The effects of cyberbullying on sleep quality using self esteem as a mediator.

Kate Farrelly

19489084

Supervisor: Dr. Caoimhe Hannigan

Submission of Thesis and Dissertation

National College of Ireland

Research Students Declaration Form

(Thesis/Author Declaration Form)

Name: Kate Farrelly

Student Number: X19489084

Degree for which thesis is submitted: BA (Honours) in Psychology

Title of Thesis: The Effect of Cyberbullying on Sleep Quality

Date: 14/03/2022

Material submitted for award

A. I declare that this work submitted has been composed by myself. ✓

B. I declare that all verbatim extracts contained in the thesis have been

distinguished by quotation marks and the sources of information

specifically acknowledged. ✓

C. I agree to my thesis being deposited in the NCI Library online

open access repository NORMA. ✓

D. Either *I declare that no material contained in the thesis has been

used in any other submission for an academic award.

Or *I declare that the following material contained in the thesis

formed part of a submission for the award of

_____

(State the award and the awarding body and list the material below) ✓

Acknowledgments

Abstract

Aims: The aim of the current study was to provide a better understanding of why Cyberbullying can affect sleep quality in an adult population. This study used self esteem as an indirect link to see if cyberbullying could still affect sleep quality levels. The objective of the current study was to examine if cyberbullying had a direct effect on self esteem and how self esteem would then affect sleep quality levels. **Methods:** This study utilized a questionnaire through social media to collect data from participants (n = 114) relating to cyber victimization experiences, self esteem and sleep quality. The scales involved in the collection of data were The Florence Cyberbullying/ Cybervictmization Scale, The Rosenberg Self Esteem Scale (RSE) and The Pittsburgh Sleep Quality Index. **Results:** Results from a linear regression showed that cyberbullying explained 18.7% of variance in sleep quality. Cyberbullying also explained 14.1% variance in self esteem. A multiple regression showed that cyberbullying and self esteem explained 31.5% variance in sleep quality. The results of the mediation analysis concluded that cyberbullying can indirectly affect sleep quality with self esteem as a mediator with a small effect. **Conclusions:** The findings from this study have contributed to a better understanding of the effects of cyberbullying on psychological health. The study also concludes that there needs to be more research relating to cyberbullying experiences in adulthood. Furthermore, prevention and awareness of cyberbullying is needed in workplace environments and the wider community.

Contents

Literature Review

Self esteem consists of two distinct dimensions, competence and worth (Cast & Burke, 2002). Competence refers to how much someone sees themselves as capable, worth refers to how an individual views themselves as people of worth (Cast & Burke, 2002). Low self esteem can predict negative health outcomes such as depression and cause individuals who suffer from it to withdraw from or reduce close relationships (Orth et al., 2009). Therefore, it is important for an individual to not be affected by external influences that can affect their self esteem levels. Friend networking sites can play a crucial role in affecting the self esteem of other people. Negative feedback indirectly affects users' self esteem by decreasing it (Ildırım et al., 2017).

Cyberbullying is a form of bullying that can include creating or sharing harmful posts on various forms of digital communication, it can involve threats, harassment, humiliation, and exclusion (Feinberg& Robey., 2009). Cyberbullying can be extremely impactful, individuals who have been cyberbullied may fear for their safety due to intimidation and mistreatment online (Hinduja & Patchin, 2007). It has become a major issue due to the increasing number of young people possessing networked computers and mobile phones in recent years (Smith et al., 2008). Previous literature has shown a concerning amount of prevalence rates. Large scale studies and reviews have concluded the annual cyber victimization rate is placed between 14% - 21% (Ansary, 2020). However, these reviews are mostly conducted with adolescents it still shows that cyberbullying is becoming a larger trend. Cyberbullying is an act that is most often seen among young people and children. Children would feel invincible due to the difficulty in tracing internet activities and this would increase the likelihood of them becoming perpetrators (E. Notar et al., 2013). Cyberbullying can be extremely severe for anyone of any age. There is literature to suggest that cyber victimization can continue after adolescence. It has been found that acts of cyberbullying are more likely to

be reported than traditional acts of bullying in adulthood and the workplace (Macaulay et al., 2020).

