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Association Between Mass Media Uses And Depression Among Undergraduate Students

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Abstract

Youth mental health is a major public health concern which has significant societal and economic burdens globally. Depression is a common mental disorder cutting across age, gender and socioeconomic status in India and across the world. It is associated with disability, loss of quality of life, increased service use, considerable productivity losses, and increased mortality. The percentage of adults who experienced any symptoms of depression was highest among those aged 18–29 (21.0%). Logistic regression was performed to examine the association between mass media uses and depression among undergraduate students. Result shows that 53.8 % of undergraduate students reported themselves as depressed, in which 46.2 % are grouped under low depression, 48.8 % are mild depressed and 5 % are reported as moderate depressed. Undergraduate students with a more frequent use of print media use was associated with significantly higher odds of having symptoms of depression but broadcast media use had negative odd ratio. In our study, social media use had no significant result. Our result also revealed that students who belong to science background had significantly higher depression compared to students who belong to Arts/social sciences.

Introduction

Youth mental health is a major public health concern which has significant societal and economic burdens globally (Patton and Borschmann, 2017; Lamb, 2015). Young adults or youth population constituted nearly 1.2 billion worldwide contributing 16 % in the global population age ranges from 15 to 24. Demographical data of India suggested that India have largest youth population in the world, furthermore 1 in 5 people in the world is in between 18 to 24 year age. In 2019, 2.8% of adults experienced severe symptoms of depression, 4.2% experienced moderate symptoms, and 11.5% experienced mild symptoms. The percentage of adults who experienced any symptoms of depression was highest (21.0%) among those aged 18–29 whereas in most of the countries, mental health issues among this age group have doubled or more from the Covid-19 crisis. Depression is a common mental disorder cutting across age, gender and socioeconomic status in India and across the world (Arvind et al., 2019).

Globally, the burden of depression has been rising and major depressive disorder (DD) was the third leading cause of disability in 2015. Estimated global prevalence of depressive episode/DD varies from 3.2% to 4.7%. The global pooled period prevalence of mood disorders was 5.4%, and its prevalence in WHO-World Mental Health Survey ranged from 0.8% to 9.6% across countries. By 2030, unipolar depression is predicted to be the second leading contributor to the global burden of disease.

About 150 million people worldwide are affected with depression at any moment, and one in every five women and one in every eight men experiences an episode of major depression over the course of their life (Bromet et al., 2011; Ferrari et al., 2013; Kessler and Bromet, 2013). Depression is associated with disability, loss of quality of life, increased service use, considerable productivity losses, and increased mortality (Erskine et al., 2015; Ormel et al., 1994; Vos et al., 2017; Whiteford et al., 2013). Depression is projected to become the single leading cause of disease burden in high-income countries by 2030 (Mathers and Loncar, 2006). Previous few studies suggested that female candidate are having highest depression compared to the man but its contrary result also has been reported in the previous available researches. Earlier studies suggested that contribution of young adult or youth are mostly using the mass media are highest.

Many studies has been conducted worldwide mentioning the relation between social media use and depression on different study population although very limited studies were conducted on the association between mass media and depression among university student of India.

Methodology:

This study follows the survey research method tostudy the association between mass media uses and depression among undergraduate students. Definition of the Variables: The independent variables in this research work are the three media sources as print media, broad cast media and social media clubbed togetherily in an independent variable of mass media. Here the depression is considering as dependent variable.

Description of the tool: A tool was prepared and standardized based on the previous related researches and the literature review matching to the present study. This tool was divided into 4 parts as the first part included the objective of the study and consent form of the participants. Part 2 included the socio-demographic characteristics of the participants, Part 3 included the question related to the different mass media uses and finally part included the question related to the perceived depression status of the participants, Reliability and validity of the depression scale was 0.89 and 0.86 respectively.

Sample of the study: The target population for this study defined to include undergraduate students at the university level in Varanasi district of Uttar Pradesh. The sample of this study was all the available and present the undergraduate students inside the classroom of the three major faculties of Banaras Hindu University in Varanasi district vis Faculty of social science, Faculty of Arts and Faculty of Science (Faculty of Science included undergraduate students from the mathematics and life-sciences group). Banaras Hindu University as one of the oldest university of the Varanasi city and it represented all the diversity of the India because students and take admission here from all the corner of the India. The purpose for selecting the Varanasi district as it is one of the oldest city and very much famous for its heritages and studies.

