

**JOURNAL OF PSYCHOLOGY AND  
ALLIED DISCIPLINES (JPAD)**

*A PUBLICATION OF THE  
DEPARTMENT OF PSYCHOLOGY  
Alex Ekwueme Federal University,  
Ndufu-Alike*

**ISSN No Print: 2992 - 524X**  
**ISSN No Online: 2992 - 5258**

## Social Media Addiction Moderates the Relationship between Interpersonal Isolation and Suicidal Ideation among Undergraduates

Chidozie E. Nwafor . Paschal C. Ugwu . Chukwuemeka A. F. Okoye . Bede E. Ofoma  
Department of Psychology, Nnamdi Azikiwe University, Awka, Nigeria

Received: 8 March 2023 / Accepted: 5 May 2023

© The Author(s) 2023

### Abstract

The objectives of this study are to examine the relationship between interpersonal isolation and suicidal ideation and to ascertain whether social media addiction moderates this relationship. 302 undergraduate students of Nnamdi Azikiwe University, Awka, Nigeria participated in the study. Their gender comprised of boys (133, 44%) and girls (159, 56%) and their ages ranged from 19 to 27, Mean age 20.71 and Standard Deviation of 1.53. The data were analyzed with Moderated multiple regression. The results indicate that interpersonal isolation positively and significantly predicted suicidal ideation, but social media addiction did not predict suicidal ideation. However, social media addiction moderated the relationship between interpersonal isolation and suicide ideation. As more youths seemed to prefer cyber community provided by social media as an escape from their daily challenges, it is evidenced that such move may likely compound their existing problems if they do not seek appropriate help.

Keywords: *Social media addiction, Interpersonal Isolation, Suicidal Ideation, Moderation.*

---

Paschal C. Ugwu (*Corresponding author*)  
[pc.ugwu@unizik.edu.ng](mailto:pc.ugwu@unizik.edu.ng)

Department of Psychology,  
Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

## **Introduction**

Psychosocial model of human development assumed that youths are within different stages of transition window (e.g. adolescents and early adults), which may be characterized by identity, role confusion, intimacy and isolation (Arun et al., 2017; Orenstein & Lewis, 2020). As the youths bear the brunt of these psychosocial processes within their social, economic, and academic environments, they may experience or manifest some psychological symptoms: suicide ideation, interpersonal isolation, depression and anxiety (Hou et al., 2019; Marino et al., 2018), which may interfere with their daily routines. The scope of this study is limited to suicide ideation, interpersonal isolation and the role of social media addiction.

Globally, suicide is the second highest cause of death with 10.5 percent of every 100,000 population annually (Varnik, 2012; WHO, 2019). In Nigeria, the reported number of suicide is on the increase (Daily Trust, 2019) especially among undergraduate students. Among the 46 reported suicide incidences in Nigeria in 2019, 36 of the victims were undergraduate students (Daily Trust, 2019). Incidentally, many may have happened unreported due to the cultural perception of suicide as a taboo in Africa.

### *Suicide Ideation*

Suicide ideation specifically entails thinking about, considering or planning how to kill oneself (Joiner, 2009; Klonsky, et al., 2016) and the prevalence had increased geometrically in recent times (World Population Review, 2021). Scholars (Esfahani, et al., 2015; Miller, 2018; Ogunleye, et al., 2019) agreed that suicidal ideation may be conceptualized as recurring, ruminating, destructive and debilitating thoughts about self harm. It is also evidence that suicidal ideation may potentiate actual suicide (Esfahani, et al., 2015; Institute of Medicine, 2002; Miller, 2018) thus must be managed with intense care. Studies have suggested that the suicide rate in US is reported to be well over 35% from 1999 to 2018, while China reported 9.7 and UK reported over 8.9%. Unfortunately most of the African countries do not have strong data base for annual suicide report. However, available evidence shows that South Africa in 2019 reported suicide rate of 11.6% and Nigeria reported suicide rate of 9.5% (World Population Review). These data are not negligible considering adverse consequences of suicidal ideation including depression, suicide, anxiety, anti social behaviour, poor academic performance, dropout from school and relationship problems (Liu & Miller, 2020; Miller, 2018; Okwaraji, et al., 2016). Given the numerous negative consequences of suicidal ideation, it is pertinent to explore some of the risk factors that can potentiate the symptoms of suicidal ideation among youths especially the undergraduates. While many risks factors may be involved, the present study will limit its scope to two of the trending variables among undergraduates in this country: interpersonal isolation and social media addiction.

