

A Study On The Relationship Between Loneliness And Psychological Distress Among Adults

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ABSTRACT: Loneliness can be described as a condition of distress or uneasiness, which is a result of perceived isolation. It causes emotional pain due to a deficit of social connectedness. Psychological distress is a term which is used to explain a subjective experience accompanied by unpleasant feelings such as depression and anxiety. The current study aimed to investigate the relationship between loneliness and psychological distress among adults. There is an increased necessity to learn more about the causes of psychological distress in the modern world, its relationship to loneliness and social isolation, as it will benefit the diagnostic field of psychology. The study was conducted by administering the UCLA Loneliness Scale Revised Version 3 designed by Russel D. (1996) and the Kessler Psychological distress Scale (K10) developed by Kessler R. (2003) The data was collected through online social media platforms such as Facebook, Instagram and WhatsApp. A total number of 319 adult participants took part in the study, out of which 144 respondents were males and 176 respondents were females. The participants were either pursuing their studies, working or were unemployed. Convenience sampling technique was employed to recruit participants. The scores of loneliness obtained by the respondents were correlated with the scores of psychological distress using Pearson's correlation coefficient. The results revealed that there was a significant positive correlation between loneliness and psychological distress among adults. However, insignificant gender differences were found in the levels of loneliness and psychological distress among adults when independent *t*- tests were conducted.

Keywords: Loneliness, psychological distress, adults

I.INTRODUCTION

LONELINESS

Loneliness refers to a condition of distress or uneasiness which is a result of a perceived isolation. It causes emotional pain due to deficit of social connectedness. (Perlman & Peplau, 1981) Loneliness is complex and is unique to every person. It can cause feelings of emptiness and makes a person feel unwanted. It is state of mind where an individual craves human connection, but the individual finds himself unable to connect with those around him. Loneliness does not stem from a single root cause. There are many contributing factors for it such as culture (Sha'ked & Rokach, 2015), relocation, loss of a loved one (N.A. & J.H., 2013) (Murthy, 2020), divorce, low self-esteem, internet (Hughes, 1999), genetics (Boomsma et al., 2005) and moving out for higher studies (Cann, 2020).

Types of Loneliness

Loneliness can be classified in two types. Social Loneliness refers to loneliness which is caused by the lack of a social circle. Emotional loneliness stems from deficit of nurturing relationships which lack deep

connections. (Weiss, 1973). Some other types of loneliness are familial loneliness (Lasgaard et al., 2011), romantic loneliness (Lesch et al., 2016), existential loneliness and cosmic loneliness (McGraw, 2010).

Symptoms of Loneliness:

Symptoms of loneliness may include cardio vascular problems (Leigh-Hunt et al., 2017), fatigue or loss of energy, inability to concentrate and maintain focus, difficulty falling and maintaining sleep (insomnia), loss or increase in appetite and weight, obesity, high cholesterol, hypertension (Cacioppo & Hawkley, 2010), weakened immune system, body pain and aches, feelings of worthlessness, anxiety, restlessness, emptiness, isolation, and negative feelings of self-worth and self-doubt, increased onomania, craving for human contact, physical warmth, drug abuse, increased screen time most of which is because of binge watching series and films, depression and suicidal thoughts (Chang et al., 2019). The individual may feel exhausted and burnt out in trying to socialise with others and they often become hypervigilant. (Sha'ked & Rokach, 2015)

Social Isolation

Social isolation is a concept that is similar to loneliness. It is condition of total or almost total loss of contact between an individual and the society. (Perlman & Peplau, 1981). It differs from loneliness on some bases. The main difference is that loneliness is a subjective feeling, social isolation is objective. Loneliness is not long lasting and it may only be temporary, while social isolation may last for longer periods because it is voluntary. However, loneliness is a subjective feeling that is not voluntary to an individual. (Hawkley et al., 2007).

