The Role of Depression in the Effect of Technology-Facilitated Sexual Violence on Suicidal Ideation in Early Adult

Salma Ghina Sakinah Safari[*1], Margaretha[1]
[1]*Faculty of Psychology, Universitas Airlangga, Indonesia*

Abstract. The phenomenon of suicide ideation is a problem that needs to be examined at this time. This study investigates the role of technology-facilitated sexual violence experience and depression on the appearance of suicidal ideation in emerging adults. A quantitative research was conducted on a sample of 322 respondents aged 18–25 years. Three scales were used in this research: the Technology-Facilitated Sexual Violence Victimization Scale to measure the respondents' technology-facilitated sexual violence experiences; Depression, Anxiety, Stress Scale to measure the respondents' depression, anxiety, and stress; and Beck's Scale of Suicidal Ideation to measure the appearance of the respondents' suicide ideation. The data were analyzed using the statistical correlation test, multivariate linear regression hierarchy, and path analysis. From the results, technology-facilitated sexual violence was found to have a significant effect on suicidal ideation in early adults. Furthermore, it was found that depression partially mediates the relationship between technology-facilitated sexual violence and suicidal ideation in early adults. This study is beneficial to developing a positive internet intervention approach to create more conducive virtual spaces.

Keywords: depression; suicidal ideation; technology-facilitated; sexual violence

Early adulthood, from ages 18 to 25, is a period of transition from adolescence into full-fledged adulthood, which is very different compared to the previous stages of development (Arnett, 2000). Early adults are faced with many choices that will lead them through the process of shaping the direction of their lives in the future. The pressure to succeed in college, get a decent job, and generate an adequate income are some of what can be stressors or sources of stress among early adults (Santrock, 2006). The resulting impact of these takes various forms on the mental health of early adults. Epidemiological studies in the United States show the twelve-month prevalence of any psychiatric disorder is 40% greater in people aged 18–29 years than people of other age ranges, especially for mood and anxiety disorders, and substance abuse (Arnett et al., 2014). Mood and anxiety disorders were also found to be the most common psychiatric disorders in people aged 20 to 34 years in Japan (Arnett et al., 2014).

According to a project carried out by the World Health Organization (WHO) World Mental Health International College Student initiative, 31.4% of first-year students in nineteen campuses spread across eight countries—Australia, Belgium, Germany, Mexico, Northern Ireland, South Africa, Spain, and the United States—screened positive for at least one common DSM-IV mental disorder,

including anxiety and mood disorders or substance abuse within the past twelve months (Auerbach et al., 2018). Suicide is no exception, being one of the main problems that young adults may face (Santrock, 2002). Suicide rate begins to grow rapidly beginning at the age of approximately 15 years (Santrock, 2006). Additionally, data from the (World Health Organisation, 2021) show that suicide occurs throughout the lifetime and is the fourth leading cause of death among 15 to 19-year-olds worldwide.

According to Beck et al. (1979), suicidal ideation logically precedes attempted suicide. It arises from the cognitive distortion of hopelessness, namely individuals misperceiving all their experiences in a negative way and anticipating negative outcomes for every effort they make (Selby et al., 2014). In addition to hopelessness, depression is also a predictor of the emergence of suicidal ideation. Rudd (1990) even mentions that depression is a better predictor of suicidal ideation than hopelessness.

Depression is described as a general mental order characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or eating habit, feelings of fatigue, and poor concentration (World Health Organisation, 2016). According to Radloff (1977), among the symptoms associated with depression are decreased mood, feelings of helplessness and hopelessness, guilt and worthlessness, loss of appetite, sleep disturbances, and psychomotor barriers.

Many factors can trigger depression, including environmental factors (Sadock et al., 2017). At present, these may be found not only in the form of face-to-face interactions and cyberspace interactions but also as part of an individual's environmental factors. Many studies have linked social media use and impact on depression (Becker et al., 2013; Choudhury et al., 2021; Kim et al., 2009; Moreno et al., 2011; Pantic et al., 2012; Radovic et al., 2016). One of the causes of rising suicide rates is the increase in the use of technology and interactions that occur in it (Becker et al., 2013). Indonesia, as the fourth largest country in the world, faces a big risk in the matter. According to a survey conducted by the Indonesian Internet Service Providers Association (APJII) in 2018, 171.17 million people in Indonesia—64.8% of the population—are internet users (Nabila, 2018, February 19). Based on the demographic data, early adults are the predominant Indonesian internet users. The age range of 15–19 years is the largest group of internet users with 91% of them actively using internet, followed by 20–24-year-olds at 88.5%.