In Nigeria, there is increase in undergraduate engagement in suicide recently. Between January 2019 and June 2019, a total of 46 people died of suicide and undergraduates among them were 35 (Daily Trust, June 23rd 2019). The trend has been on the increase and such development is dangerous given its consequences on the family of deceased, friends and colleagues. According to Okafor (2020) increasing suicide behaviour among Nigerian undergraduates has multiple social determinants that required urgent attentions. Worryingly, the cultural protective factors such as family cohesion and living together are severed due to the need for an undergraduate to stay in the campus, separate from family members to enable their

concentration on academic work (Adewuya, et al, 2016; Mpayi et al, 2016; Okafor, 2020; Onigbodun, et al., 2008).

The choice of these two variables are obvious first, the Nigeria society is quickly transforming from a collectivist society to an individualistic society (Okafor, 2020), where most students try to limit their interaction with the university community and prefer cyber community, which is made available through different social media platforms (Adewuya, et al, 2016; Mpayi, et al 2016). Second, studies in the past have related interpersonal isolation with suicidal ideation (Asante, et al., 2017; Chang et al 2017; Lagaard, et al., 2011; Okwaraji, et al., 2016; Ponzetti, 1990; Srivastava & Agarwal, 2014). However, none has explored how this variable may interact with the trending social media addiction to predict suicidal ideation.

### *Interpersonal Isolation*

Interpersonal isolation is conceptualized as the distressing experience that occurs when one's social relationship is perceived to be less than expected (Helm, 2019). Interpersonal isolation does not only connote being alone but a strong feeling of loneliness and alienation from close confidants. Ponzetti (1990) inferred that interpersonal isolation is a product of intrapersonal conflict emanating from an individual's belief system and existing social group ideology, which creates psychological distressing situation. Unfortunately, the phenomenon is gaining traction among youths, hence requires urgent psychological intervention (Yavich, et al., 2019). Interpersonal isolation is an awful experience that may breed bad ideas and actions. The consequences of the feeling may result in suicide ideation. With the turbulence of youth transition, interpersonal relation crises emanates; once a happy and sociable person dramatically becomes depressed and withdrawn (Orenstein & Lewis, 2020). The emotional swing that occurs during this developmental transition largely depends on the harmony of the person's ecological system (Bronfrenbrenner, 1979; Kulaksizoglu, 2001). Yet individuals who are experiencing interpersonal isolation withdrew from such important harmonizing factor.

The psychological distressing situation emanating from loneliness that characterizes interpersonal isolation exposes youths to negative psychological symptoms. While some may adopt appropriate steps to salvaging themselves from the shackles of symptoms, others may engage in other self-defeating behaviors such as: drug abuse, counter-productive behavior and suicide ideation (Abdul-Salam & Manjula, 2011). The consequences of interpersonal isolation are numerous and may include: inability to maintain friend relationship, poor family relationship, low self-esteem, drug use/abuse, poor performance in academic and other chosen career (Gursory & Bicakci, 2006; Ponzetti, 1990; Srivastava & Agrwal, 2014; Woodward & Kalyan-Mashi, 1990). Given that these consequences include factors which can devalue an individual's self and gradual lead to loss of meaning to life, the present study assumed that it could as well predict suicidal ideation

### *Social Media Addiction*

Social media addiction is the tendency of an individual to overly engage and depend on social media activities using different platforms or a platform to an extent that such engagement consistently disrupt, hinder or interfere with an individual daily routine and affect the person's physical and mental health. Social media addiction has been described by different authors as excessive and irrational use of the social media to a point that it starts affecting other aspects of daily life of such individual such as: emotional, relational, health, attention, information

processing, concentration and performance problems (Griffiths, 2012; Hou, et al., 2019; Marino, et al., 2018). Social media is a contemporary vehicle that drives the human needs to relate with others, pass messages, share pictures, videos and showcase self. People have inherent need to relate and socialize.

With the innate need to socialize with others, people now constantly surf the social media networks to satisfy the urge (Wang, 2013). The debilitating craving to use social media may make people to neglect those in their physical environment and depend on social media world. This may cause manifestation of awful behavior that leads to relational problems. Other likely consequences of over dependence on virtual friends are social withdrawal and interpersonal isolation. Some adolescents and young adults manifest sense of failure due to their inability to accurately ascertain that people tend to expose both fake and real lifestyles on the social media. Others only post positive sides of their life hence, compound negative feeling and critical self evaluation (Kim, 2009; Piaget, 1964). The feeling of failure may degenerate to suicide ideation (Joiner, 2009).