Sampling technique: Convenient sampling method was used for selecting the participants in this study. This technique was employed to ensure the fairly available representation of the variable of the study. For considering and including majority of the students, investigator continuously visited for three days to approach more of the undergraduate students from all the three faculties of Banaras Hindu University. Total 520 students were appeared to administer the test and as respondents were given 60 minutes to completely fill the questionnaire and after that, finally all the 520 students given back the filled questionnaire. Respondents were firstly get familiarize with the objective of the study and their consent were also taken before filling the questionnaire.

Procedure of Data Collection: Data was collected in the odd semester of the undergraduate students in 2021 from. Tool was given to participants and appropriately 60 minutes were given to fill the questionnaire. First page of the tool was related to the description of the questionnaire and consent of the participants.

Procedure of Data Analysis: Percentage analysis and logistic regression analysis were done to analyze the association between mass media and depression of the participants. Accordingly the null hypothesis was checked.

Results:

Table 1 shows that out of 520 undergraduate students, 53.8 % of them reported themselves as depressed, in which 46.2 % were grouped under low depression, 48.8 % were mild depressed and 5 % were reported as moderate depressed. Majority of the male respondents (64.6 %) were reported depression compared to the female respondents (38.6 %). Furthermore, 61.4 % of the female respondents were reported low depression whereas 58.7 % of reported mild depression. General caste (57.9%) reported highest percentage of depression compared to the other caste. Respondents depression level were nearly equally distributed in all the group of mother's and father's education, number of family members, average online studies. Respondent's family where the family decision was taken by mother or mutually are having more depression (63%) compared to the family where decisions are taken by father only. Family of respondents coming under below poverty line (58.2%) having more depression compared to the family belonging from above poverty line. Family of the respondents where agriculture (39.8%) was the main source of income, are having lowest depression compared to the family having government or other main source of income. Students from science background (58.8%) were reported more depression compared to the social sciences group (52.4%). Respondent's active social media platforms profile were positively associated with the depression as students having 4 or more active social media platforms are more depressed (77%). Furthermore, students having more number of friends on Whatsapp or Facebook reported more depression (69.3% and 70.3% respectively). Above table also shows a very interesting finding that respondents having more number of friends in real or physical world were reported less depression compared to the respondents having less or no friends in the real or physical world. Respondents using print media for 120-300 minutes per day are reported more depression (64.5%), whereas respondents using more than 300 minutes are reported more depression (56.6%). Respondents using broadcast media for 120-300 minutes per day are reported less depression (34.9%), whereas respondents using broadcast media for 1-119 minutes per day were reported more depression (58%). Furthermore, respondents using social media for more than 300 minutes per day are reported more depression (56.5%) compared to the other groups of social media users.

Table 1- Percentage of respondent reported perceived depression

Background characteristics	Low depression	Mild depression	Moderate depression	Total	Depression	N
	%	%	%	%	%	
Caste						
General caste	42.1	50.1	7.7	100	57.9	337
OBC	55.1	44.9	0.0	100	44.9	127
SC/ST	50.0	50.0	0.0	100	50.0	56
Gender						
Female	61.4	34.9	3.7	100	38.6	215
Male	35.4	58.7	5.9	100	64.6	305
Mother's Education						
No education/primary school	53.8	43.3	2.9	100	46.2	104
HSC/intermediate	40.5	55.5	4.0	100	59.5	227
Graduation/Post graduation	48.7	43.9	7.4	100	51.3	189
Father's Education						
No education/primary school	37.0	63.0	0.0	100	63.0	27
HSC/intermediate	52.0	48.0	0.0	100	48.0	123
Graduation/Post graduation	44.9	48.1	7.0	100	55.1	370
Number of family member						
1-4	53.5	40.2	6.3	100	46.5	127
5-6	41.0	53.9	5.1	100	59.0	295
7-13	52.0	44.9	3.1	100	48.0	98
Decision maker in family						
Father/other	58.9	38.4	2.7	100	41.1	219
Mother/mutually	36.9	56.5	6.6	100	63.1	301
On average studies online						
1-3 hours	46.7	48.4	4.9	100	53.3	122
4-5 hours	45.4	50.2	4.4	100	54.6	205
6-12 hours	46.6	47.7	5.7	100	53.4	193
Household income						
BPL	41.8	54.4	3.8	100	58.2	237
APL	49.8	44.2	6.0	100	50.2	283
Main source of income of family						
Agriculture	60.2	28.7	11.1	100	39.8	108
Private	47.6	50.3	2.1	100	52.4	143
Government	45.1	50.8	4.1	100	54.9	122
Other	35.4	60.5	4.1	100	64.6	147