There is a vast amount of literature that has concluded that victims of bullying are more likely to have lower self esteem than non-victims (Patchin & Hinduja., 2010). Many studies that have examined cyberbullying and self esteem have used a young population. One study used a sample of 1,963 students from 30 different schools. Their results showed that students who were victims or offenders had lower self esteem than those with no experience of cyberbullying (Patchin & Hinduja., 2010). A similar study from Aliyev and Gengec (2019) found from their results that as cyberbullying increased self esteem levels decreased. Another study explored the idea of cyberbullying as a predictor for low self esteem, their results supported their hypothesis (Cenat et al., 2014). More studies that have investigated the association between self esteem and cyber victimization have found that cyber victimization can predict levels of self esteem as well as being associated with low levels of self esteem (Núñez et al., 2021), (Özdemir, 2014).

All these studies have shown evidence that cyberbullying can cause low levels of self esteem. However, a limitation that can be identified is that much of the research has focused on children and teenagers. This has caused an issue that there is a lack of literature that can be generalized to an adult population. Another limitation with using children is that they may not understand the context of cyberbullying and they may lack the confidence in answering questions honestly due to social expectations.

There is research to suggest that self esteem can also be related to sleep quality. Sleep quality can be related to overall health and quality of life. The sleep quality term covers latency, total sleep time, number of awakenings and sleep efficiencies (Madrid- Valero et al., 2017). There is evidence from literature that poor sleep quality was related to poor self esteem. A

study investigated the relationship of optimism and self esteem with sleep duration and insomnia symptoms. Their results found that individuals with insomnia and longer sleep duration had lower self esteem (Lemola et al., 2012). Another study used a longitudinal method to investigate the influence of sleep patterns on self esteem, their results showed that as sleep decreased over time so did self esteem levels (Frederikson et al., 2004). A study similar to this used adolescent to examine sleep patterns and self esteem over three years, their results showed that high levels of poor sleep quality were reported at the same time as low levels of self esteem (Yip, 2015). A study that is equivalent to this used a mediation analysis and concluded that sleep quality can affect self esteem through emotional eating however they recognised a longitudinal method would have been more appropriate (Perez- Fuentes et al., 2019).

In recent times cyberbullying has become a new area of research. There is evidence to suggest that cyberbullying can have very serious effects on mental and physical health of a person (Tiffany, 2018). However, there is a lack of literature that has investigated its effects on sleep quality, especially regarding cyberbullying victims. Adequate sleep quality is important in maintaining a healthy lifestyle. Poor sleep quality is associated with health problems such as obesity, hypertension and decreased cognitive performance (Miyata et al., 2013). However, some evidence has suggested that cybervictimization is associated with sleep disturbances (Dennehy et al., 2020). Studies that have focused on cybervictimisation and sleep quality have implemented mediation analysis in their studies. One study found that cyberbullying victimization directly predicted sleeping problems through perceived stress and depression, another study also concluded that sleep quality had an indirect effect between the relationship of cyber victimization and depressive symptoms (Kwon et al., 2020), (Chu, 2020). A study that is similar to these also concluded that negative social media experiences are associated with greater odds of high sleep disturbance which contrasts with positive social media experiences (Rzewnicki et al., 2020). The lack of research regarding cyberbullying and sleep quality needs

to be rectified. Research to date has identified that cyberbullying is now occurring in older adolescents, college students and can even happen in the workplace (Chisholm, 2014).