Causes of Social Isolation

Social isolation can be triggered by members of society, suffering from long term illness, physical and mental disabilities, unemployment, domestic violence, physical and mental abuse, financial problems, transport problems and old age. (Cacioppo & Hawkley, 2003, Lin et al., 2013)

Symptoms of Social Isolation

Social isolation can cause feelings of loneliness, fear of meeting other people and a personal lack of esteem i.e., negative self-esteem. It can cause an individual to stay in isolation with no contact with family, friends, and significant others. In such a situation an individual may stop going to work and stay at home for long periods of time. It also causes anxiety in individuals.

Loneliness and social isolation can pose many risks to an individual's life. Physically and mentally, there are many health risks associated with feelings of loneliness and social isolation. Physical problems include obesity and premature birth. Mild feelings of loneliness can cause sleep disturbances. They can also interfere with the cognitive functions and may cause stress, poor decision making, poor attentiveness and forgetfulness. However, chronic loneliness is known to have adverse effects such as drug abuse, Alzheimer's disease, dementia, cardiovascular diseases such as heart attacks, myocardial infarction, angina pectoris, hypertension, stroke and type 2 diabetes. It can increase chances of sleep disorders, depression and suicide. Social isolation can make an individual anxious and it can also lead to anxiety disorders. (Hawkley et al., 2007)

PSYCHOLOGICAL DISTRESS

Psychological distress is a term which is used to explain a subjective experience which is accompanied by unpleasant feelings of depression and anxiety. These emotions can have a toll on a person's normal level of functioning in day-to-day activities. This state of mind can influence an individual to hold a biased outlook

of the environment and self. It differs from psychological disorder on the basis of time period. While psychological disorders are long lasting, psychological distress is transient and it is related to specific stressors which trigger it. Psychological distress reduces when the stressor is removed.

Causes of Psychological Distress

It results from major life problems such as transitions (Jia & Loo, 2018), crises, and catastrophes. It can also stem from micro stressors resulting from daily hassles (Aldwin et al., 2014), ambient stressors (Campbell, 1983) and organisational stressors. The severity of psychological distress differs for each individual as it is related to a person's internal life. It is based on their own subjective perception of the world around them. Different stressors can cause a psychological burn out. These stressors include the loss of a loved one, divorce, failure to attain a goal and relocation. When an individual is unable to cope with the pressure of a stressor (internal or external), that individual succumbs under the stress. This may cause feelings of anxiety, sadness, sleeping problems and many other effects.

Symptoms of Psychological Distress

People experience psychological distress at many points in their life. Almost always, they are able to come up with coping mechanisms to overcome distressful feelings. However, sometimes when the stress and pressure is too hard to handle people succumb and experience adverse symptoms. The major symptoms of psychological distress include feelings of tiredness, nervousness, hopelessness, restlessness, depression, anxiousness, worthlessness and often become tearful (Schlotz et al., 2011). Everything seems like an effort to do and an individual may become fidgety and unable to remain calm. People gain weight, sleep problems (Hirotzu et al., 2015), experience anger management problems, obsessive thoughts and compulsions and reckless behaviour. It becomes difficult to lighten up one's mood as they experience decreased pleasure generally and sexually. In severe cases, people may experience hallucinations, delusions, panic attacks and severe anxiety. (Kessler, Andrews, & Colpe, 2002)(Mirowsky & Ross, 2017). It is also cause of various other illnesses (Folkman, 2013) like common cold. (Edmunds, 1997)

NEED FOR STUDY:

In the era of digital technology and with the advent of social media and various other factors, people have drifted apart from each other. Loneliness and social isolation are increasing widely throught the world. It may either be because an individual has been distanced from the society or because the individual perceives himself as lonely. After the spread of the novel corona virus, people have been locked down in their homes with no contact with other people because of social distancing. This has made individuals feel physically and emotionally distant from significant people in their lives (Ward, McGarrigle, Hever, Paul O'mahoney, & Kenny, 2020). People are also feeling more stressed, anxious and depressed than before. Psychological distress has been on a rise in recent years, especially after the Covid-19 pandemic (McGinty, Presskreischer, Han, & Barry, 2020). As loneliness, social isolation and psychological distress have been increasing, there is a need to understand if any relationship exists between loneliness and psychological distress as it will help in better understanding of causes of anxiety and depression.

