring the prevalence of abnormal behaviour among a sample of individuals selected from the general population of students. However,

the positively skewed distribution of both the independent and dependent variables did not compromise the data analysis as sample size was sufficiently large. Large samples have the effect of reducing sampling error, increasing statistical power, and thus reducing the detrimental effect of deviations from normality. For sample sizes larger than 200 the effect of non-normality on multivariate data analysis may be considered negligible.⁵⁵

Hierarchical regression analysis was used to determine the relationship between suicidal ideation and symptoms of depression, PTSD and anxiety. For the purpose of this statistical analysis, item 9 of the BDI, which asks explicitly about suicidal ideation, was excluded from the measure of depression in order to avoid including this item in both the independent and dependent variables.

Results

A total of 1337 students completed the survey (7.9% response rate) of which 857 (64%) were female and 480 (36%) were male. White students comprised 77.5% (n=1036) of the sample; Coloured and Black students comprised 10.7% (n=143) and 10.1% (n=135) respectively; and Indian and Asian students made up 1.7% (n=23). In SA the term “coloured” is officially used to denote persons of mixed race while the term “black” is used to describe individuals belonging to indigenous ethnic groups. The age of students ranged from 18 to 50 years, with a mean age of 21 years. The year of study ranged from 1 year to 9 years, with the majority of the sample consisting of undergraduates. First year students comprised 28.5%, second year students 23% and third year students 24.8% of the total sample. The remaining 23.7% was divided amongst honours, masters' and doctoral students.

Among the sample, 76.4% scored in the minimal range on the BDI, 12.3% scored in the mild range 7.2% scored in the moderate range, and 4.0% scored in the severe range. Table 1 reflects the means and standard deviations on the BDI, BAI and the PTSS and Table 2 shows the frequencies and percentages for clinically significant cut-off scores on the BDI and BAI. No clinically significant cut-off scores have been established for the PTSS. Table 3 shows the correlation coefficients between the variables.

The data indicate that 24.46% (n=327) of the sample reported some form of suicidal ideation in the two weeks preceding data collection. These were: having suicidal thoughts (n = 305, 22.81%); having a desire to kill themselves (n=16, 1.2%), and stating that they would kill themselves given the opportunity (n=6, 0.45%).

Table 4 displays the predictor variables as they were entered into this model, together with their standardised regression coefficients and significance levels. Table 5 shows the summary statistics for the regression analysis in which the relationship between depression, anxiety and PTSD as predictor variables and suicidal ideations as the criterion variable were investigated. The first model containing only symptoms of depression was significant, with $F(1, 1335) = 659.98, p < .001$ and explained 33% of the variance in suicidal ideation. When post-traumatic stress was added to symptoms of depression in the second model there was a significant increase in explained variance but when anxiety was added to symptoms of

depression and post-traumatic stress in the third model, there was no change in explained variance.

Discussion

As far as we are aware, our study is the first to systematically evaluate suicidal ideation among a sample of SA university students. One quarter of our sample reported suicidal ideation in the past two weeks. This proportion is much higher than the 9.1% prevalence reported for the general population in the country⁴³ and higher than the 6.3% prevalence of suicidal ideation reported among college students in the United States¹ and the 11.4% reported for a sample (n=636) of Turkish college students.⁵⁶ The reason for these high rates of suicidal ideation are not immediately apparent and no research has been done to investigate the reasons for the high prevalence of suicidal ideation observed in this study. A possible reason for this finding is that the period of emerging adulthood in SA is characterised by various changes and stressors that are a function of the socio-political and economic situation in the country. Research suggests that as many as 70.6% of SA university students face traumatic events⁵⁷, including stressful life events such as the death of a loved one, sexual violence (including rape and sexual assault), accidents, being the victim of violent crime and witnessing violence.^{57,58}

Despite the relatively high rate of suicidal ideation reported in the sample, a very small percentage of the sample indicated an actual desire to kill themselves (1.2%) and even fewer stated that they would kill themselves given the opportunity (0.45%). While these are small percentages, they are still cause for concern. Even a single completed suicide on a university campus is a crisis and university administrators and counsellors need to be alert to such possibilities in the student community. Moreover, harbouring suicidal ideations such as a desire to end one's life or to feel that one would kill oneself given the opportunity are indications of severe distress, presumably that being alive involves psychic pain that is too much to bear.⁵²