There are significant gaps that can be identified in the research surrounding cyberbullying. For one, most of the research focuses on adolescents which make it difficult to generalize the findings to an adult population. Therefore, data on the prevalence of cyber victimization in adults is limited (Feinstein & Bhatia, n.d.). This study is going to address this by acquiring an adult population. Furthermore, when focusing on adults this study will use a wide age range to address cyber victimization experiences in any area of an individual's life, this is unlike previous studies that have mostly focused on college students or workplace bullying. Long term sleep loss is linked to cardiovascular disease, mortality and fatigue (Moore et al., 2002). Research has emphasized that good self esteem predicts future outcomes such as good physical health as well as good mental health (von Soest et al., 2018). Therefore, it is important that research is done to examine how cyberbullying can affect these areas of a person's life. Previous research has examined the effects of cyberbullying with a variety of other variables. The current study is going to focus solely on the effect of cyberbullying of sleep quality and self esteem. Most of the studies surrounding this area of research have examined them separately, whereas this study will see the role self esteem has in the effect of cyberbullying on sleep quality. The aim of this study is to give a greater understanding of why cyberbullying can affect sleep quality, using a mediation analysis. Therefore, this study also will help to give an understanding of how self esteem can affect sleep quality because of cyberbullying experiences. The hypothesis question for this study is derived from these aims, the question is as follows, cyberbullying can indirectly affect sleep quality through self esteem.

Method

Participants

The research sample in this study consisted of 114 participants who were recruited using convenience sampling. The survey for this study was uploaded to social media and was available for anyone over the age of 18 to complete it, participants were required to verify their age before being able to move through the study. Demographic information was collected from the participants in the first part of the survey. Results from the survey showed a greater number of females than males completed it. The age of participants ranged from 18- 79, 64.2% of this sample was female and 31.2% was male. The age that most frequently occurred was 23 and the age that least frequently occurred was 79.

Design

This study was a cross-sectional design, all the data was collected in a specific time point from a survey. Quantitative methods were used to collect the data from a questionnaire. Participants were asked to complete a survey about Cyberbullying, Self Esteem, and Sleep Quality. A mediation analysis was used to investigate the hypothesis question which relates to if cyberbullying can affect sleep quality through self esteem. The predictor variable in the analysis was Cyberbullying, the mediator variable was self esteem, and the dependent variable was sleep quality. The first analysis of the mediation used a linear regression to determine if there is a direct effect between cyberbullying and sleep quality. A linear regression was then carried out to determine if there is a direct effect between cyberbullying and self esteem. Lastly a multiple regression was conducted to estimate the indirect effect between cyberbullying and sleep quality with self esteem as a mediator.

Materials

Three questionnaires were used to collect data for this study. The first questionnaire is called The Florence Cyberbullying/ Cybervictimization scale (See Appendix 1). It consists of two scales. The first scale was used for victimization and the second scale was used for perpetration. Participants were asked how often they have experienced behaviours or events in relation to various forms of cyberbullying. The participants were presented with statements such as "Threatening or insulting text messages" and "Ignoring on purpose in an online group". Participants had to decide how frequently these experiences happened to them. Items were evaluated on a 5-point scale, 1= never, 2 = once or twice, 3 = one or two times a month, 4 = once a week and 5 = several times a week. The two scales included 7 items for written- verbal, four items for visual, three items for exclusion and 4 items for impersonation (Palladino et al., 2015). This questionnaire is scored by adding up the items. The total score can range from 18- 90. This scale shows good reliability (Cronbach's Alpha a = .767, a = .745) and can be used for a variety of studies (De Pasquale et al., 2021). In this study the Cronbach's Alpha of the scale was .91 (a = .91). The next scale used was the Rosenberg Self Esteem Scale (See Appendix 2). This scale measures levels of self esteem. Participants were presented with 10 items about self esteem and had to indicate how much they thought it applied to them using a 4-point scale. The answers ranged from 1 = Strongly Agree, 2 = Agree, 3 = Disagree and 4 = Strongly Disagree. Examples of items that were presented to them were "On the whole, I am satisfied with myself" and "At times I think I am no good at all". Scoring can be done by totalling 4-point items after reverse scoring the negatively worded items. The RSE shows a reproducibility of .92 which indicates excellent internal consistency (Measures Package, 2006). However, in this study the internal reliability was seen to be .40 (a = .40) which is considered quite low. The last scale used was The Pittsburgh Sleep Quality Index (See Appendix 3). This is a self rated questionnaire that assess sleep quality and sleep disturbances. The scale consists

