# PERCEIVED SOCIAL SUPPORT AND SUICIDE IDEATION AMONG GRADUATE STUDENTS IN A NIGERIAN UNIVERSITY SETTING

Alex Igundunasse (aigundunasse@gmail.com)\*
Olivia Opara (okparaolivia@gmail.com)

Department of Psychology University of Lagos, Lagos

#### **Abstract**

his research is focused on investigating the relationship and the impact perceived social support has on suicide ideation among postgraduate students in University of Lagos. Other predisposing factors were also considered such as Gender, age, demographic characteristics in order to examine how each factor influences suicidal ideation independently. 376 respondents were selected using convenience sampling and an online questionnaire based on the Multidimensional scale of perceived social support and the Suicidal ideation scale was administered to measure perceived social support and suicidal ideation respectively. Data gathered was analyzed using t-test for independent samples to evaluate the influence of social support on suicidal ideation and it showed that graduate students who reported low perceived social support scored significantly higher on suicidal ideation than post graduate students who reported high perceived social support thus confirming that perceived social support has an influence on suicidal ideation. Furthermore, on SPSS, multiple regression analysis was used to evaluate the influence of other predisposing factors such as age, marital status, employment Status and religion and the results proved that they jointly predicted suicidal ideation among graduate students in University of Lagos, thus implying that demographic variables jointly accounted for 57.8% variance in suicidal ideation among post graduate students. This study provides insights on the need for rehabilitation and intervention strategies in schools, churches, and workplace in order to provide proper support system while enlightening the public on empathy and being mentally aware thereby reducing suicidal ideation occurrences.

Keywords: Lagos-Nigeria Perceived Social Support, Suicide ideation, University

## Introduction

Suicidal ideation is a serious psychological, social, and cultural, public health problem and currently creates a lot of psychological concern to people of diverse backgrounds across the globe (Wongpakaran, et al., 2021; Cole et al., 2013). Suicide ideation constitutes one aspect of suicidal behaviour and refers to the human thoughts that life is meaningless of living, as well as plans and thereby engages in wishes and thoughts to commit suicide (Pienaar et al., These thoughts of committing suicide are often fleeting and characteristic of times during which a person experiences distress, and with increased periods of distress, suicide ideation can increase in frequency and expand to become more elaborative, including not only thoughts of wanting to die or to kill oneself but also thoughts of what it would be like to kill oneself and how one would commit suicide (Klonsky et al., 2016).

Bridge et al., (2006) suggested that suicidal ideation is often triggered as a

product of loneliness, death of important person, unemployment, emotional trauma, serious physical illness. Suicidal ideation increases risk of suicidal attempts, even though these initial attempts may not result in death, it often has a risk potential for severe injury and increased risk of further attempts that may eventually lead to completed suicide. Similarly, Joiner, (2005);Rizk et al., (2018) opined that suicidal ideation were thoughts and ideas about committing suicide or a desire to terminate one's life without the suicidal act.

In a country like Nigeria, there is truly little research evidence to understand the prevalence of this malaise due to cultural or traditional beliefs because it may be seen as a taboo to discuss such information (Oladele & Oladele, 2016). Available literature in Nigeria suicide research and prevention initiative services indicate that between 0.37% to 12% of adult populations and adolescent populations, respectively have attempted suicide. Omigbodun et al., (2008) asserted that throughout an individual's lifetime, about 3.0 per cent of Nigerian adolescents have the opinion of killing themselves, 1% use different

strategies to kill themselves and just under 1% eventually end up trying to kill themselves. Furthermore, the number of people who have given some account of having attempted suicide on one or more times has increased over time (Adewuya & Oladipo, 2020).

The prevalence of suicidal ideation is significantly higher among young adults (Stone et al., 2017). Similarly, Arria et al., (2009) surveyed over 1,000 college students in United States of America (USA) and they found 12% of the students sampled thought about killing themselves at least once, and 1% made specific plans or suicide attempt. These researchers also reported 6% of first year university students in the sample experienced suicidal ideation. Additionally, in a national survey of college students from 70 United States colleges and universities, 6% of undergraduates and 4% of graduate students reported experiencing suicidal ideation in the prior 12 months (Brownson et al., 2009). Since suicidal ideation is of significant concern for the young adult population. However, increased understanding of the early determinants of suicidal ideation will

inform the development of effective preventive programs, and therefore has the potential to reduce the public health burden associated with suicidal ideation among graduate students(Fitzpatrick et al., 2008). To this end it is imperative to examine the influence of variables that have been implicated to predict suicidal ideation among graduate students.