The use of the internet is inseparable from cases of sexual violence that occur online. There are 55.9% of internet users claimed to have received pornographic content unexpectedly when connected to an internet site (Nabila, 2018, February 19). The Ministry of Communication and Information Technology of the Republic of Indonesia (KOMINFO) recorded on its website as many as 898.108 complaints related to cyberspace pornography as of October 2018 (Rizkinaswara, 2019, January 9). Based on these data, sexual violence in cyberspace deserves attention besides offline sexual violence. Online or technology-facilitated sexual violence refers to a range of criminal, civil, or harassment behaviors and harmful sexual aggression committed using communication technologies (Henry & Powell, 2016). It has four distinct but interrelated dimensions or forms, namely digital sexual harassment, gender and sexuality-based harassment, image-based sexual abuse, sexual aggression and/or coercion (Henry & Powell, 2016). Of these four dimensions, the most common is digital sexual

harassment, which includes receiving unwanted sexually explicit images, comments, e-mails, or text messages that have sexual connotations; and receiving repeated and/or unwanted sexual requests via e-mail or text messages (Henry & Powell, 2016).

According to the data that has been explained above, early adult population is the most vulnerable group to technology-facilitated sexual violence. Authors began to examine the relationship between social media usage and its effect on depression (see for example, Becker et al. (2013), Choudhury et al. (2021), Kim et al. (2009), Moreno et al. (2011), Pantic et al. (2012), Radovic et al. (2016)). However, only limited studies that have attempted to examine and investigate the impact and experience of victims of technology-facilitated sexual violence. As such, this study aims to explore the effect of technology-facilitated sexual violence on suicide ideation, depression, and the role of depression in the relationship between technology-facilitated social violence and suicide ideation. Our hypothesis is depression mediates the relationship between experience of technology-facilitated sexual violence and the occurrence of suicidal ideation.

Methods

This study adopted a quantitative approach with explanatory research type. This design was chosen to understand causal relationship between variables. Technology-facilitated sexual violence, suicide ideation and depression were the variable explored.

Participants

The participants of this study are early adults aged 18–25 years, and having experienced technology-facilitated sexual violence. Participants were invited to fill out a survey through social media and/or personal contact of the researchers. The sample of the study comprised 322 participants, whose profiles, based on age, gender, last education, sexual orientation, and monthly income, are presented in Table 1. All participants provided their consent to participate in the study upon explanation of the study at the beginning of the questionnaire.

Table 1
Demographic Characteristics of Participants

Demographic Characteristics	*n*	%
Age		
18	26	8.07%
19	40	12.42%
20	61	18.94%
21	97	30.12%
22	55	17.08%
23	19	5.90%
24	15	4.65%
25	9	2.79%

Table 1 (Continued)

Demographic Characteristics of Participants

Sex		
Male	70	21.74%
Female	252	78.26%
Educational Background		
Uneducated	0	0%
Elementary graduate	0	0%
Junior graduate	0	0%
Senior High graduate	100	31.05%
Diploma (D3/D4)	23	7.77%
Bachelor's Degree (S1)	195	60.55%
Postgraduate (S2)	4	1.24%
Sexual Orientation		
Heterosexual	304	94.4%
LGBTQ+	18	5.59%
Monthly Income		
Rp 1.500.000	188	58.38%
Rp 1.500.000–Rp 2.500.000	58	18.01%
Rp 2.500.000–Rp 3.500.000	37	11.49%
Rp 3.500.000	39	12.11%