of 19 items which assess sleep duration, sleep latency, sleep quality, sleep frequency and the severity of sleep related problems. These items are grouped into seven component scores which are then added up to give a global PSQI score. This score has a range of 0-21, higher scores indicate poor sleep quality. Examples of questions that were provided in the PSQI scale are "During the past month how long has it usually takes you to fall asleep each night" and "During the past month when have you usually got up in the morning" (Carpenter & Andrykowski, 1998). The PSQI scale has shown it has sound psychometric properties. The initial evaluation of the scale found an internal reliability of a = .83 and a test-retest reliability of .85 (Shahid et al., 2011). For this study the internal consistency of the scale was .79 (a = .76) which also shows adequate internal reliability.

Procedure

The procedure for this study commenced after ethical consideration was granted by the Ethics Committee in the National College of Ireland. Data for the study was collected using a survey. A link to the study and a brief description of it was uploaded to various social media sites such as Facebook, Instagram, WhatsApp and Snapchat. Participants who chose to take part were presented with an information sheet (See Appendix 4) after clicking on the link, this was all done on a Google Docs form. The information sheet disclosed information about what the study was about, contact information for the researcher and what participants would be required to do if they chose to take part. Participants were then presented with a consent form (See Appendix 5). Consent was obtained by asking them to tick boxes which confirmed they were over the age of 18, they understood the information from the consent form and information sheet, also that they voluntarily agreed to participate in the study. The first part of the survey contained a demographic section which asked for the age of the participant and their gender, an option for "prefer not to say " was also available. Participants were required to complete this before they could move on. The first questionnaire to complete was the Florence

Cyberbullying/ Cyber Victimization scale which contained statements in relation to experiences of cyberbullying. The participants would then be brought to the Rosenberg Self Esteem scale where they would be presented with statements about self esteem. The last scale in the survey is The Pittsburgh Sleep Quality Index. This scale measures sleep quality and sleep disturbances. After completing the three surveys the participants were then brought to a debriefing sheet (See Appendix 6). The debriefing sheet contained more information on what the study was about. It also contained contact information for the researcher, supervisor, and an explanation of how the data was stored and for how long it would be stored. Helplines were also provided for participants who may be experiencing cybervictimization, emotional distress, or anxiety as a result of low self esteem caused by the study.

Results

Descriptive Statistics.

Descriptive statistics were performed for the continuous and categorical variables in this study. The Means, Standard Deviation, Range and Confidence Intervals for continuous variables are shown in Table 2. Preliminary analyses were conducted on the descriptive statistics, this showed all assumptions of normality were met. Histograms were acquired to show the distribution of the data (See Appendix 7).

Table 1: *Descriptive Statistics for demographic variables based on gender, N= 114*

Variable	Frequency	Valid %
Male	37	33.9
Female	72	66.1

Table 2: *Descriptive Statistics for Age, Florence Cyberbullying Scale, Rosenberg Self Esteem Scale and The Pittsburgh Sleep Quality Index.*

Variable	*N*	M(95%CI)	SD	Range
Age	113	32.69 (29.84, 35.28)	15.28	18-79
Florence Cyberbullying Scale	102	25.52 (23.93, 27.11)	8.10	18-60
Rosenberg Self esteem Scale	111	21.50 (20.42, 22.59)	5.78	10-40
Pittsburgh Sleep Quality	109	6.89 (6.23, 7.55)	3.50	1-19

*N=Sample size, M=Mean, CI=Confidence Intervals, SD= Standard Deviation

Inferential Statistics.