Late adolescence and early adulthood are periods in which many individuals are at high risk of depression and suicide.⁶⁰ Our data show that depression was the most important predictor of suicidal ideation, explaining one third of the variance. There is an abundance of literature demonstrating strong associations between depression and suicide. For example, among college students who accessed primary care services at four North American colleges, 31.7% of men and 39.9% of women who scored in the elevated range on the Beck Depression Inventory reported having suicidal ideation.⁶¹ To this extent, our findings are not new. Yet, our data bring into focus the relatively high rates of depressive symptoms among college age individuals and the fact that suicide prevention efforts may need to be directed at students who report symptoms of depression and PTSD. Providing effective clinical services and evidence-based interventions to individual students reporting symptoms of depression and suicidal ideation is a necessary but not sufficient strategy to address this public health concern.⁶² Possible university-based interventions might include mental health education so that students are aware of symptoms of psychopathology and cognisant of support services⁶³, improving utilization of student support services by reducing stigma⁶⁴ and removing barriers to care⁶⁵, utilising peer-educators and peer-support programmes⁶⁶, and

making use of interactive web-based outreach to at-risk students.⁶⁷ Although the practice of screening for depression is controversial (see Kagee et al⁶⁸ for a review), this might also form part of a campus-based intervention to identify at-risk groups and provide targeted interventions. Furthermore, there are empirically supported programmes to prevent suicides on university campuses⁶⁹ as well as a range of online e-interventions which have been used on college campuses.⁷⁰

The relationship between PTSD and suicidality has previously been demonstrated to be robust.⁷¹ Yet, these associations have generally been at the level of the disorder rather than at the level of individual symptoms. In one of the few studies to examine posttraumatic stress at the symptom rather than the syndromal level, Davis, Witte, and Weathers⁷² showed that among American female undergraduates who were exposed to trauma, detachment/estrangement-related symptoms of posttraumatic stress were significantly correlated with suicidal ideation. This is in keeping with our findings of a statistically significant relationship between posttraumatic stress symptoms and suicidal ideation. The weak relationship observed may in part be attributed to low scores on the PTSS, yielding little opportunity for finding a relationship between PTSD symptoms and suicidal ideation. For example, no participants scored above one standard deviation above the mean on the PTSS, indicating an absence of elevated scores on this measure.

Our full regression model explained 33% of the variance in suicidal ideation, which according to Cohen⁷³ is a moderate effect size for multivariate models in the social sciences. The finding that only 33% of the variance in suicidal ideation is accounted for by symptoms of depression and PTSD prompts important questions about which other factors predict suicidal ideation among university students. University students are individuals whose lives are characterised by the challenges of adaptation from a home environment to college life, concern about attaining academic success, prospects about postgraduate study, and uncertainty about the future in a global context of profound competition for work opportunities. These concerns may create conditions under which cognitions about suicide may occur, even though these may not be accompanied by specific suicidal intentions and plans. It is possible that our data may reflect this phenomenon and these relationships await further investigation.

Limitations

The study relied on self-report measures of suicidal ideation and symptoms of depression, anxiety and PTSD, rather than on structured clinical interviews. The sample consisted of a self-selected group of university students. Furthermore the study only explored the extent to which symptoms of depression, anxiety and PTSD predicted suicidal ideation; other variables, such as access to mental health care services, perceived levels of support and substance abuse, which potentially predict suicidal ideation were not measured. Future studies in this area would be well advised to utilize a suitable sampling frame that identifies a more representative group of students, employs structured clinical interviews to identify symptoms of psychopathology and includes measures of other social factors. The inclusion of other social and contextual variables in future studies has particular salience given the finding that positive social support, particularly tangible support, and negative social

exchanges are significantly predictive of greater suicidal behaviour among college students.⁷⁴