Measurement

Each survey participant completed an assessment that was divided into five parts. The first part contains the informed consent, which must be filled in first by the participant, and the second comprises questions regarding the participant's identity. The third part consists of questions about the participant's experience of internet-based sexual violence, and uses the Technology-Facilitated Sexual Violence Victimization Scale (TFSV) developed by Henry and Powell (2016), which has been translated into Indonesian, with a reliability of 0.94. TFSV has four dimensions, digital sexual harassment, image-based sexual abuse, sexual aggression and coercion, and gender and sexuality-based harassment. Each aspects measure participant's experienced in every dimension. The fourth section measures the participant's depression using the translated version of the Depression Anxiety Stress Scale (DASS) developed by Lovibond and Lovibond (1995), with a reliability of 0.93. DASS has three subscales that measure symptom occurrence rate in stress, anxiety and depression. The fifth section measures suicidal ideation using the translated version of the Scale for Suicidal Ideation (SSI) developed by Beck et al. (1979), with a reliability of 0.62. SSI consist of three dimensions (active suicidal desire, passive suicidal desire, and preparation) and it was used to measure intensity of participant's suicidal ideation.

Data Analysis

The technology-facilitated sexual violence was used as the independent variable, suicidal ideation as the dependent variable, and depression as a mediator variable. The study uses a quantitative method

with multivariate linear regression hierarchy and path analysis. The regression method was used to examine the significance and strength of technology-facilitated sexual violence and depression on suicidal ideation. Additionally, path analysis between variables was carried out to determine the mediating effect of the depression variable. The data analysis technique was carried out with SPSS version 22.

Results

Descriptive Analysis Results

This study uses three scales to examine the effect of the technology-facilitated sexual violence experience and depression of early adult victims on the emergence of suicidal ideation. In the DASS measuring instrument, the researchers only considered the value of the depression sub-dimension. Descriptive analysis was carried out to determine the general description of the characteristics of the sample being studied.

Table 2 shows the mean (average) experience score of victims of technology-facilitated sexual violence, 0.4 which is rounded up to 0 in the range 0–5; this value indicates that the subject has low experience of technology-facilitated sexual violence. On the depression scale, the mean value is 0.89, which indicates moderate results. On the suicidal ideation scale, the mean value is 1.38; if rounded up to 1 with a range of 1–4, this value indicates that the subject has a low level of suicidal ideation.

Table 2
Descriptive Analysis

Variable	Scale	Mean(*SD*)	Min	Max	Skewness (SE)	Kurtosis (SE)
TFSV	0–5	0.40(0.44)	0.00	2.52	1.99(0.13)	4.63(0.27)
DASS_D	0–3	0.89(0.70)	0.00	3.00	0.93(0.13)	0.26(0.27)
SSI	1–4	1.38(0.25)	1.00	2.58	1.31(0.13)	2.42(0.27)

N=322, *SD*= Standard Deviation, *SE*= Standard Error, TFSV= Technology-Facilitated Sexual Violence Victimization Scale, DASS_D= Depression dimension, SSI= Suicidal Ideation.

Correlation Analysis Results

Table 3
Correlation Analysis

Variable	1	2	3	4	5	6	7
1. Gender	**1**						
2. Age	0.13	**1**					
3. Edu	-0.02	0.19	**1**				
4. SO	0.12	0.04	0.13	**1**			
5. SSI	0.02	0.06	0.21	0.13	**1**		
6. TFSV	0.00	0.08	0.00	0.15	0.18	**1**	
7. DASS_D	0.09	0.05	0.12	0.12	0.45	0.23	**1**

Legend: *N*=322, Edu= Education, SO= Sexual Orientation, TFSV= Technology-Facilitated Sexual Violence Victimization Scale, SSI= Suicidal Ideation, DASS_D= Depression dimension *$p<0.05$ (2 tailed), **$p<0.01$(2 tailed)

Table 3 shows a positive relationship between the experience of technology-facilitated sexual violence and depression on suicidal ideation, except for the variables of gender, age, and education. This indicates that the higher the level of technology-facilitated sexual violence experience and depression of the participants, the higher their suicidal ideation. As seen in Table 3, the variables of age and education have a negative correlation with suicidal ideation. This indicates that the higher the level of education and age, the lower the suicidal ideation.