Table 3: *Multiple Regression table for Florence Cyberbullying/ Cyber Victimization Scale and The Rosenberg Self Esteem Scale.*

Variable	R2	β	SE	B	t	CI 95%(B)
Model	.32**					
Florence Cyberbullying /Cyber Victimization Scale		.29	.04	.12	3.26	.05/.20
Rosenberg Self esteem Scale		.39	.06	.23	4.22	.12/.34

*R2=.315, β= Beta, SE= Standard Error, B= Unstandardized beta value, CI=Confidence Intervals, p= Significance Effect: *p<.05; **p<.01;***p<.001

A mediation analysis was conducted to investigate whether experiences of cyberbullying can affect sleep quality through self esteem. For this analysis Cyberbullying was the independent/ predictor variable, self esteem was the mediator and sleep quality was the dependent variable. Regression analysis was conducted before the mediation analysis to ensure there was an effect between the three variables. A bivariate regression was run between cyberbullying and sleep quality to see if there was a direct effect. There was no violation of multicollinearity, linearity, and normality. Results from this regression showed there was a significant effect between cyberbullying and sleep quality (p <.001). Cyberbullying contributes 18.7% variance of an effect on sleep quality (r = .187). The analysis was then continued by conducting another bivariate regression between cyberbullying and self esteem. Like the first

regression, there was no violation of multicollinearity, linearity or normality seen in this regression. Results from the regression showed there is a statistically significant effect of cyberbullying on self esteem (p = < .001). Cyberbullying explains a 14.1% effect on sleep quality (r = .141). Now that there is evidence of an effect between cyberbullying and sleep quality, cyberbullying and self esteem, a multiple regression can be conducted to investigate if cyberbullying and self esteem can predict sleep quality. In this multiple regression cyberbullying and self esteem are the predictor variables and sleep quality is the dependent variable. Results from the model have shown that both cyberbullying and self esteem contribute 31.5% variance of an effect on sleep quality that is statistically significant (r = .315), (p = <.001), (p = <.001).