#### *Interpersonal Isolation and Social Media Addiction*

Interpersonal psychological theory (Joiner, 2009) assumed that some psychological states such as perceived burdensomeness, sense of low belongingness or social alienation and acquired behaviour (e.g. social media addiction) and disposition factors were responsible for youths' suicide ideation. What is not clear is how these factors interact to predict suicidal ideation. While interpersonal isolation is in itself expected to have negative impact on human positive outcomes (e.g. academic performance, peer relationship, personal adjustment, subjective wellbeing) (London & Ingram, 2018; Tu & Zhang, 2014) and increase the possibilities of negative outcomes (e.g. suicidal ideation, anxiety, depression,) (Aboalshamat et al, 2018; Asante et al, 2017; Chang et al, 2017; Pervin & Ferdowshi, 2016). The same cannot be said of social media addiction. This is because the impact of social media addition usually depends on the content (Hou, et al., 2019). However the emphasis is not usually on the content but on the amount of time, obsessive and compulsive symptoms that may propel the increased craving for the desired activities. One school of thought may argue that spending time in social media will engage an individual and is a coping mechanism thus it can reduce loneliness and should reduce suicidal ideation too.

#### *Social Media and Suicidal Ideation*

Experiences in social media may have substantial influence on mental health of students especially those living outside home. Social media offer variety of information with both positive and negative contents (Gini, et al., 2018). The influence of social media in behavior and cognition is far-reaching due to unfettered access to various forms of contents graphic pictures of suicide incidents, suicide videos and suicide related narratives (Hou, et al., 2019). Social media contents are not regulated in Nigeria, hence may lead to undue exposure of undergraduates to pro-suicidal behaviour (Popoola, et al., 2020). Repeated exposure of an individual especially adolescent and early adult in suicide related contents (procedure of committing suicide, factors responsible for the action and supportive commentaries about suicide) is capable of enhancing suicide attempts (Biddle, et al., 2008; Luxton, et al., 2012; Recupero, et al., 2008). Apart from exposure to suicide related contents, an undergraduate may experience cyber-bullying, social

comparison, body shaming and other negative evaluation in the social media, which may affect self-worth and induce negative behaviours such as: anxiety, depression, withdrawal and suicidal ideation or attempts (Anke, 2016; Jesse, 2020). Research findings have shown that social media facilitate suicide behavioural contagion (the tendency of people in a particular group to attempt a behaviour quickly and spontaneously) among youths below 25 years of age (Dunlop, et al., 2011; Luxton, et al., 2012). However, despite the negative impact of social media on suicide behaviour, some findings have revealed its protective capacity (Eichenberg, 2008; Robinson, et al., 2015). Sandler (2009) maintained that social media relieves people from some negative emotions such loneliness, anxiety and depression.

### ***Goal of the Study***

From the review, there have not been moderated studies using social media addiction on relationship between interpersonal isolation and suicide ideation, a gap the current study intended to fill. Also, the exponential rise in suicide in Nigeria deserved empirical explanations. Owing to this, the current study will answer the following research questions:

- a. Will social media addiction significantly predict suicide ideation?
- b. Will interpersonal isolation significantly predict suicide ideation?
- c. Will there be significant moderation effect of social media on relationship between interpersonal isolation and suicide ideation?

To answer the questions, the researchers tested the following hypotheses:

H1. Social media addiction will be a significant predictor of suicide ideation.

H2. Interpersonal isolation will be a significant predictor of suicide ideation

H3. There will be significant moderation effect of social media on relationship between interpersonal isolation and suicide ideation.

## **Method**

### ***Participants and Setting***

Three hundred and two (N = 302) undergraduates of Nnamdi Azikiwe University, Awka, Anambra State Nigeria participated in the study. They comprised of boys (133, 44%) and girls (159, 56%) whose ages ranged from 19 to 27 with mean age of 20.71 and standard deviation of 1.53. They were selected from three faculties of Awka campus. All the students selected live in the campus were in year one. The rationale for selecting year one students was the believe that their relocation from home to campus may create some social and emotional gap among them.

### ***Measuring Instruments***

#### ***Demographic Information***

The students reported their age, gender and equally completed Modified Suicide Ideation Scale (Miller, et al., 1991), University of California, Los Angeles (UCLA) Loneliness Scale (Russell, et al., 1978) and Social Media Addiction Scale - Student Form (Sahin, 2018). The questionnaires were administered in English language.

### *Modified Suicide Ideation Scale*

The scale was developed by Miller, et al., (1991). It has nineteen (19) items with four point rating format in which; 0 = none, 1 = weak and 2 = moderate, 3 = strong. Four items (1, 3, 6, & 10) were reversed. The developers of the scale established Cronbach alpha at .75, however, current study found Cronbach alpha of .88. Some samples of items in the scale include: Over the past day or two have you thought about wanting to die?, Over the past day or two have you thought that you want to live?, and Over the last day or two have you noticed yourself talking about death more than usual?