Regression Analysis Results

Table 4
Multiple Linear Regression Test Results on Suicidal Ideation

Variable	B	SE B		t	p
Constant	1.19	0.02		60.18	0.00
SO	0.11	0.50	0.10	2.23	0.02
OSV	0.07	0.01	0.22	4.47	0.00
DASS_D	0.14	0.01	0.39	7.95	0.00

Legend: *N* = 322; *B* = Non-standardized regression coefficient, SE = Standard error, = beta. *Adjusted R^2*= 0.29, Dependent Variable = Suicidal Ideation, SO= Sexual Orientation, OSV= Online Sexual Violence, DASS_D= Depression dimension

Based on the results of the multiple regression analysis shown in Table 4, a value has been obtained to measure the level of strength of the relationship between each independent variable to the dependent variable, while the adjusted R2 value measures the percent of influence of the independent variable on the dependent variable. The value of 0.29 indicates that the five independent variables explain 29% of the suicidal ideation. The regression test revealed that the independent variables having significant effects on suicidal ideation were sexual orientation; one dimension of TFSV, namely the online sexual violence dimension; and depression.

Hierarchical Regression Analysis Results

Based on the results of the hierarchical regression analysis presented in Table 5, the regression test of the first model with the sexual orientation variable yielded insignificant results with an Adjusted R2 value of 0.04, meaning that only 4% of the suicidal ideation variable is explained by sexual orientation, and the rest is explained by other variables. The researchers then inserted the online sexual violence variable, and the result was that online sexual violence was a good predictor of the suicidal ideation variable. The adjusted R2 value in this equation is 0.15, which means online sexual violence and education can explain 15% of the suicidal ideation variable. The researchers then entered the variables

of sexual orientation, online sexual violence, and depression. The result of the Adjusted R2 value on the combination of the three variables was 0.29, which means that these five variables can explain 29% of the suicidal ideation variable and each independent variable has a significant influence.

Table 5
Hierarchical Regression Test Results on Suicidal Ideation

	Model	B	B SE		R^2	Adjusted R^2	R^2	p
1	(Constant)	1.36	0.01		0.04	0.04	0.04	0.00
	SO	0.22	0.05	0.21				0.00
2	(Constant)	1.29	0.01		0.16	0.15	0.11	0.00
	SO	0.14	0.05	0.13				0.00
	OSV	0.11	0.01	0.35				0.00
3	(Constant)	1.19	0.01		0.30	0.29	0.13	0.00
	SO	0.11	0.05	0.13				0.02
	OSV	0.07	0.01	0.22				0.00
	DASS_D	0.06	0.02	0.16				0.00

Legend: *N*=322, *B* = non-standardized regression coefficient, *SE* = Standard error, = beta, Dependent Variable = Suicidal Ideation, SO= Sexual Orientation, OSV = Online Sexual Violence, DASS_D= Depression dimension, significant <0.05

Path Analysis Results

Table 6
Mediation Effects of Depression on the Effect of Technology-Facilitated Sexual Violence on Suicidal Ideation

Regression Path	B	t	R^2	Adjusted R^2
Mediation path *a* (technology-facilitated sexual violence in depression)	0.48	5.74	0.09	0.09
Mediation path *b* (depression in SSI)	0.15	8.48	0.27	0.27
Direct effect, path *c* (technology-facilitated sexual violence on suicidal ideation, no mediator)	0.19	6.45	0.11	0.11
Indirect effect, path *c′* (technology-facilitated sexual violence on SSI with depression)	0.11	4.20	0.27	0.27

Tests were conducted to determine the comparison of direct and indirect paths (Shrout & Bolger, 2002). The steps are done by multiplying the path on the regression coefficient of the independent variable (experience of technology-facilitated sexual violence) on the mediator variable (depression) with the regression coefficient of the mediator variable (depression) on the dependent variable (suicidal ideation) involving the independent variable (experience of technology-facilitated sexual violence). This was calculated as: 0.48 X 0.15 = 0.11

Based on these calculations, the indirect coefficient value between the experience of technology-facilitated sexual violence and suicidal ideation is 0.11. This means that the direct regression coefficient between the experience of technology-facilitated sexual violence and suicidal ideation is greater than the regression coefficient of the indirect effect of the technology-facilitated

sexual violence experience on suicidal ideation with the mediator variable score (depression). This can be represented as: 0.19 > 0.11

From these calculations, it can be said that the mediating effect that occurs is partial mediation (Shrout & Bolger, 2002), and according to the R square calculation, technology-facilitated sexual violence with depression as a mediator can predict suicidal ideation by 27%, while the remaining 73% is explained by other variables that were not predicted in this study.