On average use of internet for study per day						
not using	56.0	44.0	0.0	100	44.0	25
120-300 minute	45.9	49.5	4.6	100	54.1	327
more than 300	45.2	48.2	6.5	100	54.8	168
Subject Background						
Arts/social science	47.6	47.4	5.0	100	52.4	401
Science	41.2	53.8	5.0	100	58.8	119
No. of active social media platforms profile						
0-1	72.7	23.4	3.9	100	27.3	77
2	59.3	36.3	4.4	100	40.7	135
3	46.8	49.6	3.5	100	53.2	141
04-Jun	22.8	70.1	7.2	100	77.2	167
Number of friends in Whatsapp						
0	73.9	26.1	0.0	100	26.1	23
1-200	55.4	40.7	3.9	100	44.6	285
201-900	30.7	62.3	7.1	100	69.3	212
Number of friends in Facebook						
0	51.7	42.2	6.0	100	48.3	232
1-200	69.7	30.3	0.0	100	30.3	89
201-1400	29.1	64.8	6.0	100	70.9	199
Number of real/best friends						
0-1	27.5	64.7	7.8	100	72.5	153
2	42.1	52.8	5.1	100	57.9	178
3+	65.1	32.3	2.6	100	34.9	189
Print Media (duration per day use)						
not using	91.4	8.6	0.0	100	8.6	35
1 minute-119 minute	47.0	50.2	2.8	100	53.0	215
120-300 minute	35.5	59.0	5.4	100	64.5	166
more than 300	46.2	43.3	10.6	100	53.8	104
Broadcast Media (duration per day use)						
not using	55.7	38.6	5.7	100	44.3	88
1 minute-119 minute	41.9	52.7	5.4	100	58.1	389
120-300 minute	65.1	34.9	0.0	100	34.9	43
Social Media (duration per day use)						

1 minute-119 minute	52.5	47.5	0.0	100	47.5	40
120-300 minute	52.8	42.6	4.6	100	47.2	108
more than 300	43.5	50.8	5.6	100	56.5	372
Total	**46.2**	**48.8**	**5.0**	**100**	**53.8**	**520**

Table 2 presents the results of regression analysis for depression. The results show that students from the science background were about three times likely to have depression (AOR = 2.88, 95% C.I:1.292–6.401) compared to the social science students. Furthermore, respondents having three or more number of friends in real or physical world had lower odds of depression (AOR = 0.20, 95% C.I:0.100–0.385) compared to the respondents having 0 or 1 friends in the real or physical world. Above table also indicated that male respondents have higher odds of depression compared to the female respondents (AOR = 1.12, 95% C.I:0.463–2.706) but it is not significant. Furthermore, it is suggested that odds of depression is positively associated with the increasing hours of online study of the respondents as odds of depression is less than half for the respondents studying online for 6-12 hours(AOR = 0.37, 95% C.I:0.073–1.909). Result also shows that respondents from the above poverty line have higher odds of depression compared to the respondents coming from the below poverty line. Finding suggested that respondents from the family whose main source of income is government job have higher odds (AOR = 4.33, 95% C.I:1.828–10.261) of depression compared to the respondents, whose family main source of income is agriculture. It is further reported that there is positive association between odds of depression among undergraduate students and more number of active social media platforms profile as respondents having 4 or more number of active social media platforms profile have higher odds of depression (AOR = 21.05, 95% C.I:6.993–63.368) compared to the respondents having 0 or 1 active social media platform profile.

Key observation made in the present study is that respondents using print media for 1-119 minute per day and 120-300 minutes per day have higher odds (AOR = 15.70, 95% C.I:3.191-77.279) and AOR = 21.54, 95% C.I:4.432–104.699 respectively) compared to the respondents who are not using print media. But in its contrary, it is clear from the above table that respondents using broadcast media for 1-119 minutes per day and 120-300 minutes per day have less odds of depression (AOR = 2.88, 95% C.I:1.292–6.401 and AOR = 2.88, 95% C.I:1.292–6.401 respectively) compared to the students who are not using broadcast media. Similarly, respondents using social media for 120-300 minutes per day and more than 300 minutes per day have less odds of depression (AOR = 0.83, 95% C.I:0.298–2.300 and AOR = 0.86, 95% C.I:0.325–2.285 respectively) compared to the students who are using social media for 1-119 minutes per day.