Perceived Social support refers to a person's subjective judgment that help providers may offer or have offered in terms of effective help during times of need. Social support is said to exist when one has information that he/she is loved and cared for by others, has esteem, and belongs to a network of communication (Cobb, 1976). Past research has examined differential relationships between social support from friends and family, and suicide. Some studies indicated that social support from both family and friends was negatively related to suicide (Christensen et al., 2014). More contemporary studies investigating this relationship between suicide and social support further supports Durkheim's theory and implications (Arria et al., 2009; Kleiman & Liu, 2013; Moody &Smith,

2013). Hirsch and Barton (2011) found that different forms of support were negatively correlated to suicidal behaviors and that tangible support (e.g., buying lunch, providing a phone number) negatively predicted suicidal thoughts and behaviors in a sample of 439 college students. Lincoln, et al.,(2013) found that support from family lowered the odds of suicidal ideation and attempts in a sample of 6,082 African American and Caribbean Black participants . In a sample of 169 college students, an increased level of social support was negatively related with suicidal behaviors (Kleiman et al., 2012). The question is, will perceived social support predict suicidal ideation among graduate students? It is hypothesized that perceived social support will significantly predict suicide ideation among graduate students.

These studies posit that having a bond and being integrated with others serves as a buffer against suicide, however, if one does not have a bond and depends solely on oneself, thoughts that there is no reason to live may develop. In addition, the relationship with family members is a quite important experience for an individual's

development in later social interaction and people skills. Some evidence suggests that cumulative adverse events or experiences, within the early family context, increase the risk of later suicidal behaviour for youth (Fergusson et al., 2003). There is a consensus that social support serves as a buffer for suicidal outcomes (Handley et al., 2012; Hirsch &Barton, 2011; Kleiman & Liu, 2013; Kleiman, et al, 2012).

Further, Cobb (1976) defined perceived social support as information leading an individual to believe that he/she belongs to one or more of three classes. These three classes include information that leads an individual to believe he/she is loved and cared for by others, has esteem, and belongs to a network of communication. Information that compels an individual to believe that one is loved and cared for by others develops through mutual trust and cultivates emotional support. In summary, this study is premised on the view that "an individual will not die by suicide unless s/he has both the desire to die by suicide and the ability to do so" (p.12, Joiner, 2005). Subsequent research in this area by Joiner et al., (2009) supported the idea that people

don't just commit suicide, but they think about it before they consciously commit such act. Findings in this study will attempt to evaluate the nature of this assertion.

With regards to gender differences on a global scale, girls and women have higher rates of suicidal ideation and behavior, but lower rates of suicide mortality than boys (Canetto, 2008). Suicide incidents are likely to affect most youth, but some groups are at higher risk than others. Boys are more likely than girls to die from suicide. It is reported that females attempt suicide approximately two to three times as often as males during their lifetime (Krug et al., If female adolescents do commit 2002). suicide, they tend to use less violent means than males (Epstein & Spirito, 2010). Grunbaum et al. (2004) analyzed data from the 2003 Youth Risk Behavior Survey (YRBS) and found that 12.8% of males and 21.3% of females had seriously considered suicide in the past 12 months. Epstein and Spirito (2010) examined gender differences in risk factors associated with suicidal ideation and suicide attempts. The major risk factors examined were substance use, aggression and victimization, and risky

sexual behavior using data from the 2005 Youth Risk Behavior Surveillance. results of the study demonstrated both gender-specific and gender-neutral risk factors for various risk factors of suicidality in a nationally representative sample of high school students in the United States. Early onset drinking was associated with considering suicide and planning a suicide attempt for girls only, while it was a risk factor for both males and females for suicide attempts. Other drug use (sniffing glue, injecting drugs) showed associations with all types of suicidalities across gender. Carrying a weapon and fighting (in school for boys and outside of school for girls) were consistently related to suicidal ideation and attempts.

Another recent study looked at risk factors and suicidal ideation and attempts in an urban Chinese sample of adolescents using a modified version of the YRBS questionnaire. Juan et al., (2011) found several gender-related differences. Females were significantly more like to report suicidal ideation than males among those who felt sad or hopeless, but males were more likely to report suicidal attempts than

females among those who did not feel sad or hopeless. Physical fighting was associated with suicidal attempts, but not with suicidal ideation for females. Ever having sexual intercourse and lifetime marijuana use were associated with suicidal attempts for males (Juan et al., 2011). Past research has shown that risk factors for suicidal behavior differ across gender in adolescent psychiatric populations (Gould et al., 2003). In this study, it is hypothesized that there will be gender differences on suicide ideation among graduate students.