Discussion

This research aims to explore the impact of technology-facilitated sexual violence to suicide ideation with depression as a mediating variable. Recent study found that depression partially mediates the effect of technology-facilitated sexual violence on suicidal ideation. Participant who have greater encounter of technology-facilitated sexual violence show significantly more depressive symptoms that increase frequency of suicidal thoughts. Various studies on technology-facilitated sexual violence also reveal that the experience can increase a person's depression (Becker et al., 2013; Choudhury et al., 2021; Radovic et al., 2016). Experiencing depression at the outset can lead victims of technology-facilitated sexual violence to the emergence of suicidal ideation.

The results found that technology-facilitated sexual violence had a significant effect on suicidal ideation. Similar to these findings, the Cyber Civil Rights Initiative (2013) reported that more than 93% of victims of non-consensual pornography experienced severe emotional distress and anxiety, and 47% of victims had suicidal thoughts after their photos were published. For example, a story reported by the *Huffington Post* reported that when a picture of a teenage girl being sexually harassed was shared among her schoolmates, she endured bullying for more than a year before committing suicide (McCormack, 2014).

There are other findings that support the results of this study. The Sinclair et al. (2012) found that sexual violence committed in cyberspace increases the risk of the emergence of suicidal ideation. Davis et al. (2002) and McGuire and Wraith (2000), reviewing the effects of stalking on victims, explain that there are complex problems in the lives of victims, such as increasing physical injury, health problems, PTSD, drug use, and suicidal thoughts. Therefore, the conduciveness of the internet environment is important because of the impact of violent behavior, more specifically sexual violence, which was found to lead to suicidal ideation.

This study also found a significant effect between the experience of technology-facilitated sexual violence and depression. Research conducted by Radovic et al. (2016) found that respondents diagnosed with depression used the internet more often to interact online, especially with strangers. Additionally, many people were found to use the internet for positive purposes, such as entertainment, humor, and making social connections. However, they also experience negative consequences from using social media, such as cyberbullying and feel distressed regarding social comparisons (Radovic et al., 2016).

A significant influence was also found in this study between depression and suicidal ideation.

These are in line with the integrative model of suicidal ideation developed by Rudd (1990), in which depression was found to be a better predictor of suicidal ideation than hopelessness. Depression is one of the important factors of suicide and suicidal ideation (Ibrahim et al., 2014). Evidence from psychological autopsies show that at the time of the suicide or suicide attempt, some people were suffering from depression (Ibrahim et al., 2014).

In this study, depression was found to partially mediate the effect of technology-based sexual violence on suicidal ideation in early adults. These results are consistent with research conducted by Sampasa-Kanyinga et al. (2014), which found that depression fully mediates the relationship between experiences of cyberbullying and ideating, planning, and attempting suicide. The same study also found that depression fully mediates the relationship between bullying experiences in school and attempted suicide, but depression only partially mediates the relationship between bullying experiences in school and suicidal ideation and planning (Sampasa-Kanyinga et al., 2014). The internalization of sexual violence that occurs through the internet results in an increasing number of early adult women in Canada and other countries engaging in self-harm behavior, where this behavior is one way of coping with their and can even lead to suicide (Pashang et al., 2018).

In West et al. (2014) research, 65% of the participants who had experiences of being humiliated in cyberspace had persistent mental health problems, such as the appearance of PTSD symptoms, anxiety, low self-esteem, suicidal thoughts, and self-injuring behaviors. Other studies have also reported the emergence of depression symptoms and attempted suicide requiring medical attention (Schneider et al., 2012), as well as substance use (Landstedt & Persson, 2014). The results of the present study are also in line with the findings of Hango (2016), where at least 33% of cyberbullying victims reported having emotional or psychological distress and feeling distrusted by others (neighbors, colleagues, and schoolmates/institutions), and an increasing dependence on drugs, while 26% of cyber stalking victims reported suffering from mental, emotional, and psychological health conditions.

Some recent literature suggests that early adults experience psychological trauma and distress, including anxiety, depression, and even suicide attempts, due to fear of shame, attempts at violence, and stigma associated with the cyber-sexual violence that they experience (Harrison, 2006; Quayle, 2002; Quayle et al., 2006). The consequences of cyber-sexual violence on mental health are complex. Even though it is done online, it will remain permanently in the public space and in the memory of the individual who experienced it; therefore, the main impact is in fact felt directly.