II. REVIEW OF LITERATURE

Ayis & Ebrahim, (2006), conducted a study to find the relationship between loneliness and psychological distress among older adults over the age of sixty-five years. It was found that psychological distress was

higher in older adults who were lonelier. It was also found that the older adults who were not familiar with their neighbours were more prone to depression.

Hunley, (2009), examined loneliness levels, psychological distress and general functioning in students who went abroad for higher studies to Rome in 2007. The study concluded that students who were lonelier had higher levels of psychological distress and they exhibited lower levels of functioning generally.

Jackson and Cochran, (1991) assessed the relationship between loneliness and psychological symptoms. They found that there existed a significant relationship was between loneliness and low self-esteem and depressive symptoms. In another study carried out by Lee, et al., (2001), examined the relationship between social connectedness, dysfunctional interpersonal behaviour and psychological distress. The results of the study revealed that the participants who were less socially connected exhibited higher dysfunctional interpersonal behaviours and higher levels of psychological distress.

Menec, et al., (2020) conducted a research study to ascertain the relationship between social isolation and loneliness and social support and psychological distress. The results indicated that the group that was most socially isolated and lonely was found to have higher levels of psychological distress when compared to the participants of other experimental groups. In one other study conducted by Richard, et al., (2017) on 20,007 participants from the Swiss based health survey assessed the relationship between loneliness and physical and mental health. The results of the study revealed that the participants who were lonelier showed more physical and mental ailments like diabetes, depression, stress, high cholesterol levels. It was also found that loneliness was associated with most lifestyle factors such as smoking significantly.

Taylor, et al., (2018) conducted a research study to assess the relationship between social isolation, depression and psychological distress among older adults. This study was subjective to extended family members and friends. Results indicated that social isolation from extended family and friends was associated with depressive symptoms and increased levels of psychological distress.

III.METHODOLOGY

3.1 AIM

The aim of the study was to study the relationship between loneliness and psychological distress in adults.

3.2 OBJECTIVES

- 1.To assess the relationship between loneliness and psychological distress among male and female adults.
- 2.To investigate the gender differences in loneliness and psychological distress among adults.

3.3 HYPOTHESIS

- 1.There will be no significant relationship between loneliness and psychological distress among adults.
- 2.There will be no significant relationship between loneliness and psychological distress among adult males.
- 3.There will be no significant relationship between loneliness and psychological distress among adult females.
- 4.There will be no significant relationship difference in levels of loneliness among adult males and females.
- 5.There will be no significant relationship difference in levels of psychological distress among adult males and females.

3.4 RESEARCH DESIGN

Expost- facto research design was used to conduct this research.

3.5 VARIABLES OF THE STUDY

Independent Variable

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❖ Loneliness

Dependent Variable

❖ Psychological Distress

3.6 SAMPLE DESIGN

Convenience sampling technique was employed to recruit participants for the study. The sample consisted of male and female respondents who belonged in the age range of 20 to 60 years. Out of a sample of 319 respondents, 144 were males and 176 were females. They were either pursuing their studies, working or were unemployed. The respondents belonged to different socio-economic backgrounds. However, most of them belonged to a middle-class socio-economic background residing in urban areas. All the respondents had an elementary understanding of the English language.

3.7 DESCRIPTION OF THE TOOLS

NAME OF THE TOOLS

The tools used to conduct the study were UCLA Loneliness Scale Revised Version 3 and Kessler Psychological Distress Scale (K10).