### *University of California, Los Angeles (UCLA) Loneliness Scale*

It was developed by Russell, et al., (1978). It has twenty (20) items with four point rating format ranging from 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often. Nine items (1, 4, 5, 6, 9, 10, 16, 19, & 20) were scored in reverse pattern. The developers of the scale reported Cronbach alpha of .80 but the pilot study conducted in the current study found Cronbach alpha of .78. Some sample items of UCLA loneliness scale are as follows: I lack companionship. There is no one I can turn to. I am no longer close to anyone.

### *Social Media Addiction Scale – Student Form*

It was developed by Sahin (2018). The scale has twenty nine (29) items that measure social media addiction. It has five-point rating format such as: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree Nor Disagree, 4 = Agree, 5 = Strongly Disagree. The developer of the scale reported Cronbach alpha of .93, however, Cronbach alpha of .95 was found in the present study.

### ***Procedure***

The approval for the study was obtained from research ethics review board of Nnamdi Azikiwe University, Awka, after a detailed research proposal was sent to the board for review and approval. Newly admitted students (first year) were selected after their lectures of the day. The reason for the selection of newly admitted undergraduates was that some of them will be leaving home to live in the campus for the first time in their lives. Some adolescents do experience negative emotions (isolation, suicide ideation, anxiety, depression, reliance on social media) leaving home to go stay alone for the first time (Engels et al., 2019). The researchers explained the study to them; those that filled consent form were issued with the questionnaires. A total of 305 copies of the questionnaires were distributed, 302 were properly filled and returned. The duration for the study was 10 minutes.

### **Results**

The data was analyzed utilizing Statistical Package for Social Sciences (SPSS) version 22 while the design of the study was correlation survey design and moderated multiple regressions was used for analyses of the result.

Table 1, Descriptive and Pearson Product Moment Correlation Coefficient

| <i>Factors</i> | <i>M</i> | <i>SD</i> | <i>Skeewness</i> | <i>Kurtosis</i> | <i>1</i> | <i>2</i> | <i>3</i> |
|----------------|----------|-----------|------------------|-----------------|----------|----------|----------|
| 1. Suicide     | 7.42     | 5.18      | 1.18             | 1.01            | 1        |          |          |
| 2. Inter Isol  | 45.77    | 9.54      | .53              | .57             | .27**    | 1        |          |
| 3. Soc Med     | 80.70    | 17.64     | .02              | .80             | .049     | .32**    | 1        |

$P > .002^{**}$

The Table 1 showed the mean scores, standard deviation, skewness, kurtosis and correlation coefficient of suicide ideation, interpersonal isolation and social media addiction. The result showed significant correlation between suicidal ideation and interpersonal relationship  $r = .27$ ,  $P > .001$ . However, there was no significant relationship between suicidal ideation and social media addiction  $r = .049$ ,  $P < .005$ . There was significant relationship between interpersonal isolation and social media addiction  $r = .32$ ,  $P > .002$ .

Table 2, Social Media Addiction moderates the relationship between Interpersonal Isolation and Suicidal Ideation among Undergraduates

| <b>Predictors</b>          | <b><math>R^2</math></b> | <b><math>df1(df2)</math></b> | <b><math>F</math></b> | <b><math>Estimate</math></b> | <b><math>Std\ error</math></b> | <b><math>t</math></b> | <b><math>LCCI</math></b> | <b><math>ULCI</math></b> |
|----------------------------|-------------------------|------------------------------|-----------------------|------------------------------|--------------------------------|-----------------------|--------------------------|--------------------------|
| Model                      |                         | 3(301)                       | 9.40**                |                              |                                |                       |                          |                          |
|                            | .07                     |                              |                       |                              |                                |                       |                          |                          |
| Interpersonal isolation(A) |                         |                              |                       | 0.17**                       | 0.03                           | 5.14                  | 0.10                     | 0.23                     |
| Social media addiction(B)  |                         |                              |                       | 0.01                         | 0.01                           | .074                  | -.05                     | .02                      |
| A*B                        |                         |                              |                       | .04*                         | 0.001                          | 2.07                  | -0.07                    | -0.02                    |

The Table 2 above showed that interpersonal isolation positively predicted suicidal ideation such that a unit increase in interpersonal isolation significantly led to  $\beta = .17$ ,  $P > .05$  increase in suicidal ideation. Contrarily, a unit increase in social media addiction did not significantly increase the likelihood of suicidal ideation estimate =  $\beta = .001$ ,  $P < .005$ . Further analyses showed that social media addiction moderated the relationship between interpersonal isolation and suicidal ideation such that a unit increase in social media addiction by .04 significantly increase the likelihood that interpersonal isolation will increase suicidal ideation. Figure 1 below illustrates the interaction line.