Another research that supports the results of this study is the finding of Lardier et al. (2016), which found that depression symptoms mediate the relationship between bullying and suicidal ideation. The findings more specifically mention that depression mediates suicidal ideation to a greater extent in women than in men. Similarly, in the present study, gender roles were also found to be related but did not significantly affect suicidal ideation.

Sexual orientation was found in the present study to have a significant effect on suicidal ideation. These results are consistent with the findings of Mereish et al. (2013) on a significant relationship between stress experienced by the LGBTQ group and suicidal ideation. Additionally, the findings of this present study are consistent with the research of Almeida et al. (2009), which found that LGBTQ

groups had higher rates of reporting suicidal ideation compared to heterosexual groups. Irwin et al. (2014) research, which also supports the findings of this study, found a significant correlation between sexual orientation and suicidal ideation. This indicates that minority sexual orientations or LGBTQ groups in the early adult population are more prone to having suicidal ideations.

In this present study, it was found that gender, age, and education had no significant effect on suicidal ideation. However, education has a significantly negative correlation with suicidal ideation. This study has a small age range and age is correlated with education, therefore, age can be indirectly correlated with suicidal ideation. Based on these findings, it can be concluded that there is a higher risk for younger individuals to become victims of technology-facilitated sexual violence and generate suicidal ideation. Furthermore, the dimensions of photo abuse with sexual context, sexual aggression and/or coercion, photo-based threat attempts with sexual context were not found to significantly affect suicidal ideation.

Based on the foregoing discussion, a positive internet environment is something that deserves attention because technology-facilitated sexual violence experiences can lead to depression, which can lead to suicidal ideation, especially in early adults.

Conclusion

In conclusion, technology-facilitated sexual violence and depression have an effect on suicidal ideation in early adults. The higher the level of technology-facilitated violence experienced, the higher the suicidal ideation of the victim; the same with depression. Depression was also found to partially mediate the relationship between the influence of technology-facilitated sexual violence and suicidal ideation. This indicates that the experience of technology-facilitated sexual violence followed by the onset of depression is one of the predictors that can increase an individual's suicidal ideation. Because the role of depression only partially mediates, many other factors can determine the emergence of suicidal ideation in victims. These other factors are expected to be investigated further in future studies.

Recommendation

It is suggested that in future research, the initial screening be more detailed to get samples that have high technology-facilitated sexual violence experiences, and more significant results. We hope that further research will examine more samples with minority sexual orientations, considering that individuals with minority sexual orientations, or LGBTQ groups, have higher suicidal ideation.

Future research can examine technology-facilitated sexual violence measured from the perspective of the perpetrator so that these perpetrators can be mapped and interventions can carried out. Suggestions for clinical psychology practitioners or psychologists are expected to understand technology-facilitated sexual violence and depression as factors that can lead to the emergence of suicidal ideation. We hope that this research will make the public perception be more open about their knowledge of the types of technology-facilitated sexual violence and their impact on victims.

This is deemed necessary to prevent individuals from becoming perpetrators, and encourage people to offer help when they observe technology-facilitated sexual violence, so that together we can create a more positive internet environment.

Declaration

Authors' Contributions

SGSS organized the research, wrote the script, organized the data collection, and analyzed the data. MR reviewed the writing of the manuscript, supervised the statistical analysis process, reviewed the data processing, and approved the final version of the manuscript.

Competing Interests

The author declares that they have no competing interests in relation to this work.

Orcid ID

Salma Ghina Sakinah Safari ⬤ https://orcid.org/0000-0001-7986-2268
Margaretha Margaretha ⬤ https://orcid.org/0000-0002-2244-5831

References

Almeida, J., Johnson, R. M., Corliss, H. L., Molnar, B. E., & Azrael, D. (2009). Emotional distress among LGBT youth: The influence of perceived discrimination based on sexual orientation. *Journal of Youth and Adolescence*, *38*(7), 1001–1014. https://doi.org/10.1007/s10964-009-9397-9

Arnett, J. J., Žukauskienė, R., & Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18–29 years: Implications for mental health. *The Lancet Psychiatry*, *1*(7), 569–576. https://doi.org/10.1016/s2215-0366(14)00080-7

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469–480. https://doi.org/10.1037/0003-066x.55.5.469

Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., Demyttenaere, K., Ebert, D. D., Green, J. G., Hasking, P., Murray, E., Nock, M. K., Pinder-Amaker, S., Sampson, N. A., Stein, D. J., Vilagut, G., Zaslavsky, A. M., & Kessler, R. C. (2018). (WHO) World mental health surveys international college student project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology*, *127*(7), 623–638. https://doi.org/10.1037/abn0000362

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. https://doi.org/10.1037/0022-006x.47.2.343

Becker, M. W., Alzahabi, R., & Hopwood, C. J. (2013). Media multitasking is associated with symptoms of depression and social anxiety. *Cyberpsychology, Behavior, and Social Networking*, *16*(2), 132–135. https://doi.org/10.1089/cyber.2012.0291

Choudhury, M. D., Gamon, M., Counts, S., & Horvitz, E. (2021). Predicting depression via social media. *Proceedings of the International AAAI Conference on Web and Social Media*, *7*(1), 128–137. https://doi.org/10.1609/icwsm.v7i1.14432

Davis, K. E., Frieze, I. H., & Maiuro, R. D. (2002). *Stalking : Perspectives on victims and perpetrators*. Springer Publishing Company.

Hango, D. (2016). Insights on canadian society cyberbullying and cyberstalking among internet users aged 15 to 29 in canada. *Insights on Canadian Society*.

Harrison, C. (2006). Cyberspace and child abuse images. *Affilia*, *21*(4), 365–379. https://doi.org/10.1177/0086109906292313

Henry, N., & Powell, A. (2016). Technology-facilitated sexual violence: A literature review of empirical research. *Trauma, Violence, & Abuse*, *19*(2), 195–208. https://doi.org/10.1177/1524838016650189

Ibrahim, N., Amit, N., & Suen, M. W. Y. (2014). Psychological factors as predictors of suicidal ideation among adolescents in Malaysia. *PLoS One*, *9*(10), e110670. https://doi.org/10.1371/journal.pone.0110670

Irwin, J. A., Coleman, J. D., Fisher, C. M., & Marasco, V. M. (2014). Correlates of suicide ideation among (LGBT) Nebraskans. *Journal of Homosexuality*, *61*(8), 1172–1191. https://doi.org/10.1080/00918369.2014.872521

Kim, J., LaRose, R., & Peng, W. (2009). Loneliness as the cause and the effect of problematic internet use: The relationship between internet use and psychological well-being. *CyberPsychology & Behavior*, *12*(4), 451–455. https://doi.org/10.1089/cpb.2008.0327

Landstedt, E., & Persson, S. (2014). Bullying, cyberbullying, and mental health in young people. *Scandinavian Journal of Public Health*, *42*(4), 393–399. https://doi.org/10.1177/1403494814525004

Lardier, D. T., Barrios, V. R., Garcia-Reid, P., & Reid, R. J. (2016). Suicidal ideation among suburban adolescents: The influence of school bullying and other mediating risk factors. *Journal of Child & Adolescent Mental Health*, *28*(3), 213–231. https://doi.org/10.2989/17280583.2016.1262381

Lovibond, S. H., & Lovibond, P. F. (1995). Depression anxiety stress scales. American Psychological Association (APA). https://doi.org/10.1037/t01004-000

McCormack, M. (2014). Is sexuality research 'dirty work'? *Sexualities*, *17*(5-6), 674–676. https://doi.org/10.1177/1363460714531277

McGuire, B. E., & Wraith, A. E. (2000). Legal and psychological aspects of stalking: A review. *The Journal of Forensic Psychiatry*, *11*(2), 316–327. https://doi.org/10.1080/09585180050142543

Mereish, E. H., O'Cleirigh, C., & Bradford, J. B. (2013). Interrelationships between LGBT-based victimization, suicide, and substance use problems in a diverse sample of sexual and gender minorities. *Psychology, Health & Medicine*, *19*(1), 1–13. https://doi.org/10.1080/13548506.2013.780129

Moreno, M. A., Jelenchick, L. A., Egan, K. G., Cox, E., Young, H., Gannon, K. E., & Becker, T. (2011). Feeling bad on facebook: Depression disclosures by college students on a social networking site. *Depression and Anxiety*, *28*(6), 447–455. https://doi.org/10.1002/da.20805

Nabila, M. (2018, February 19). *Penetrasi dan perilaku pengguna internet indonesia [penetration and behavior of indonesian internet users]*. https://dailysocial.id/post/apjii-survei-internet-indonesia-2017

Pantic, I., Damjanovic, A., Todorovic, J., Topalovic, D., Bojovic-Jovic, D., Ristic, S., & Pantic, S. (2012). Association between online social networking and depression in high school students: Behavioral physiology viewpoint. *Psychiatria Danubina*, *24*(1).