The mediation analysis can now be conducted to estimate if there is an indirect effect of cyberbullying on sleep quality through self esteem. This analysis can be done using the Sobel Calculator from the internet and entering the unstandardized coefficients and standard error values from the multiple regression model. From the first bivariate regression there is evidence that there is already a direct effect of cyberbullying on sleep quality, this is path C (B = .124, SE = .039). The indirect effect will be calculated in the Sobel Calculator by multiplying path A (B = .268, SE =.067) and path B (B = .233, SE = .055). (See below Figure 1. For illustration of paths). The results from the Sobel Calculator showed there is a statistically significant indirect effect of cyberbullying on sleep quality through self esteem (test statistic = 2.91, SE = 0.02, p = < .001). The unstandardized coefficients of path A and B were then multiplied to show the indirect effect has a small effect size of 0.06. The result from the mediation analysis has shown that self esteem as a mediator provides a small indirect effect between cyberbullying and sleep quality.
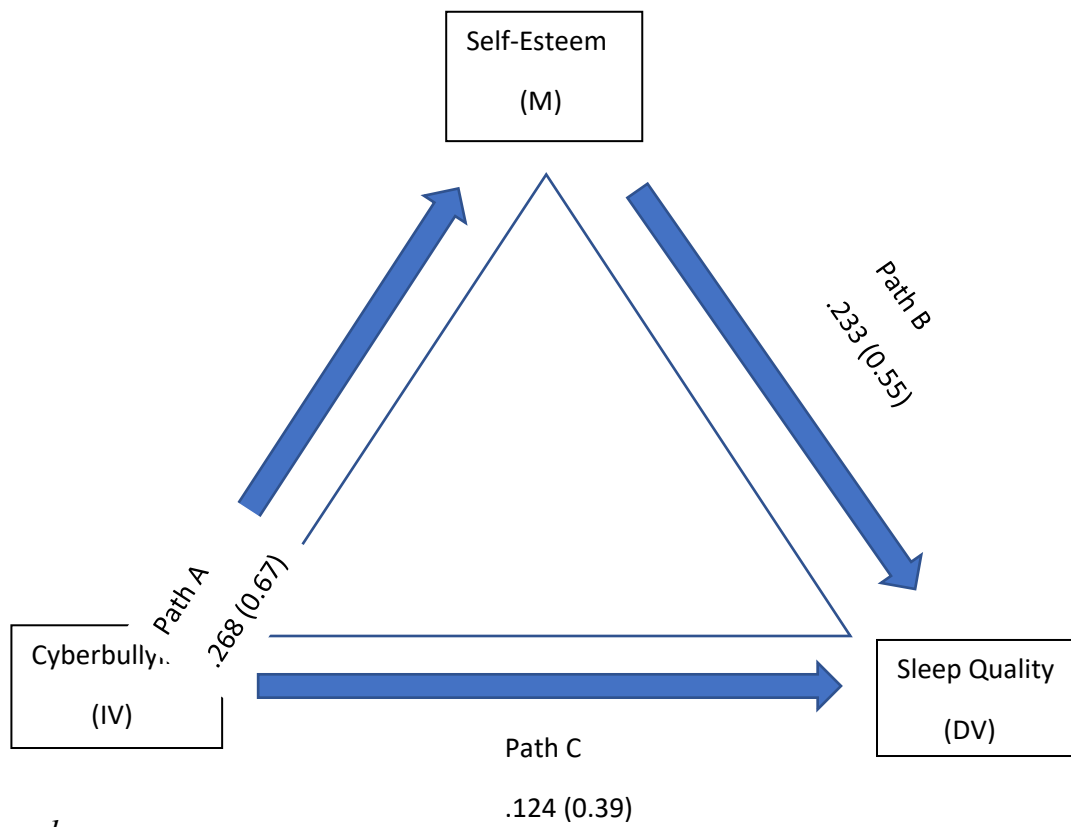
Figure. 1

Discussion

The aim of the current study was to investigate whether experiences of cyberbullying can affect sleep quality using self esteem as a mediator. The current study wanted to provide a greater understanding of the effects of cyberbullying and expand the current literature surrounding it by focusing on an adult population. Another aim was to understand how much self esteem can be affected by cyberbullying and how that in turn would affect sleep quality. There were various findings that were concluded from the current study. The first finding was that there is a direct effect between cyberbullying and sleep quality. The second analysis showed that there is a direct effect between cyberbullying and self esteem. From these two results a mediation analysis could be conducted, and this showed that self esteem was a significant mediator between cyberbullying and sleep quality.

Findings from the current study are consistent with previous studies that have examined these variables together. In regard to cyberbullying, it is a relatively new phenomenon and there is still a lot of research that is needed to explore the nature, definitions and the effects this can have on individuals (Newey & Magson, 2010). Results from this study have added to the small amount of literature that has investigated the association between cyberbullying and sleep quality. It has shown that cyberbullying can predict sleep quality levels. However, it can only be assumed that it would predict poor sleep quality based on previous studies. For example, studies that have investigated it have surveyed adolescent students in countries like Finland and America. Their results have concluded that victims of cyberbullying experience more trouble sleeping and more physical health concerns than individuals that are not victims, as well as this these studies have concluded that sleep difficulties are consistently associated with victims of online bullying (Herge et al., 2016),