## **Statement of Problem**

Research by Garlow et al. (2008) showed that 11% of a sample of 729 studentsin the USA reported having suicidal ideations and 16.8% had a lifetime suicide attempt or self-injurious episode and the study found that young adult population (ages 18-25) had a high number of suicides. The study further suggested that new stressors arise at this point in an individuals' life. Some of these new stressors include moving away from home, being away from family members and the pressures from transitioning into college, adjusting to new social environments, and increased academic

demands (Arria et al., 2009; Wilcox et al., 2010). Furthermore, individuals in young adulthood are exposed to more risk factors of suicide including alcohol use, drug use, and risky behaviors (Wilcox et al. 2010). Wilcox and colleagues further commented that this is also the period where psychological disorders begin to develop and the interaction with these new stressors might enhance the advancement of psychological disorders. Although a few studies have shown that Nigerian students have one of the highest rates of suicide ideation or attempted suicide, these incidents are comparable to those of other developing countries and higher than developed countries. (Omigbodun et al.,2008). Past studies have also investigated the antecedent of suicidal ideation in a broader sense (Klonsky et al., 2018; Olson et al., 2021). However, to the best of our knowledge, little studies have examined influence of perceived social support on suicidal ideation especially in the Nigerian context or indeed among graduate students in the current circumstances. This present study seeks to fill this gap. In addition, studies have also indicated that a higher availability of perceived support was related with lower levels of suicidal ideation (Handley et al., 2012), Some studies have been conducted implicating social support as a moderator of suicidal ideation(Van Orden et al., 2008). However, there is paucity of studies that have investigated social support as a predicting variable on suicidal ideation among graduate students in a typical Nigerian setting, this study also seeks to fill this gap.

#### Method

# **Participants**

Participants were drawn from the University of Lagos, Nigeria. Participants for the study obtained through a convenience sampling approach were 376 in total comprising Female 175 (46.5%) and Males 201 (53.5%) graduate students in University of Lagos with a mean age of 30.66. A Cross sectional survey design was used to undertake the study. The basis of the design was to examine the extent of influence the independent variable (Perceived social support) has on the dependent variable (Suicidal ideation) among graduate students at one point in

time.

## Instrument

Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988). The scale was developed as a brief self-report measure of subjectively assessed social support, in which 12 items were given on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The 12-item MSPSS was designed to measure the perceived adequacy of support from the following three subscales: family, friends, and significant others. Each subscale has 4 questions. Family support was measured on items 3, 4, 8 and 11. For example, Item 8 states: "I can talk about my problems with family." Support from friends is measured on items 6, 7, 9, and 12. An example of an item looking at peer support is, "I can count on my friends when things go wrong" (Item 7). Finally, significant other support is measured on items 1, 2, 5, and 10. An example measuring significant other support is Item 10: "There is a special person in my life who cares about my feelings." Higher scores on each of the subscales indicate higher levels of perceived support. A sum of the three scales yields a global satisfaction with the perceived support score.

The Adult Suicide Ideation Questionnaire (ASIQ) is a 25-item self-report measure of suicide ideation and behavior in adults designed by Oyefeso et al., (2011). Participants were asked to rate the frequency of suicidal thoughts or behavior during the past month, using a 7-point scale for each item (1 = Never had this thought; 2= I had this thought before, but not in the last month; 3 = About once a month; 4 = Couple of times a month; 5 = About once a week; 6= Couple of times a week; 7 = Almost every day). The ASIQ yields a total score, ranging from 0 to 150 with higher scores indicating greater suicide ideation. The ASIQ exhibits good reliability and validity (Oyefeso et al., 2011). The ASIQ has high internal

consistency reliabilities for the adult community sample, college student sample, and psychiatric sample with Cronbach's alpha coefficients of .96, .96, and .97, respectively (Oyefeso, 2011 Reynolds, 1991). The ASIQ is significantly correlated with measures of depression (r = .60) and hopelessness (r = .53) in a sample of college students (Reynolds, 1991). The coefficient alpha obtained for the ASIQ in this study is .78, suggesting a high level of internal consistency.

Participation in this study was voluntary and participants were free to withdraw from the study at any point in time without any penalty. Informed consent was designed at the front page of the questionnaire for each participant and only willing persons were allowed to participate in the study.