UCLA Loneliness Scale Revised Version 3

Author of the Tool: Russel D. (1996)

UCLA Loneliness Scale Revised Version 3 is a 20-item scale designed to measure a person's subjective feelings of loneliness and as well as social isolation during past 30 days. Each item is rated on a four-point Likert scale ranging from 1 (Never), 2 (Rarely), 3 (Sometimes) to 4 (Often).

Scoring: Item no. 1,5,6,9,10,15,19, and 20 are reverse scored and a total score is calculated. Higher scores indicate increased levels of feelings of loneliness and social isolation in the subject.

Reliability: It is a very reliable scale with the coefficient alpha ranging from .89 to .94.

Validity: Convergent validity and construct validity was well specified and supported by significant measures.

Kessler Psychological Distress Scale (K10)

Author of the Tool: Kessler R. (2003)

Kessler Psychological Distress Scale (K10) is a 10-item scale that was developed to measure psychological distress based on the past 4 weeks. Each item is rated on a five-point Likert scale ranging from 1 (None of the time), 2 (A little of the time), 3 (Some of the time), 4 (Most of the time) to 5 (All of the time).

Scoring: A total sum of the scores is obtained and higher scores indicate higher severity of mental disorder.

Reliability: This scale has a strong reliability with the Cronbach's alpha equal to .88.

Validity: The validity of this scale was found to be to be good.

3.8 PROCEDURE

The data was collected from participants by administering the tools through the use of Google forms. The Google forms were circulated on online social media platforms such as WhatsApp, Facebook and Instagram. The confidentiality of the personal details and responses was assured to the participants in advance. Before beginning to fill the form, the participants were given clear instructions. They were also informed that there were no right or wrong answers and were asked to give answers that were suitable for them.

3.9 STATISTICAL ANALYSIS

Pearson’s Correlation Coefficient was computed to investigate the relationship between loneliness and psychological distress in male and female adults. Independent sample t tests were calculated to assess loneliness levels in adult males and females.

IV. RESULTS AND DISCUSSION

Table 4.1: Pearson correlation coefficient between loneliness and psychological distress among adults

Variables	N	Correlation Coefficient (<i>r</i>)
1. Loneliness	319	0.56* (S)
2. Psychological Distress	319	

Note **p* < 0.05

Pearson’s Correlation Coefficient was computed to investigate the relationship between loneliness and psychological distress among adults. Results indicated that there was a significant positive relationship between loneliness and psychological distress (*r* (317) = 0.56) among adults.

Therefore, the null hypothesis which states that there will be no significant relationship between loneliness and psychological distress among adults was rejected.

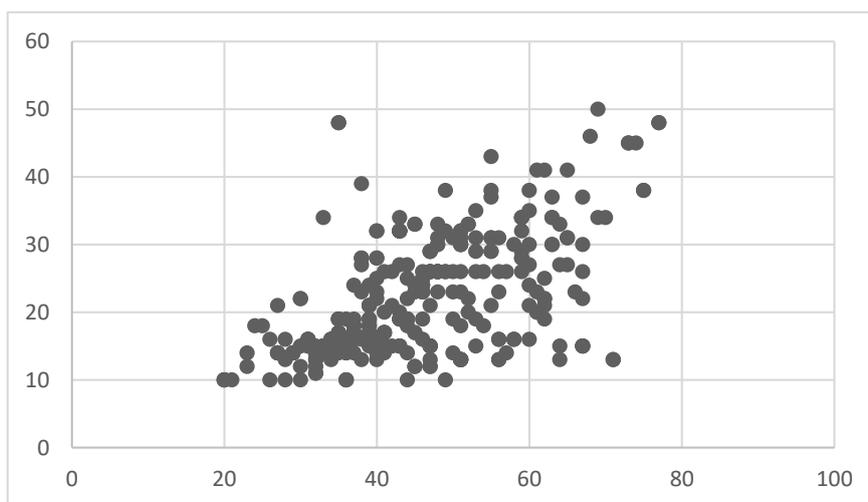


Figure 4.1 Shows the correlation between loneliness and psychological distress in adults

Table 4.2: Pearson correlation coefficient between loneliness and psychological distress among adult males

Variables	N	Correlation Coefficient (<i>r</i>)
1. Loneliness	143	0.58* (S)
2. Psychological Distress	143	

Note $*p < 0.05$

Pearson’s Correlation Coefficient was computed to investigate the relationship between loneliness and psychological distress among adult males. Results indicated that there was a significant positive relationship between loneliness and psychological distress ($r(141) = 0.58$) among adult males.