Figure 1, Interaction graph of social media addiction, interpersonal isolation and suicide ideation.

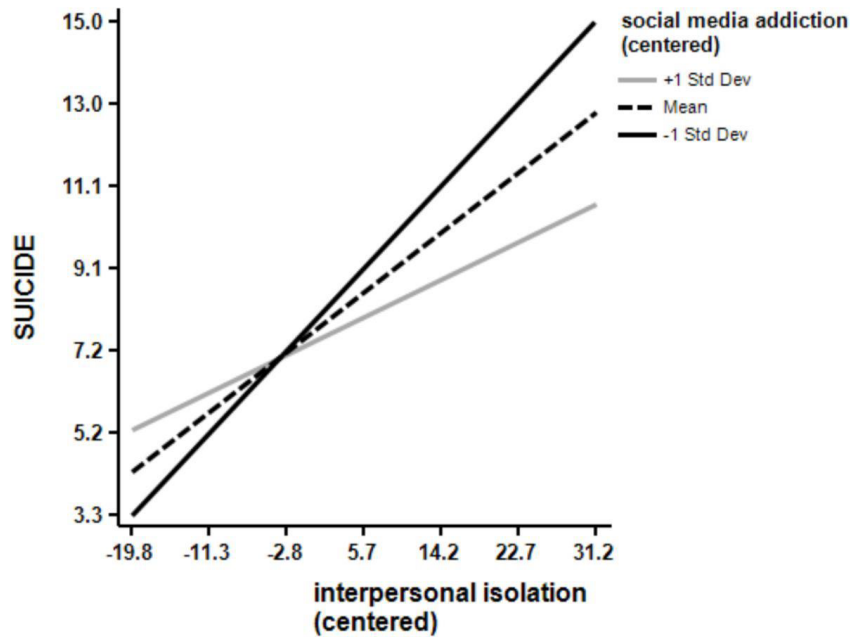


Figure 1 interaction graph of moderation effect of social media addiction (sma) on the relationship between UCLA and suicide.

The values of the simple slopes were significant at +1std,  $=.11$ , mean  $=.17$  and -1std  $=.23$ ,  $p < .01$  respectively.

## Discussion

This study explored the moderating role of social media addiction on the relationship between interpersonal isolation and suicide ideation. The result of the moderated regression showed that while interpersonal isolation positively and significantly predicted suicide ideation, social media addiction did not significantly predict suicide ideation. These outcomes were anticipated by interpersonal psychological theory (Joiner, 2009), which asserted that some psychological states such as perceived burdensomeness, sense of low belongingness or social alienation (example, interpersonal isolation) and acquired behavior (example, social media addiction) and disposition factors were responsible for youths suicide ideation. Accordingly, as interpersonal isolation increases suicide ideation also increases. The findings of previous studies also concur with the fact that interpersonal isolation predicts suicide ideation (Aboalshamat, et al., 2018, Asante et al., 2017, Chang et al., 2017, Pervin & Ferdowshi, 2016)

One interesting finding in this study was that social media addiction significantly moderated the relationship between interpersonal isolation and suicide ideation such that a unit increase in social media addiction significantly increased the likelihood of interpersonal isolation to predict an increase in suicide ideation. This interactive relationship between interpersonal isolation and social media addiction on suicide ideation was rightly assumed in the interpersonal psychological theory of Joiner (2009), which stated that some psychological factors are implicated in suicide ideation. The factors are perceived burdensomeness, sense of low belongingness or social alienation and acquired behaviour and disposition factors. Joiner (2009)

further maintained that interaction of the factors is likely to manifest strong suicide ideation. Some previous studies have found similar results (Yavich, et al., 2019; Coget, et al., 2002; Stankovska, et al., 2016; Karakose et al., 2016). The findings have critical implications.

### ***Implications of the Study on Youths' Well-being***

Different scholars have increasingly recognized the consequences of interpersonal isolation. The feeling of loneliness has been found to cause suicide ideation (Aboalshamat et al, 2018). To stem the tide of suicide ideation caused by loneliness, Programs that expose adolescents to interpersonal relationship should be an integral part of school curriculum. Also, Students should be educated on the importance of positive interpersonal relationship in order to aid effective adjustment of the students. Due to the seriousness of suicide in adolescents' development and wellbeing, government could promulgate laws and policies that will make it compulsory for all students to live in hostels in order to encourage interpersonal relationship. Social media addiction has no role in suicide ideation.