## Results

**Table 1:** Summary of Descriptive Statistics of Independent and Dependent variable

Variables	N	Min	Max	$\overline{X}$	SD	Variance
Mpss1	376	1.50	5.00	3.6155	.88361	.781
Sis1	376	1.04	5.16	1.8006	.85229	.726

X = Mean; SD = Standard deviation; N = Number of participants; Min= Minimum value. Max= Maximum value; Mpss1=social support scale; sis1= suicidal ideation scale

The above table shows the descriptive statistics of the dependent and independent variable measured showing the mean for social support as 3.61 and suicidal ideation as 1.80 with standard deviation of 0.88 and 0.85 respectively, while the variance is 0.781 and 0.726, respectively.

# **Test of hypotheses**

Hypothesis one stated that perceived social support will predict suicide ideation among graduate students. This hypothesis was tested using t-test for independent samples and the results are presented in Table 2.

 Table 2

 Summary of T-Test showing the influence of Perceived Social Support on Suicidal Ideation

Perceived Social Support	N	$\overline{X}$	SD	Df	t	Sig
High	281	23.11	3.23			
Low	95	36.58	4.66	374	-4.524	.012

 $\overline{X}$  = Mean; **SD** = Standard deviation; **N** = Number of participants

The result indicates that perceived social support had significant influence on suicidal ideation among post graduate students t(376) = -4.524, p < .05). The finding from this study suggests that graduate students who reported low perceived social support scored significantly higher ( $\overline{XX}$ =36.58) on suicidal ideation than post graduate students who reported high perceived social support  $\overline{XX}$ =23.11). The hypothesis is

therefore confirmed and accepted in this study.

## **Hypothesis Two**

Hypothesis two stated that male post graduate students will significantly report higher suicidal ideation than their female counterpart. This hypothesis was tested using t-test for independent samples and the results are presented in Table 3.

Contemporary Journal of Applied Psychology (CJAP) Vol.7, No.1, 2022

**Table 3:** Summary of T-Test showing gender influence on suicidal ideation

Gender	N		SD	Df	t	Sig
Male	175	1.806	.862			
Female	201	1.735	.845	374	.132	.008

X = Mean; SD = Standard deviation; N = Number of participants

The results in Table 3 showed that there was a significant gender difference in suicide ideation between Male=N=175 (M=1.8,SD=.86) compared to Females N= 201 (M=1.7, SD=.84) t(374)=.13,, p=.008. Although the difference between the males and females was significant, further analysis of the test of homogeneity indicated that the variances were not equal.

## This is basis to view results with caution.

# Hypothesis 3

This stated that age, marital status, employment status, and religion will jointly and independently predict suicidal ideation among post graduate students at University of Lagos. It was tested using multiple regression analysis. The result is presented in Table 4

**Table 4** *Multiple Regression showing the influence of age, marital status, employment status and religion on suicidal ideation* 

Predictor		t-value	Sig	R	$\mathbb{R}^2$	F	Sig.
Age	.232	3.608	<.05				
Marital Status	0.073	-1.525	>.05				
Employment Status	0.158	5.562	<.05	.760	.578	5.249	<.05
Religion	-0.106	4.981	<.05				

As shown in Table 4, age, marital status, Employment Status, and religion jointly predicted suicidal ideation among graduate students at University of Lagos {R=.760, R² = .578, F = 5.249; p <.05}. This result implies that demographic variables jointly accounted for 57.8% variance in suicidal ideation among post graduate students. Further, the results showed that only age, Employment Status, and religion had significant independent influence on suicidal ideation among post graduate students at p<.05.

## Discussion

This research explored the relationship between one's perception of social support and its influence on suicidal ideation. In view of the construct under study, a general assessment of the result showed that there is a correlation between perceived social support, gender, demographic characteristics, and suicidal ideation, thus supporting the hypothesis. These results showed that elevated level of social support resulted in lower levels of suicidal ideation. Therefore, students that perceived that they had a dedicated support system had less levels of suicidal thoughts. Likewise,

results shows that demographic characteristics such as gender, marital status, employment status, religion all influenced the levels of suicidal ideation in one way or another. It was interesting to note that married students reported suicidal ideation than the single students although they are of a small population here. Other things of interest were that religious could have a relationship with suicide ideation though that was not the subject of this research.