Therefore, the null hypothesis which states that there will be no significant relationship between loneliness and psychological distress among adult males was rejected.

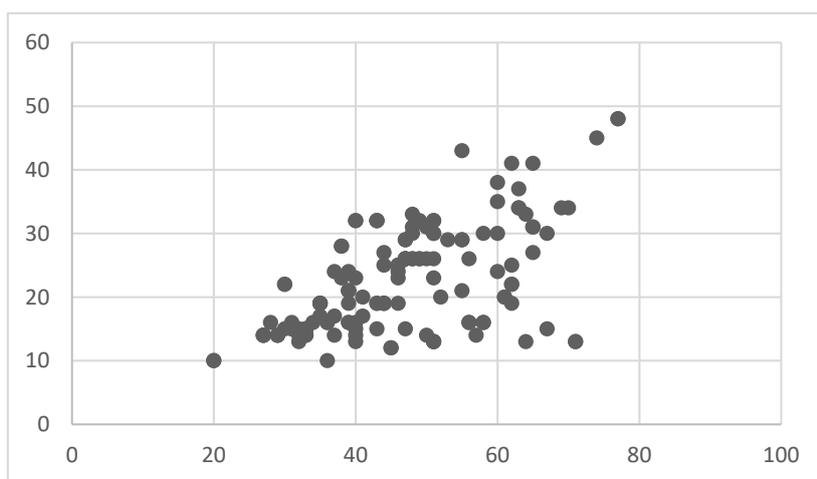


Figure 4.2 Shows the correlation between loneliness and psychological distress among adult males

Table 4.3: Pearson correlation coefficient between loneliness and psychological distress among adult females

Variables	N	Correlation Coefficient (<i>r</i>)
1. Loneliness	176	0.55* (S)
2. Psychological Distress	176	

Note $*p < 0.05$

Pearson’s Correlation Coefficient was computed to investigate the relationship between loneliness and psychological distress among adult females. Results indicated that there was a significant positive relationship between loneliness and psychological distress ($r(174) = 0.55$) among adult females.

Therefore, the null hypothesis which states that there will be no significant relationship between loneliness and psychological distress among adult females was rejected.

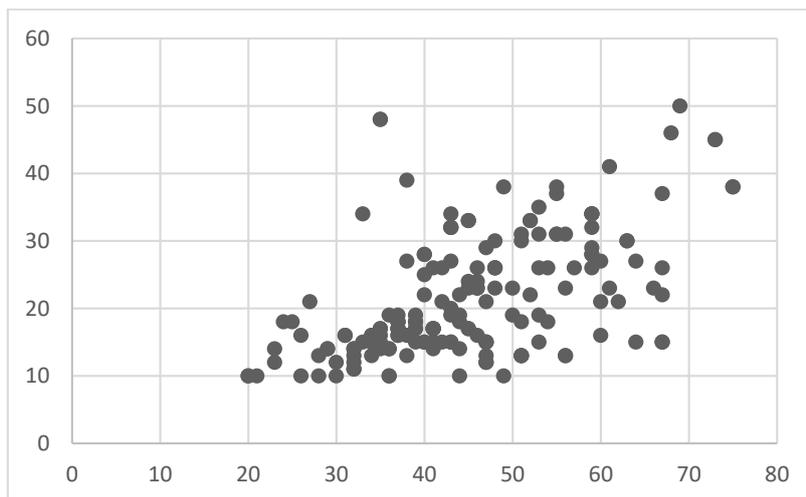


Figure 4.3 shows the correlation between loneliness and psychological distress among adult females

Table 4.4: Independent *t*- test scores of loneliness among adult males and females.