Table 2- Binary logistic regression analysis showing association between independent variables and depression among undergraduate students in Varanasi, India

Variables	Odds Ratio	P>z	95% CI	
Caste				
General caste	1.00			
OBC	0.50	0.06	0.241	1.035
SC/ST	1.34	0.51	0.559	3.226
Gender				
Female	1.00			

Male	1.12	0.80	0.463	2.706
Mother's Education				
No education/primary school	1.00			
HSC/intermediate	2.61	0.01	1.279	5.323
Graduation/Post graduation	1.09	0.83	0.508	2.320
Father's Education				
No education/primary school	1.00			
HSC/intermediate	0.42	0.18	0.121	1.488
Graduation/Post graduation	0.53	0.31	0.155	1.812
Number of family member				
1-4	1.00			
5-6	1.79	0.06	0.971	3.304
7-13	1.11	0.81	0.473	2.602
Decision maker in family				
Father/other	1.00			
Mother/mutually	1.31	0.34	0.755	2.277
On average studies online				
1-3 hours	1.00			
4-5 hours	0.54	0.08	0.273	1.077
6-12 hours	0.37	0.24	0.073	1.909
Household income				
BPL	1.00			
APL	1.32	0.33	0.755	2.305
Main source of income of family				
Agriculture	1.00			
Private	2.03	0.08	0.930	4.415
Government	4.33	0.00	1.828	10.261
Other	6.94	0.00	2.891	16.678
On average use of internet for study per day				
not using	1.00			
120-300 minute	1.00			
more than 300	1.18	0.85	0.231	5.991
Subject Background				
Arts/social science	1.00			
Science	2.88	0.01	1.292	6.401
No. of active social media platforms profile				
0-1	1.00			
2	4.07	0.01	1.488	11.122
3	7.13	0.00	2.507	20.253

04-Jun	21.05	0.00	6.993	63.368
Number of friends in Whatsapp				
0	1.00			
1-200	0.83	0.85	0.119	5.779
201-900	0.91	0.93	0.111	7.431
Number of friends in Facebook				
0	1.00			
1-200	0.17	0.00	0.075	0.382
201-1400	1.16	0.63	0.627	2.165
Number of real/best friends				
0-1	1.00			
2	0.43	0.02	0.219	0.850
3+	0.20	0.00	0.100	0.385
Print Media (duration per day use)				
not using	1.00			
1 minute-119 minute	15.70	0.00	3.191	77.279
120-300 minute	21.54	0.00	4.432	104.699
more than 300	15.71	0.00	2.992	82.506
Broadcast Media (duration per day use)				
not using	1.00			
1 minute-119 minute	0.50	0.16	0.195	1.303
120-300 minute	0.11	0.00	0.031	0.394
Social Media (duration per day use)				
1 minute-119 minute	1.00			
120-300 minute	0.83	0.72	0.298	2.300
more than 300	0.86	0.76	0.325	2.285

Discussion

This study examined the association between social media use and depression among undergraduate students. Our results based on multivariate regression analysis indicated that level of depression was significantly associated with use of social media. This study is consistent with some prior study that showed no association or mixed results (Jelenchick et al., 2013; Moreno et al., 2012).While some study shows a strong and significant association between social media use and depression among young adult (Lin et al., 2016; Ahmad et al., 2018). Ahmed et al., 2018 found that the students who spent more time on social media for searching health related information and games were more depressed than those who used social media for chat with friends and family.

The finding indicated that higher number of real friend had lower odds ratio of depression as well as those students who used more social media platform profiles had higher odds ratio also. Result shows that student who belongs to science background had significantly higher depression compared to students from the Arts/social sciences group. It may have happened due to higher pressure on science students compared to Arts student.