Based on the construct being studied, the overall framework and the results of this study can be interpreted within the Interpersonal-Psychological Theory of Suicide which was developed in 2005 to explain the phenomenon of suicide. Although the theory is relatively new, it has become widely studied in the suicide field (Cole et al., 2013; Christensen et al., 2014). The theory consists of three distinct constructs. These constructs include perceived burdensomeness (perceptions of being a burden on others), thwarted belongingness (feelings of not belonging and disconnectedness), and the acquired capability for self-harm (the ability to

engage in suicidal behavior (Joiner, 2005).

Conner et al., (2007) found that higher levels of belongingness were associated with a lower probability of attempting suicide in a sample of 137 patients at a hospital. The finding of belongingness being associated with suicidality has also been observed in African-Americans (Fitzpatrick et al., 2008). Together, feelings of not belonging with perceptions of being a burden, places an individual at an increased risk of suicide. Together, perceived burdensomeness and thwarted belongingness create the desire to die. This study confirms the previous research which supported Joiner's theory that perceptions of low belongingness are associated with a desire for suicide. Thwarted belongingness significantly predicted suicidal ideation in a sample of 309 college students and mediated the relationship between academic semesters and suicidal ideation (Van Orden et al., 2008).

This theory is relevant to this study as its focus is on students' perception about their relevance to their physical and social environment such as the family and society at large, however, a student may feel they belong to a group of people but may still perceive that they are a burden to that group including family and friends especially if they are unable to perform some basic social responsibilities that is expected of them. This negative perception of being a liability to their family, friends or the society may predispose them to suicidal ideation with the perception that by taking their own life, they will be relieving this burden from people, thus confirming the assumption that the perception of their social support system has an influence on the probability of suicidal ideation occurring.

On Social support, according to the Buffer Theory which is one of the earliest theories of social support, throws more light on the impact of social support as it protects an individual and acts as buffer to environmental stresses like death and loss of loved ones. A good social support network of family and friends is a good coping technique to fall back on when life's turmoil happens. Having someone to soften the hurts and pains of life's challenges is apt in nursing individuals back to normal

functioning and stability. The logic behind the buffer theory is that a strong support group tends to buffer or protect one from the harshest effects of stress and life challenges and soften the blow if/when individuals get knocked over. Support groups act as sounding boards, conversation partners, and people who simply show up because one needs a shoulder to cry on.

Buffer theory of social support empirically supports the present study as most students belong to a group in school and in their communities, this group could be religious According to the theory, belonging to a group, creates a bond between individuals that unite and attaches them and prevents negative feelings from occurring. This bond creates a consistent distribution of ideas and feelings that are mutually shared between individuals of the group. The bond also includes a collective moral support and leads to sharing energy and support. Belonging to a group is thought to serve as a buffer of suicide because a students will put the interest of other group members, before their own selfish interest of self-harm. The students may not want to break the bond that unites him or herself with others, which

prevent feelings of their own troubles. However, if this social group is weakened or nonexistent, then students will depend solely on his or her self. This withdrawal can lead to thoughts that there is no reason to endure the suffering in one's life. This excessive individualism, lack the love, support, and sharing seen in social groups, may lead to a detachment from society. Therefore, a student with excessive individualism can have thoughts that their "efforts will finally end in nothingness" and would then lead to the loss of courage to live and may lead to suicidal ideation.

On the varying levels reported due to gender, the study showed that male post graduate students reported higher levels that their female counterpart in University of Lagos. This result with focal group in University of Lagos, Nigeria, West Africa is consistent with previous research done in the US which reported that of the suicidal cases reported in the 10 to 24 age group in the U.S., 84% of the deaths were males and 16% were females. Suicide affects all youth, but some groups are at higher risk than others. Boys are more likely than girls to die from suicide. This gender paradox is

most pronounced in industrialized, Englishspeaking countries such as Australia, Canada, Great Britain, New Zealand, and the U.S.

Although, this study result deviates from a previous research report that states that globally, girls and women have higher rates of suicidal ideation and behavior, but lower rates of suicide mortality than boys (Canetto, 2008). It was reported that females attempt suicide approximately two to three times as often as males during their lifetime (Krug et al 2002), but males account for 79.4% of all U.S. suicides (CDC, 2008). In 2007, 18.7% of females and 10.3% of males in grades 9-12 in the U.S. seriously considered suicide in the previous 12 months, and 9.3% of females and 4.6% of males reported attempting suicide at least once in the past 12 months (Eaton et al., 2008). If female adolescents do commit suicide, they tend to use less violent means than males (Epstein and Spirito, 2010). Grunbaum et al. (2004) analyzed data from the 2003 Youth Risk Behavior Survey (YRBS) and found that 12.8% of males and 21.3% of females had seriously considered suicide in the past 12 months.