Variable	Gender	Mean (SD)	<i>n</i>	<i>t</i> -Value	<i>df</i>
Loneliness	Males	46.54 (12.5)	143	1.1 (NS)	297
	Females	45.02 (11.86)	176		

p= .271

An independent *t*- test was calculated to assess differences loneliness among adult males and females. The results indicate that there was no significant difference in levels of loneliness among adult males and females, $t(317) = 1.1$, $p = 0.271$. These findings show that both the groups have no significant difference in levels of loneliness, with mean scores of adult males ($M = 46.54$, $SD = 12.5$), when compared to the mean scores of adult females ($M = 45.02$, $SD = 11.86$). Thus, it can be inferred that there is no difference in levels of loneliness among adult males and females.

Therefore, the null hypothesis that there will be no significant difference in the levels of loneliness among adult males and females is accepted.

Table 4.5 Independent *t*- test scores of psychological distress among adult males and females

Variable	Gender	Mean (SD)	<i>n</i>	<i>t</i> -Value	<i>df</i>	<i>p</i> value
Psychological Distress	Males	22.54 (8.38)	143	0.923 (NS)	312	.356
	Females	21.64 (9.05)	176			

An independent *t*- test was calculated to assess difference in psychological distress among adult males and females. The results indicate that there was no significant difference in levels of psychological distress among adult males and females, $t(317) = 0.923$, $p = 0.356$. These findings show that both the groups have no significant difference in levels of psychological distress, with mean scores of adult males ($M = 22.54$, $SD = 8.38$), when compared to the mean scores of adult females ($M = 21.64$, $SD = 9.05$). Thus, it can be inferred that there is no difference in levels of loneliness among adult males and females.

Therefore, the null hypothesis that there will be no significant relationship difference in psychological distress among adult males and females was accepted.

V. SUMMARY AND CONCLUSION

5.1 SUMMARY

In the new age of technology people are captivated by smartphones and social media. Numerous factors have caused people to drift away from each other. People have become physically and mentally distant from each other. Especially with spread of the novel corona virus, people have been locked down in their own homes, leaving them with no physical contact with family and friends. Amidst these problems, loneliness and psychological distress has been increasing. Loneliness refers to a condition of distress or uneasiness which is a result of a perceived isolation. It causes emotional pain due to deficit of social connectedness. Psychological distress can be described as a subjective experience which is accompanied by unpleasant feelings. These emotions can have a toll on a person's normal level of functioning in day-to-day activities. (Kane, 2019) Currently, there is a wide awareness on the importance of mental health issues and thus, this study was conducted to assess the relationship between loneliness and psychological distress among young and middle adults. This study was conducted on a sample population of 319 adults, which included 144 adult males and 176 adult females who were within the age range of 20 and 60 years. Loneliness levels were measured through UCLA Loneliness Scale Revised Version 3 designed by Russel D. (1996) and psychological distress was assessed by using the Kessler Psychological Distress Scale (K10) developed by Kessler R. (2003). The data was collected by administering online forms and circulating them on social media platforms such as Facebook, Instagram and WhatsApp. The participants were assured that their responses would remain confidential. After administration, the data was compiled and it was statistically analysed by computing Pearson's correlation coefficient to investigate the relationship between loneliness and psychological distress among adults. Independent *t*-tests were also calculated to assess the levels of loneliness and psychological distress in both adult males and females. The results of the study revealed that there was a positive significant relationship between loneliness and psychological distress in adults. Similar results were obtained for male and female samples separately. However, an insignificant difference in levels of loneliness and psychological distress in adult males and females were found. These results imply that loneliness was related to psychological distress. It was also concluded that both men and women experience similar levels of loneliness and psychological distress and hence they were to be treated appropriately. These findings have contributed to the field of psychology and it would aid in better understanding of diagnostic procedures in the area of mental health.