Previous studies also show that there is significant association between social media usage and depression. Some recent studies suggested that teenage and young adult users who spend more time on social media were shown to have a considerably higher rate of reported depression than those who spent less time online (Lin et al., 2016; Twenge et al., 2018). Some other previous study had also revealed that gender differences have a significant impact on excessive social media use, especially Facebook addiction (Khumsri et al., 2015; Rashid et al., 2015). A prior study conducted in Bangladesh (Mamun and Griffiths, 2019) found no significant gender differences in Facebook addiction. Table from cross tabulation indicated that male participants were more addicted than female participants, who is consistent with some previous studies (Rashid et al., 2019). Study of Bayram and Bilgel (2008) reported that the difference between the mean depression scores among male and female students was not statistically significant. Depression, anxiety and stress scores were higher among students who were studying social and political sciences than those who were studying basic sciences and engineering or medicine. Close relationships with Facebook contacts, social comparison, problematic social media use, and excessive social media use were significantly associated with depression.

Conclusion-

Undergraduate students with a more frequent use of print media were associated with significantly higher odds of having symptoms of depression but broadcast media use had negative odd ratio. In our study, social media use had no significant result. Our result also revealed that student who belongs to science background had significantly higher depression compared to students belong to Arts/social sciences.

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References:

Ahmad, N., Hussain, S., & Munir, N. (2018). Social networking and depression among university students. *Pakistan Journal of Medical Research*, *57*(2), 77-82.

A.J. Ferrari, A.J. Somerville, A.J. Baxter, R. Norman, S.B. Patten, T. Vos, H.A. Whiteford Global variation in the prevalence and incidence of major depressive disorder: a systematic review of the epidemiological literature Psychological Medicine, 43 (3) (2013), pp. 471-481, http://doi.org/10.1017/S0033291712001511

Arvind BA, Gururaj G, Loganathan S, et al. Prevalence and socioeconomic impact of depressive disorders in India: multisite population-based cross-sectional study. BMJ Open 2019;9:e027250. http://doi:10.1136/ bmjopen-2018-027250.

Bayram, N., & Bilgel, N. (2008). The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. *Social psychiatry and psychiatric epidemiology*, *43*, 667-672. https://doi.org/10.1007/s00127-008-0345-x

Bromet E, L.H. Andrade, I. Hwang, N.A. Sampson, J. Alonso, G. de Girolamo, …, R.C. Kessler Cross-national epidemiology of DSM-IV major depressive episode BMC Medicine, 9 (2011), http://doi/10.1186/1741-7015-9-9010.1186/1741-7015-9-90 90-7015-9-90.

Erskine, H. E., Moffitt, T. E., Copeland, W. E., Costello, E. J., Ferrari, A. J., Patton, G., ... & Scott, J. G. (2015). A heavy burden on young minds: the global burden of mental and substance use disorders in children and youth. *Psychological medicine*, *45*(7), 1551-1563.

Es¸kisu, M., Çam, Z., Gelibolu, S., & Rasmussen, K. R. (2020). Trait mindfulness as a protective factor in connections between psychological issues and Facebook addiction among Turkish university students. Studia Psychologica, 62(3), 213–231. https://doi.org/10.31577/sp.2020.03.801

Ferrari, A. J., Charlson, F. J., Norman, R. E., Patten, S. B., Freedman, G., Murray, C. J., ... & Whiteford, H. A. (2013). Burden of depressive disorders by country, sex, age, and year: findings from the global burden of disease study 2010. *PLoS medicine*, *10*(11), e1001547. https://doi.org/10.1371/journal.pmed.1001547

GBD 2016 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. Lancet. 2017 Sep 16;390(10100):1211-1259.. Erratum in: Lancet. 2017 Oct 28;390(10106):e38. PMID: 28919117; PMCID: PMC5605509. http://doi.org/10.1016/S0140-6736(17)32154-2

Global, regional, and national incidence, prevalence, and years lived with disability for 328 diseases and injuries for 195 countries, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016 Lancet, 390 (10100) (2017), pp. 1211-1259, http://doi.org/10.1016/S0140-6736(17)32154-2

H.E. Erskine, T.E. Moffitt, W.E. Copeland, E.J. Costello, A.J. Ferrari, G. Patton, …, J.G. Scott A heavy burden on young minds: the global burden of mental and substance use disorders in children and youth Psychological Medicine, 45 (7) (2015), pp. 1551-1563, http://doi.org/10.1017/S0033291714002888

H.A. Whiteford, W.J. Buckingham, M.G. Harris, P.M. Burgess, J.E. Pirkis, J.J. Barendregt, W.D. Hall Estimating treatment rates for mental disorders in Australia Australian Health Review, 38 (1) (2014), pp. 80-85, http://doi.org/10.1071/AH13142