Epstein and Spirito (2010) examined gender differences in risk factors associated with suicidal ideation and suicide attempts. The major risk factors examined were substance use, aggression and victimization, and risky sexual behavior using data from the 2005 Youth Risk Behavior Surveillance. The results of the current study demonstrated both genderspecific and gender-neutral risk factors for various risk factors of suicidality among graduate students. Early onset drinking can be associated with considering suicide and planning a suicide attempt for girls only, while it was a risk factor for both males and females for suicide attempts. Other drug use (sniffing glue, injecting drugs) showed associations with all types of suicidalities across gender. Carrying a weapon and fighting (in school for boys and outside of school for girls) were consistently related to suicidal ideation and attempts.

The majority of young people who are involved in suicidal behaviors have been diagnosed with a psychiatric disorder, such as depression or alcohol/substance abuse (Juan et al., 2011). Findings in this study were consistent with this finding. Clinical research and literature have shown that risk factors for suicidal behavior differ across gender in adolescent psychiatric populations (Gould et al., 2003). The research on gender differences for suicidality showed suicide prevention programs should takes into account risk factors related to suicidality for both genders as observed in the current study.

The sampling technique used which is convenience sampling due to the pandemic and limited access to the study population, which became a constraint in the distribution of questionnaire. Besides, only graduate students available in the different departmental groups online that had access to internet as at the time of the study as this may have influenced the outcome of the study and it did not cover a fairly representative sample of graduate students in University of Lagos. Apart from that the sample size was not sufficient to make an effective generalization for the total population of postgraduate students in University of Lagos, Nigeria, West Africa.

# **Contributions of the Study**

This research study threw more light on factors that influence suicidal ideation among students and the results can assist mental health policy makers, counsellors, lecturers, and the higher institutions in the country strategize on ways to improve mental health awareness and advocacy with focus on reducing the occurrences of suicidal acts. This study provided insights for the need for rehabilitation and reviewing of structures in schools and churches and workplace that can negatively influence the mental health status of students in order to provide the proper support system while enlightening the public on empathy and being mentally aware.

Further studies on how religion influences our mental health should be further explored. In addition, we should further examine how our belief system and spirituality predicts suicidal ideation and incorporating mental health awareness among religious organizations in the country in terms of direction for further research.

## References

- Adewuya, A.O., Oladipo, E.O. (2020). Prevalence and associated factors for suicidal behaviours (ideation, planning, and attempt) among high school adolescents in Lagos, Nigeria. *Eur Child Adolesc Psychiatry* **29**, 1503–1512. https://doi.org/10.1007/s00787-019-01462
- Arria, A.M.; O'Grady, K.E.; Caldeira, K.M.; Vincent, K.B.; Wilcox, H.C.; Wish, E.D. (2009). Suicide ideation among college students: A multivariate analysis. *Arch. Suicide Res.* 13, 230–246.
- Baumeister, R.F. & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation.

  \*Psychological Bulletin, 117(3), 497-592. doi: 10.1037/0033-2909.117.3.497
- Brownson, R.C., Hoehner, C.M., Day, K., Forsyth, A., & Sallis, J.F. (2009). Measuring the built environment for physical activity: state of the science. *American journal of preventive medicine*, 364 Suppl, S99-123.e12.
- Brezo, J., Paris, J., & Turecki, G. (2006).

- Personality traits as correlates of suicidal ideation, suicide attempts, and suicide completions: a systematic review. *Acta Psychiatrica Scandinavica*, 113(3), 180–206. d o i : 1 0 . 1 1 1 1 / j . 1 6 0 0 0447.2005.00702.x
- Bridge, J. A., Goldstein, T. R., & Brent, D. A. (2006). Adolescent suicide and suicidal behavior. *Journal of Child Psychology and Psychiatry*, 47(3-4), 372–394. doi:10.1111/j.1469-7610.2006.01615.x
- Canetto, S.S. (1993). She Died for Love and He for Glory: Gender Myths of Suicidal Behavior. *OMEGA Journal of Death and Dying, 26*, 1 17.
- Christensen, H., Batterham, P.J., Mackinnon, A.J., Donker, T., &Soubelet, A. (2014). Predictors of the risk factors for suicide identified by the interpersonal-psychological theory of suicidal behaviour. *Psychiatry Research*, 219, 290-297.
- Chung, M.-L., Forstner, A. J., Mücke, M., Geiser, F., Schumacher, J., & Conrad, R. (2022). Predictors of suicidal ideation in social anxiety disorder –

- evidence for the validity of the Interpersonal *Theory of Suicide*. *Journal of Affective Disorders, 298,* 400–407. doi:10.1016/j.jad. 2021.11.017
- Cobb, S. (1976). Social support as a moderator of life stress.