5.2 CONCLUSIONS

The findings of this study reveal that there is a significant positive relationship between loneliness and psychological distress among adults. Similar results were found for adult males and females, where loneliness was significantly related to psychological distress. These findings illustrate the association of loneliness and psychological distress in the current scenario and it highlights the importance of how loneliness may act as a contributor of psychological distress and vice versa. However, an insignificant difference was observed in the levels of loneliness and psychological distress among adult males and females. This indicated that men and women experience similar levels of loneliness and psychological distress.

5.3 LIMITATIONS

The study was limited to a sample population of only young and middle adults. It excluded the age groups of children, adolescents and old adults. Convenience sampling technique was used to gather data. This restricted the randomization of the sample population. The study was conducted through the usage of online social media

platforms and hence it was only limited to individuals who used social media platforms like Facebook, Instagram and WhatsApp and it excluded the others who did not use such platforms. Importance was not given to the socioeconomic status and occupation of the participants in the study.

5.4 IMPLICATION

The results implicated that loneliness was related to psychological distress. These results will aid in the diagnostic process in mental health facilities to diagnose psychologically distressed patients. The insignificant difference in levels of loneliness and psychological distress will also aid in the understanding that men and women experience similar levels of loneliness and psychological distress, even though the sources and causes of such problems may differ. This emphasizes the equivalent importance of mental health issues in both the genders. Thus, individuals of both genders must be given equally appropriate care for treatment of their mental health issues regarding loneliness and psychological distress.

5.5 SUGGESTIONS FOR FUTURE RESEARCH

A few suggestions for research in future include in gathering a larger sample as it will increase validity of data and help in arriving at better conclusions. The study can be expanded to other age groups including children, adolescents and older people. The study can be conducted manually to reach out to those who do not have a social media account. Other demographic variable such as education, socioeconomic status, occupation can enhance the effectiveness of this study.

BIBLIOGRAPHY

- [1] Aldwin, C. M., Jeong, Y.-J., Igarashi, H., Choun, S., & Spiro, A. (2014). Do hassles mediate between life events and mortality in older men? *Experimental Gerontology*.
<https://doi.org/10.1016/j.exger.2014.06.019>
- [2] Boomsma, D. I., Willemsen, G., Dolan, C. V., Hawkey, L. C., & Cacioppo, J. T. (2005). Genetic and environmental contributions to loneliness in adults: The Netherlands Twin Register study. *Behavior Genetics*. <https://doi.org/10.1007/s10519-005-6040-8>
- [3] Cacioppo, J. T., & Hawkey, L. C. (2003). Social isolation and health, with an emphasis on underlying mechanisms. *Perspectives in Biology and Medicine*.
<https://doi.org/10.1353/pbm.2003.0063>
- [4] Campbell, J. M. (1983). Ambient stressors. *Environment and Behavior*.
<https://doi.org/10.1177/0013916583153005>
- [5] Cann, P. (2020). *A Biography of Loneliness: The History of an Emotion* Fay Bound Alberti, Oxford University Press, Oxford, 2019, 320 pp., hbk £20.00, ISBN 13: 978-0-19-881134-3. *Ageing and Society*. <https://doi.org/10.1017/s0144686x20000409>
- [6] Chang, E. C., Chang, O. D., Lucas, A. G., Li, M., Beavan, C. B., Eisner, R. S., McManamon, B. M., Rodriguez, N. S., Katamanin, O. M., Bourke, E. C., De La Fuente, A., Carde, O., Wu, K., Yu, E. A., Jeglic, E. L., & Hirsch, J. K. (2019). Depression, loneliness, and suicide risk among Latino college students: A test of a psychosocial interaction model. *Social Work (United States)*.
<https://doi.org/10.1093/sw/swy052>
- [7] Early/Middle Adulthood. (2011). *Institute of Medicine (US) Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities*.
<https://www.ncbi.nlm.nih.gov/books/NBK64798/>
- [8] Edmunds, W. J. (1997). Social ties and susceptibility to the common cold. *JAMA: The Journal of the*