Pashang, S., Khanlou, N., & Clarke, J. (2018). The mental health impact of cyber sexual violence on youth identity. *International Journal of Mental Health and Addiction*, *17*(5), 1119–1131. https://doi.org/10.1007/s11469-018-0032-4

Quayle, E. (2002). Paedophiles, pornography and the internet: Assessment issues. *British Journal of Social Work*, *32*(7), 863–875. https://doi.org/10.1093/bjsw/32.7.863

Quayle, E., Vaughan, M., & Taylor, M. (2006). Sex offenders, internet child abuse images and emotional avoidance: The importance of values. *Aggression and Violent Behavior*, *11*(1), 1–11. https://doi.org/10.1016/j.avb.2005.02.005

Radloff, L. S. (1977). The CES-d scale. *Applied Psychological Measurement*, *1*(3), 385–401. https://doi.org/10.1177/014662167700100306

Radovic, A., Gmelin, T., Stein, B. D., & Miller, E. (2016). Depressed adolescents' positive and negative use of social media. *Journal of Adolescence*, *55*(1), 5–15. https://doi.org/10.1016/j.adolescence.2016.12.002

Rizkinaswara, L. (2019, January 9). *Sepanjang tahun 2018 Twitter paling banyak dilaporkan netizen terkait konten negatif*. https://aptika.kominfo.go.id/2019/01/sepanjang-tahun-2018-twitter-paling-banyak-dilaporkan-netizen-terkait-konten-negatif/

Rudd, M. D. (1990). An integrative model of suicidal ideation. *Suicide and Life-Threatening Behavior*, *20*(1), 16–30. https://pubmed.ncbi.nlm.nih.gov/2336679/

Sadock, B. J., Sadock, V. A., Ruiz, P., & Kaplan, H. I. (2017). *Kaplan and Sadock's comprehensive textbook of psychiatry* (10th ed.). Wolters Kluwer.

Sampasa-Kanyinga, H., Roumeliotis, P., & Xu, H. (2014). Associations between cyberbullying and school bullying victimization and suicidal ideation, plans and attempts among canadian

school children (J. G. Scott, Ed.). *PLoS ONE*, *9*(7), e102145. https://doi.org/10.1371/journal.pone.0102145

Santrock, J. (2002). *Life-span Development Perkembangan Hidup Jilid 1 Edisi Kelima [Life-span development life development volume 1 fifth edition]*. Erlangga.

Santrock, J. (2006). *Life-span development (10th ed.)* McGraw Hill.

Schneider, S. K., O'Donnell, L., Stueve, A., & Coulter, R. W. S. (2012). Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health*, *102*(1), 171–177. https://doi.org/10.2105/ajph.2011.300308

Selby, E., Joiner, T. E., & Ribeiro, J. D. (2014). Comprehensive theories of suicidal behaviors. In M. K. N. (Ed.) (Ed.), *The oxford handbook of suicide and self-injury*. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195388565.013.0016

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, *7*(4), 422–445. https://doi.org/10.1037/1082-989x.7.4.422

Sinclair, K. O., Bauman, S., Poteat, V. P., Koenig, B., & Russell, S. T. (2012). Cyber and bias-based harassment: Associations with academic, substance use, and mental health problems. *Journal of Adolescent Health*, *50*(5), 521–523. https://doi.org/10.1016/j.jadohealth.2011.09.009

West, B., Foster, M., Levin, A., Edmison, J., & Robibero, D. (2014). Cyberbullying at work: In search of effective guidance. *Laws*, *3*(3), 598–617. https://doi.org/10.3390/laws3030598

World Health Organisation. (2016). Depression: Definition. *World Health Organisation*.

World Health Organisation. (2021). Suicide worldwide in 2019: Global health estimates. *World Health Organisation*.