  \*Psychosomatic Medicine\*, 38(5), 300-314.
- Cole, A. B., Slish, M. L., Tucker, R. P., Hollingsworth, D. W., O'Keefe, V. M., & Wingate, L. R. (2013). Burdensomeness, depression, and suicide in an American Indian sample. *Ethnicity and Inequalities in Health and Social Care*, 6(2/3), 77-86.
- Epstein, J.A., & Spirito, A. (2010). Gender-Specific Risk Factors for Suicidality Among High School Students. *Archives of Suicide Research*, 14, 193-205.
- Fergusson, D. M., Beautrais, A. L., and Horwood, L. J. (2003). Vulnerability and resiliency to suicidal behaviours in young people. *Psychological Medicine*, 33, 61–73. doi:10.1017/S0033291702006748.
- Fitzpatrick, K.M., Piko, B.F., & Miller, E.

- (2008). Suicide ideation and attempts among low-income African American adolescents. Suicide & lifethreatening behavior, 385,552-63.
- Garlow, S. J., Rosenberg, J., Moore, J. D., Haas, A. P., Koestner, B., Hendin, H., & Nemeroff, C. B. (2008). Depression, desperation, and suicidal ideation in college students: results from the American Foundation for Suicide Prevention College Screening Project at Emory University. *Depression and Anxiety*, 25(6), 482–488. doi:10.1002/da.20321
- Gould, M. S., Greenberg, T., Velting, D., & Shaffer, D. (2003). Youth suicide risk and preventive interventions: A review of the past 10 years. *Journal of American Academic and Child Adolescent Psychiatry* 42, 386-405.
- Grunbaum, J.A., Kann, L., Kinchen, S., Ross, J., Hawkins, J., Lowry, R., Harris, W.A., Mcmanus, T., Chyen, D., & Collins, J.L. (2004). Youth risk behavior surveillance--United States, 2003. *Morbidity and mortality weekly report. Surveillance summaries, 53 2*, 1-96.

- Handley, T. E., Inder, K. J., Kelly, B. J., Attia, J. R., Lewin, T. J., Fitzgerald, M. N., & Kay Lambkin, F. J. (2012). You've got to have friends: The predictive value of social integration and support in suicidal ideation among rural communities. *Social Psychiatry and Psychiatric Epidemiology*, 47(8), 1281-1290.
- Hirsch, J. K., & Barton, A. L. (2011). Positive social support, negative social exchanges, and suicidal behavior in college students. *Journal Of American College Health*, *59(5)*, 393-398. doi:10.1080/07448481. 2010.515635
- Johnson, M. (2009). Community college students' perception of stress. *Journal of Biology of Exercise*, 5(1), 15-28. <a href="https://doi.org/10.4127/jbe.2009.002">https://doi.org/10.4127/jbe.2009.002</a>
- Joiner, T. E. (2005). Why people die by suicide. Harvard University Press
- Joiner, T.E., Van Orden, K.A., Witte, T.K., Selby, E.A., Ribeiro, J.D., Lewis, R., & Rudd, M.D. (2009). Main predictions of the interpersonal-psychological theory of suicidal behavior: empirical tests in two

- samples of young adults. *Journal of abnormal psychology, 118 3*, 634-646.
- Juan, A.A., Steegmann, C., Huertas, A., Jesús Martínez, M., & Simosa, J. (2011). Teaching mathematics online in the European Area of Higher Education: an instructor's point of view. International Journal of Mathematical Education in Science and Technology, 42, 141-153.
- Krug, E.G., Mercy, J.A., Dahlberg, L.L., & Zwi, A.B. (2002). [World report on violence and health]. *Biomedica:* revista del Instituto Nacional de Salud, 22 Suppl 2, 327-36.
- Kaplan, H. I., Sadock, B. J. & Grebb, J. A. (1994). Kaplan and Sadock's Synopsis of Psychiatry: Behavioural Science's Clinical Psychiatry, 19(6), 56-78.
- Kelsall, H. L., McKenzie, D. P., Forbes, A. B., Roberts, M. H., Urquhart, D. M., & Sim, M. R. (2014). Pain-related musculoskeletal disorders, psychological comorbidity, and the relationship with physical and mental well-being in Gulf War veterans. *Pain*, 155(4), 685-692.