Theoretically, this work has yielded empirical literature that will aid future research in this area of enquiry. Basically, availability of literature is important in research because it shows level of reach and existing gap in knowledge. This literature emanating from Nigeria, where suicide is perceived as a taboo is timely.

### ***Limitation and Future Direction***

Despite the strength and timely nature of this study, it has some limitations: the study was conducted in one university in Nigeria; hence, the results may not be representative of the entire university students in Nigeria. Also, this study did not include personality as a variable of study. Due to the power of personality in behaviour manifestation and adjustment, the researchers recommend that future study in this area of study should include personality, social economic status and resilience. These variables will be helpful in making the findings robust. Also, the findings of this study may not be generalized because students differ significantly from the general population. Another limitation of the study is the study design, where data was collected in one period. However, future studies in this area should utilize longitudinal approach. Other forms of data collection such as observation and use of projective techniques may be used, also.

### **Conclusion**

This study provided further understanding about suicidal ideation and its effect on human development, goal attainment and stable interpersonal relationship on individual functioning. It offered insightful role of social media use and addiction and interpersonal isolation on cognition (suicidal thought). It equally offered utility of interpersonal-psychological theory in explaining suicidal thought and completed suicide. Interpersonal isolation (which results from burdensomeness) has unique relationship with suicidal ideation and social media addiction. The findings of the study did not only add value to existing literature in the worrisome area of suicide but will enhance the practical approaches and techniques to psychologists, educationists, counselors, caregivers, parents, religious leaders, policy makers and community leaders in reducing or at best stopping suicidal ideation, which serves as precursor to completed suicide.

**Disclosure statement**

Authors declare no conflict of interests.

**Funding**

There was no funding from any organization.

**References**

- Abdul-Salam, K.P. & Manjula, M. (2011). Self-defeating behaviour patterns, Clinical Implications. *India Journal of Social Psychiatry* 27 (3-4), 82-88.
- Aboalshamat, K., Salman, W., Almeihan, R., Maghrabi, A., Alamoudi, K., Najjar, A. & Alshehri, A. (2018). *The Relationship between Loneliness and Suicidal Ideation in Private Medical and Dental Students in Jeddah, Saudi Arabia. Journal of International Medicine and Dentistry*, 5(1), 11-19
- Adewuya, A. O., Ola, B. A., Coker, O. A., Atilola, O, Zachariar, M. P., Olugbile, O. & Idris, O. (2016). Prevalence And Associated Factors For Suicidal Ideation In The Lagos State Mental Health Survey, Nigeria. *British Journal of Psychiatry Open*, 2(6), 385- 389.
- Anke, G. (2016). Adolescents Viewing of Suicide Related Web Content and Psychological Problems: Differentiating the Roles of Cyber-bullying Involvement. *Cyber-Psychology, Behaviour, and Social Networking*, 19(8), 502-509.
- Arun, P., Garg, R., & Chavan, B.S. (2017). Stress and suicidal ideation among adolescents having academic difficulty. *Industrial Psychiatry Journal* 26(1), 64–70. doi: 10.4103/ipj.ipj\_5\_17
- Asante, K. O., Kugbey, N., Osafo, J., Quarshie, E. N. & Sarfo, J.O. (2017). The prevalence and correlates of suicidal behaviours (ideation, plan and attempt) among adolescents in senior high schools in Ghana. *SSM Population Health*. 3, 427–434.
- Beck, A. T., Kovacs, M., & Weissman, A. (1979). Assessment of suicidal intention: The Scale for Suicide Ideation. *Journal of Consulting and Clinical Psychology*, 47(2), 343–352
- Biddle, L., Donovan, J., Hawton, K., Kapur, N. & Gunnell, D. (2008). Suicide and the Internet. *British Medical Journal*, 366 (764), 800-812
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Chang, E.C., Wan, L., Li, X., Guo, Y., He, J., Gu, Y., Wang, Y., Li, X., Zhang, Z., Sun, Y., Batterbee, C. N., Chang, O.D., Lucas, A. G., & Hirsch, J .K. (2017). Loneliness and suicidal risk in young adults: does believing in a changeable future help minimize suicidal risk among the lonely? *The Journal of Psychology Interdisciplinary and Applied* 151 (5), 453–463.