American Medical Association. <https://doi.org/10.1001/jama.278.15.1231b>

- [9] Folkman, S. (2013). Stress: Appraisal and Coping. In *Encyclopedia of Behavioral Medicine*. https://doi.org/10.1007/978-1-4419-1005-9_215
- [10] Hawkey, L. C., Preacher, K. J., & Cacioppo, J. T. (2007). Multilevel modeling of social interactions and mood in lonely and socially connected individuals. In *Oxford Handbook of Methods in Positive Psychology*.
- [11] Hirotsu, C., Tufik, S., & Andersen, M. L. (2015). Interactions between sleep, stress, and metabolism: From physiological to pathological conditions. In *Sleep Science*. <https://doi.org/10.1016/j.slsoci.2015.09.002>
- [12] Hughes, C. (1999). The relationship of use of the internet and loneliness among college students. In *Dissertation Abstracts International Section A: Humanities and Social Sciences*.
- [13] Jia, Y. F., & Loo, Y. T. (2018). Prevalence and determinants of perceived stress among undergraduate students in a Malaysian university. *Journal of Health and Translational Medicine*.
- [14] Lasgaard, M., Goossens, L., Bramsen, R. H., Trillingsgaard, T., & Elklit, A. (2011). Different sources of loneliness are associated with different forms of psychopathology in adolescence. *Journal of Research in Personality*. <https://doi.org/10.1016/j.jrp.2010.12.005>
- [15] Leigh-Hunt, N., Bagguley, D., Bash, K., Turner, V., Turnbull, S., Valtorta, N., & Caan, W. (2017). An overview of systematic reviews on the public health consequences of social isolation and loneliness. In *Public Health*. <https://doi.org/10.1016/j.puhe.2017.07.035>
- [16] Lesch, E., Casper, R., & van der Watt, A. S. J. (2016). Romantic relationships and loneliness in a group of South African postgraduate students. *South African Review of Sociology*. <https://doi.org/10.1080/21528586.2016.1182442>
- [17] Lin, F. R., Yaffe, K., Xia, J., Xue, Q. L., Harris, T. B., Purchase-Helzner, E., Satterfield, S., Ayonayon, H. N., Ferrucci, L., & Simonsick, E. M. (2013). Hearing loss and cognitive decline in older adults. *JAMA Internal Medicine*. <https://doi.org/10.1001/jamainternmed.2013.1868>
- [18] Mirowsky, J., & Ross, C. E. (2002). Depression, parenthood, and age at first birth. *Social Science and Medicine*. [https://doi.org/10.1016/S0277-9536\(01\)00096-X](https://doi.org/10.1016/S0277-9536(01)00096-X)
- [19] Mirowsky, J., & Ross, C. E. (2017). Social causes of psychological distress. In *Social Causes of Psychological Distress*. <https://doi.org/10.4324/9781315129464>
- [20] Murthy, V. (2020). Our Epidemic of Loneliness. *TIME Magazine*.
- [21] N.A., C., & J.H., F. (2013). Social contagion theory: Examining dynamic social networks and human behavior. In *Statistics in Medicine*.
- [22] Perlman, D., & Peplau, L. (1981). Toward a social psychology of loneliness. *Personal Relationships*.
- [23] Schlotz, W., Yim, I. S., Zoccola, P. M., Jansen, L., & Schulz, P. (2011). The Perceived Stress Reactivity Scale: Measurement Invariance, Stability, and Validity in Three Countries. *Psychological Assessment*. <https://doi.org/10.1037/a0021148>
- [24] Sha'ked, A., & Rokach, A. (2015). Addressing loneliness: Coping, prevention and clinical interventions. In *Addressing Loneliness: Coping, Prevention and Clinical Interventions*. <https://doi.org/10.4324/9781315774374>