- https://doi.org/10.1016/j.pain.2013.1 2.025
- Kleiman, E.M., & Liu, R.T. (2013). Social support as a protective factor in suicide: findings from two nationally representative samples. *Journal of affective disorders*, 150 2, 540-5.
- Kleiman, E. M., Riskind, J. H., Schaefer, K.
  E., & Weingarden, H. (2012). The moderating role of social support on the relationship between impulsivity and suicide risk. Crisis: *The Journal of Crisis Intervention and Suicide Prevention*, 33(5), 273-279. doi:10.1027/0227-5910/a000136
- Klonsky, E. D., May, A. M., & Saffer, B. Y. (2016). Suicide, Suicide Attempts, and Suicidal Ideation. *Annual Review of Clinical Psychology*, 12(1), 307–330. doi:10.1146/annurev-clinpsy-021815-093204Lincoln,
- K.D., Taylor, R.J., & Chatters, L.M. (2013).
  Correlates of Emotional Support and Negative Interaction Among African Americans and Caribbean Blacks.
  Journal of Family Issues, 34, 1262 1290.
- Moody, C., & Smith, N.G. (2013). Suicide Protective Factors Among Trans

- Adults. *Archives of Sexual Behavior,* 42,739-752.
- Oladele, A. O., & Oladele, I. T. (2016).

  Depression and Suicidal Ideation among College Students with and without Learning Disabilities in Nigeria. *The European Journal of Social & Behavioural Sciences*, 16(2), 138–153. doi:10.15405/ejsbs.187
- Omigbodun, O., Dogra, N., Esan, O., & Adedokun, B. (2008). Prevalence and Correlates of Suicidal Behaviour Among Adolescents in Southwest Nigeria. *International Journal of Social Psychiatry*, 54(1), 34–46. doi:10.1177/0020764007078360
- Oyefeso, A.O., Clancy, C., & Farmer, R. (2008). Prevalence and associated factors in burnout and psychological morbidity among substance misuse professionals. *BMC Health Services Research*, 8, 39 39.
- Paladino, A. (2008). Creating an Interactive and Responsive Teaching Environment to Inspire Learning.

  Journal of Marketing Education, 30(3), 185–188. doi:10.1177/027347 5308318075

- Pienaar, J., Rothmann, S., & van de Vijver, F. J. R. (2007). Occupational Stress, Personality Traits, Coping Strategies, and Suicide Ideation in the South African Police Service. *Criminal Justice and Behavior*, 34(2), 246–258. doi:10.1177/00938 54806288708
- Reynolds, W.M. (1991). Psychometric characteristics of the Adult Suicidal Ideation Questionnaire in college students. *Journal of personality assessment*, 562,289-307.
- Rizk, M. M., Galfalvy, H., Singh, T., Keilp, J. G., Sublette, M. E., Oquendo, M. A., ... Stanley, B. (2018). Toward subtyping of suicidality: Brief suicidal ideation is associated with greater stress response. *Journal of Affective Disorders*, 230, 87–92. doi:10.1016/j.jad.2018.01.012
- Stone, D.M., Holland, K.M., Bartholow, B., Crosby, A.E., Davis, S., and Wilkins, N. (2017). *Preventing Suicide: A Technical Package of Policies, Programs, and Practices.* Atlanta,

- GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
- Van Spijker, B.A.J., Batterham, P.J., Calear, A.L., Farrer, L., Christensen, H., Reynolds, J. & Kerkhof, A.J.F.M. (2014). The Suicidal Ideation Attributes Scale (SIDAS): Community-based validation study of a new scale for the measurement of suicidal ideation. Suicide andLife-Threatening Behaviour, 44(4), 408-419
- Wilcox, H.C., Arria, A.M., Caldeira, K.M., Vincent, K.B., Pinchevsky, G.M., & O'grady, K.E. (2010). Prevalence and predictors of persistent suicide ideation, plans, and attempts during college. *Journal of affective disorders*, 127 1-3, 287-94.
- Zimet, G.D., Powell, S.S., Farley, G.K., Werkman, S.L., & Berkoff, K. (1990). Psychometric characteristics of the Multidimensional Scale of Perceived Social Support. *Journal of personality assessment, 55 3-4*, 610-7