- Coget, J.F., Yamuch, Y., & Suman, M. (2002). The internet, social networks and loneliness. *IT & SOCIETY, 1*, (1), 180-201
- Daily Trust (23rd June, 2019). Students top list as 46 Nigerians commit suicide in 6 months. *newspaper*
- Dunlop, S.M., More, E., & Romero, D. (2011). Where do youth learn about suicides on the internet, and what influence does this have on suicide ideation? *Journal of Child and Psychiatry, 52* (10), 1073-1080
- Eichenberge, C. (2008). Internet Message Boards for Suicidal People: A typology of Users. *Cyber-Psychology & Behaviour, 11*(1), 107-113.
- Engels, M. C., Pakarinen, E., Lerkkanen, M-K., & Verschueren, K. (2019). Students' academic and emotional adjustment during the transition from primary to secondary school: A cross-lagged study. *Journal of School Psychology, 76*, 140-158.
- Erikson, E. (1968). *Identity: Youth and crisis*. New York: W. W. Norton & Company
- Esfahani M, Hashemi Y, Alavi K. (2015). Psychometric assessment of beck scale for suicidal ideation (BSSI) in general population in Tehran. *Medical Journal of the Islamic Republic of Iran, 29*(9), 268 - 280.
- Griffiths, M. D. (2012). Facebook addiction: Concerns, criticism, and recommendations: A response to Andreassen and colleagues. *Psychological Reports, 110*, (2) 518–520. <https://doi.org/10.2466/01.07.18.PR0.110.2.518-520>
- Helm, P.J. (2019). Towards a theory of interpersonal isolation: adding existential isolation to the mix. *A dissertation submitted to the Department Psychology, Arizona University.*
- Hou, Y., Xiong, D., Jiang, T., Song, L., & Wang, Q. (2019). Social media addiction: Its impact, mediation, and intervention. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 13*(1),123-141 <http://dx.doi.org/10.5817/CP2019-1-4>
- Hughes, M. E., Waite, L. J., Hawkley, L. C. & Cacioppo, J. T. (2004). A Short Scale for Measuring Loneliness in Large Surveys. *Resilience in Aging, 26*(6): 655–672.
- Institute of Medicine. (2002). *Reducing suicide: A national imperative*. Washington, DC: The National Academies Press.
- Intahchomphoo, C. (2018). Social media and youth suicide: a systematic review. *Twenty- Sixth European Conference on Information Systems (ECIS2018), Portsmouth, UK, International Universities press.*
- Jesse, B.(2020). Web of Despair. *Psychology Today, 51* (6), 80-88
- Joiner, T. (2009). The interpersonal-psychological theory of suicidal behavior: current empirical status. *Psychological Science Agenda, 12* (4) 12-19

- Karakose, T., Yirci, R., Uygun, H., & Ozdemir, T.Y. (2016). Relationship between high school students' facebook addiction and loneliness status. *Eurasia Journal of Mathematics, Science & Technology Education*, 12(9), 2419-2429
- Kim, K. et al. (2009). Internet overuse and excessive daytime sleepiness in adolescents. *Psychiatry Clinical Neuroscience*, 63(4), 455-462
- Kircaburum, K. (2016). Self-Esteem, daily internet use and social media addiction as predictors of depression among Turkish adolescents. *Journal of Education and Practice*, 7(24) 64 -73
- Klonsky, E. D., Qiu, T. & Saffer, Y. B. (2016). Recent advances in differentiating suicide attempters from suicide ideators. *Current opinion in Psychiatry* 30 (1), 1-12
- Klonsky, E. David; May, Alexis M.; Saffer, Boaz Y. (2016). Suicide, Suicide Attempts, and Suicidal Ideation. *Annual Review of Clinical Psychology*, 12 (1), 307–330 doi:10.1146/annurev-clinpsy-021815-093204
- Kulaksizoglu, A. (2001). *Psychology of adolescence*, 4th ed, Remzi Bookstore, Istanbul, Turkey.
- Liu, R. T. & Miller, I. (2020). Life events and suicidal ideation and behavior: A systematic review. *Clinical Psychology Review* 34(3), 181-192  
[https://doi: 10.1016/j.cpr.2014.01.006](https://doi.org/10.1016/j.cpr.2014.01.006)
- London, R. & Ingram, D. (2018). Social Isolation in Middle School. *School Community Journal*, 28(1), 107-128.
- Luxton, D. D., June, J. D., & Fairall, J. M. (2012). Social Media and Suicide: A public health perspective. *American Journal of Public Health*, 102(2), 195-200.
- Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). A comprehensive meta-analysis on problematic Facebook use. *Computers in Human Behavior*, 83, 262–277.  
<https://doi.org/10.1016/j.chb.2018.02.009>
- Miller, I. W., Norman, W. H., Bishop, S. B., & Dow, M. G. (1991). The Modified Scale for Suicidal Ideation. Department of Psychiatry and Human Behavior Brown University and Butler Hospital.
- Mpayi, B., Oginni, O., Osilaja, R., Oyeboade, B., Ogunyemi, M., Adewole, O., & Fatusi, A. (2016). Gender Differences in Suicidal Ideation and Attempts among Secondary School Students in Ile-Ife, Nigeria. *African Journal of Gender Development*, 3, 40-56
- Ogunleye, A. J., (2019) " A measure of aggression and anxiety as factors of suicide among undergraduates in a Nigeria university." *IOSR Journal of Humanities and Social Science*, 24 (02), 81-87.
- Okafor, S. O. (2020). Suicide Among Undergraduates Students in South-East Nigeria: An Empirical Evaluation of Durkheim Classification of Suicide. *Open Journal for Anthropological Studies*, 4 (2), 35-50