Conclusion

The findings of this study bring into focus the high rates of suicidal ideation among a sample of university students in SA and the need for more research to investigate the psycho-social correlates of this phenomenon within the cultural context of the country. These high rates of suicidal ideation among the country's student population are significant given the association between suicidal ideation and other forms of health compromising behaviour. Our results confirm findings from high income countries that mood disturbance is strongly associated with suicidal ideation among university students and highlights the need for rigorous assessment of suicide risk among students seeking help with mood disorders. The findings suggest that when students report depressive symptoms, clinicians would be well advised to inquire about suicidal cognitions and, where present, to make these a focus of treatment. This is important especially in light of the evidence which suggests that patients are disinclined to share suicidal thoughts unless they are directly asked about them.⁷⁵ The findings of this study also suggest that campus suicide intervention programmes (such as education about suicide risk and where to access help) should be directed at students who present with mood disturbances. Finally the findings suggest that persons with both PTSD and symptoms of depression constitute a sub-group of students who appear to be at higher risk for suicidal ideations than others. More research is required in SA to establish how generalizable these findings are among other groups of university students in the country and to establish why rates of suicidal ideation are elevated in this group.

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Table 1
Means and standard deviations on the Beck Depression Inventory (BDI), Beck Anxiety inventory (BAI) and the Post Traumatic Stress Disorder Symptom Scale (PTSS) for n = 1 337 university students

	N	Mean	Std. Deviation
PTSD	1337	10.80	10.03
BDI	1337	8.63	8.70
BAI	1337	10.91	10.67

Table 2
Frequencies and percentages of participants (n = 1 357) scoring in clinically significant ranges on the Beck Depression Inventory (BDI) and the Beck Anxiety inventory (BAI)

	Category	n	%
BDI	Minimal depression (0-13)	847	63.4
	Mild depression (14-19)	323	24.2
	Moderate depression (20-28)	120	9.0
	Severe depression (29-63)	47	3.4
BAI	Low anxiety (0-21)	1126	84.2
	Moderate anxiety (22-35)	159	11.9
	Severe anxiety (36-63)	52	3.9

Table 3
Correlation matrix for symptoms of depression (measured by scores on the BDI), anxiety (measured by scores on the BAI) and post-traumatic stress (measured by scores on the PTSS) among a sample (n = 1 337) of university students

		PTSD	BDI	BAI
PTSD	Pearson Correlation	1	0.722 *	0.674 *
	Sig. (2-tailed)		0.000	0.000
BDI	Pearson Correlation	0.722 *	1	.723 *
	Sig. (2-tailed)	0.000		0.000
BAI	Pearson Correlation	0.674 *	0.723 *	1
	Sig. (2-tailed)	0.000	0.000	

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

Table 4
Parameters for all the predictive variable in the regression model

		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		Beta	Std. Error	Beta			
Model 1	(Constant)	-0.018	0.016			-1.126	0.260
	BDI	0.033	0.001	0.575		25.690	0.000
Model 2	(Constant)	-0.030	0.017			-1.782	0.075
	BDI	0.030	0.002	0.526		16.287	0.000
	PTSD	0.003	0.002	0.067		2.086	0.037
Model 3	(Constant)	-0.032	0.017			-1.896	0.058
	BDI	0.029	0.002	0.513		14.072	0.000
	PTSD	0.003	0.002	0.059		1.732	0.084
	BAI	0.001	0.002	0.026		0.775	0.438

Model 1: Symptoms of depression as predictors of suicidal ideation

Model 2: Symptoms of depression and post-traumatic stress as predictors of suicidal ideation

Model 3: Symptoms of depression, anxiety and post-traumatic stress as predictors of suicidal ideation

Table 5
summary statistics for the regression analysis in which the relationship between depression, anxiety and PTSD as predictive variables and suicidal ideations as the criterion variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.575	0.331	0.330	0.406	0.331	659.975	1	1335	0.000
2	0.577	0.333	0.332	0.405	0.002	4.350	1	1334	0.037
3	0.577	0.333	0.332	0.405	0.000	0.601	1	1333	0.438

Model 1: Symptoms of depression as predictors of suicidal ideation

Model 2: Symptoms of depression and post-traumatic stress as predictors of suicidal ideation

Model 3: Symptoms of depression, anxiety and post-traumatic stress as predictors of suicidal ideation