J. Ormel, M. Vonkorff, T. Ustun, S. Pini, A. Korten, T. Oldehinkel Common mental-disorders and disability across cultures – Results from the who collaborative study on psychological-problems in general health-care Jama-Journal of the American Medical Association, 272 (22) (1994), pp. 1741-1748, http://doi.org/10.1001/jama.272.22.1741

Jelenchick, L. A., Eickhoff, J. C., & Moreno, M. A. (2013). "Facebook depression?" Social networking site use and depression in older adolescents. *Journal of Adolescent Health*, *52*(1), 128-130.http://www.ncbi.nlm.nih.gov/pubmed/23260846. https://doi.org/10.1016/j.jadohealth.2012.05.008

Khumsri J, Yingyeun R, Mereerat Manwong, Hanprathet N, Phanasathit M. Prevalence of Facebook Addiction and Related Factors Among Thai High School Students. J Med Assoc Thai. 2015 Apr;98 Suppl 3:S51-60. PMID: 26387389

Lamb, IN. Department of Health. Future in mind: promoting, protecting and improving our children and young people's mental health and wellbeing. 2015. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/414024/Childrens_Mental_Health.pdf

Lin, L. Y., Sidani, J. E., Shensa, A., Radovic, A., Miller, E., Colditz, J. B., ... & Primack, B. A. (2016). Association between social media use and depression among US young adults. *Depression and anxiety*, *33*(4), 323-331. http://doi.org/10.1002/da.22466

Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. PLoS Med. 2006 Nov;3(11):e442. PMID: 17132052; PMCID: PMC1664601. http://doi.org/10.1371/journal.pmed.0030442

Mamun, M. A. A., & Griffiths, M. D. (2019). The association between Facebook addiction and depression: A pilot survey study among Bangladeshi students. Psychiatry Research, 271, 628–633. https://doi.org/10.1016/j.psychres.2018.12.039

Moreno, M. A., Jelenchick, L., Koff, R., & Eickhoff, J. (2012). Depression and internet use among older adolescents: An experience sampling approach. *Psychology*, *3*(09), 743. http://dx.doi.org/10.4236/psych.2012.329112

Ormel, J., VonKorff, M., Ustun, T. B., Pini, S., Korten, A., & Oldehinkel, T. (1994). Common mental disorders and disability across cultures: results from the WHO Collaborative Study on Psychological Problems in General Health Care. *Jama*, *272*(22), 1741-1748. doi:10.1001/jama.1994.03520220035028

Patton, G., & Borschmann, R. (2017). Responding to the adolescent in distress. *The Lancet*, *390*(10094), 536-538. https://doi.org/10.1016/S0140-6736(17)31331-4

Rashid Soron, T., & Ahmed Tarafder, M. (2015). The relation between Facebook use pattern and demographic factors. Journal of Psychiatry, 18(6). https://doi.org/ 10.4172/2378-5756.1000326

Rashid, U. K., Ahmed, O., & Hossain, M. A. (2019). Relationship between need for belongingness and Facebook addiction: Mediating role of number of friends on Facebook. International Journal of Social Science Studies, 7(2), 36. https://doi.org/ 10.11114/ijsss.v7i2.4017

R.C. Kessler, E.J. Bromet The epidemiology of depression across cultures Annual Review of Public Health, 34 (2013), pp. 119-138. http://doi.org/10.1146/annurev-publhealth-031912-114409

Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*, *6*(1), 3-17. https://doi.org/10.1177/2167702617723376

Whiteford, H. A., Degenhardt, L., Rehm, J., Baxter, A. J., Ferrari, A. J., Erskine, H. E., ... & Vos, T. (2013). Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. *The lancet*, *382*(9904), 1575-1586. https://doi.org/10.1016/S0140-6736(13)61611-6

https://www.un.org/en/global issues/youth#:~:text=Today%2C%20there%20are%201.2%20billion,cent%20of%20the%20global%20population.

https://www.ilo.org/newdelhi/info/WCMS_175936/lang--en/index.htm

https://www.cdc.gov/nchs/data/databriefs/db379-H.pdf

https://read.oecd-ilibrary.org/view/?ref=1094_1094452-vvnq8dqm9u&title=Supporting-young-people-s-mental-health-through-the-COVID-19-crisis