- Okwaraji, E. F., Onyebueke, G. C., Calista, U. Nduanya, C. & Nwokpoku, E. N. (2016). Gender differences, loneliness, self esteem and depression in a sample of nigerian university students. *Journal of Psychiatry and Psychiatric Disorder* 1 (1), 1 – 12.
- Onigbodun, O., Dogara, N., Esan, O., & Adedokun, B. (2008). Prevalence and correlates of suicidal behaviour among adolescents in South-West Nigeria. *International Journal of Social Psychiatry*, 54(1), 34-46
- Pervin, M. & Ferdowshi, N. (2016). Suicidal Ideation In Relation To Depression, Loneliness And Hopelessness Among University Students. *Dhaka University Journal of Biological Sciences* 25(1), 57-64.
- Piaget, J. (1958). *The origins of intelligence in children*. New York:
- Ponzetti, J. J. (1990). Loneliness among college students. *Family Relations*, 39, 336-340.
- Popoola, O., Olagundoye, O. & Alugo, M. (2020). *Social Media and Suicide* (Online), IntechOpen, <https://doi:10:5772/intechopen.92160>.
- Recupero, R., Harmss, E. & Noble, J. M. (2008). Surfing for suicide information on the internet. *Journal of Clinical Psychiatry*, 69 (6), 878-888.
- Robinson, J., Rodrigues, M., Fisher, S., Bailey, E. & Herrman, H. (2015). Social media and suicide prevention: Findings from a stakeholder survey. *Shanghai Archives of Psychiatry*, 27 (1), 27-35.
- Russell, D , Peplau, L. A., & Ferguson, M. L. (1978). Developing a measure of loneliness. *Journal of Personality Assessment*, 42(3), 290–294
- Sahin, S. (2018). Social media addiction scale - student form: the reliability and validity study. *The Turkish Online Journal of Educational Technology*, 17 (1) 169-182
- Sandler, E. P. (2009). Can social media help prevent suicide. *Psychology Today*, 51(5), 80-87
- Sedgwick, R., Epstein, S., Dutta, R. & Ougrin, D. (2019). Social media, internet use and suicide attempts in adolescents. *Current Opinion in Psychiatry* 32 (6), 534-541
- Srivastava, N. & Agarwal, S. (2014) Loneliness among young adults: A Comparative Study *European Academic Research* 2(3) 4351-4356
- Stankovska, G., Angelkovska, S. & Grncarovska, S .P. (2016). Social networks use, loneliness and academic performance among university students. *Education Provision to Every One: Comparing Perspectives from Around the WorldBCES Conference Books*, 14, (1) 255- 261
- Tu, Y. & Zhange, S. (2014). Loneliness and subjective well-being among Chinese undergraduates: The mediating role of self-efficacy. *Social Indicator Research*, doi 10.1007/s11205-014-0809-1

- Varnik, P. (2012). Suicide in the World. *International Journal of Environmental Research and Public Health*, 9 (3), 60-71
- Wang, Q. (2013). *The autobiographical self in time and culture*. New York, NY: Oxford University Press.
- Woodward, J. C. & Kalyan-Masih, V. (1990). Loneliness, coping strategies and cognitive styles of the gifted rural adolescents. *Adolescence*, 25(100), 977- 998.
- World Health Organization (2019). With One Suicide every 40 Seconds. Urges Action. Retrieved from <https://who.suicidestatistics>
- World Population Review (2021). Suicide rate by countries. Retrieved from <https://worldpopulationreview.com/country-rankings/suicide-rate-by-country>
- Yavich, R., Davidovitch, N. and Frenkel, Z. (2019). Social media and loneliness-forever connected? *Higher Education Studies*, 9( 2), 10-21