(Nixon, 2014), (Waasdorp et al., 2019). Similarly, another study using Swedish adolescents found a positive relationship between victims of cyberbullying and psychosomatic issues which included difficulty sleeping (Beckman et al., 2012). There has also been evidence found of poor sleep quality as a mediator between cybervictimization and depressive symptoms, this study concludes how important sleep quality is (Kwon et al., 2020) Sleep quality is an important area to investigate, adequate sleep duration and quality are important for normal functioning of daily metabolic, hormonal processing and appetite regulation (Van Cauter et al., 2008). The current study has found that cyberbullying explained a small amount of variance in sleep quality. This would suggest that in the sample for this study cyberbullying is not a large predictor for sleep quality. A reason for this could have to do with the age range. This study contains a large age range, it can be suggested that older adults would have different sleep quality levels than adolescents and younger adults. Kramer et al (1999) conducted a study that examined differences in sleep-wake behaviour and found that older adults had a more advanced and stable sleeping pattern and were consistent in their subjective evaluation in contrast to young adults.

An important characteristic of cyberbullying that can be extremely impactful is that in virtual space there is no break between the aggressor and the victim. Unlike traditional bullying, physical separation does not guarantee that the aggressor will stop harassing the victim through an online forum (Mesch, 2009). Prior research has linked cyber victimization with lower self esteem (Waasdorp & Bradshaw, 2015). Results from this study showed us that there is a statistically significant effect of cyberbullying on self esteem. This is in comparison to previous studies that have concluded that individuals who have experienced cyber victimization can suffer from lower self esteem than non-victims (Álvarez-García et al., 2015), (Aydoğan GediK et al., 2021). These studies focus on a sample consisting of adolescents. Research about self esteem has postulated that self esteem is high in childhood,

drops in adolescence and then gradually increases throughout adulthood (Bleidorn et al., 2016). The current study's findings have suggested that cyberbullying does not have a large effect on self esteem. This could be a direct result of the sample being young adults who are at the stage in their lives where their self esteem levels are increasing. Self esteem is very important as it acts as a protective factor to contribute to better health and positive social behaviour. Poor self esteem can contribute to the development of a variety of mental health disorders and social problems (Mann, 2004).

In this study, the results showed that self esteem can predict levels of sleep quality. Previous research has indicated that there is an association between self esteem and sleep quality. Lower levels of self esteem have been associated with deficiencies in keeping adequate levels of sleep (Stress, Self esteem and Well-Being among Female Health Professionals: A Randomized Clinical Trial on the Impact of a Self-Care Intervention Mediated by the Senses, n.d.). The two regressions conducted in the current study has contributed to the research regarding self esteem of being linked to cyberbullying and sleep quality. The result of the meditation analysis showed that self esteem as a mediator provided a small indirect effect between cyberbullying and sleep quality. Reasons for the small effect could have had to do with the style of some of the questions in the Florence Cyberbullying Scale, various questions may not have applied to the older participants in regard to being in an online group. Other questions included asking about phone books which may not apply to the younger participants. As well as this an increase in the sample size may have been needed for a larger effect.

Another factor to look at is gender. In this study there was a greater proportion of females to males who completed the survey. Regarding self esteem, during young adulthood

women are said to have lower self esteem than men due to social comparisons. Their self esteem can suffer if they are judged for moving away from socially constructed cultural ideals (McMullin & Cairney, 2004). In relation to cyberbullying research has suggested women experience more cyber victimization than men, especially during the ages of 18-25 (Akhter, n.d.). Many online users have claimed that their experiences of cyberbullying have happened on social media platforms such as Instagram, Twitter, and Facebook (Zhong et al., 2016). Messages between two people can have a sexual element to them as well as images, however sometimes these messages and images can be shared online in act of cyberbullying. Growing concern is increasing as it is estimated that there are 3000 websites where sexual images of women are uploaded by men without their consent (Roesch et al., 2015), (Dekeseredy, 2021) Overall research has indicated that women are more of a target of cyberbullying than men (Tennant et al., 2015). There was a larger proportion of females compared to males that completed the study, based on the research discussed above this could have indicated a significant influence on the results. In review the current study has contributed to literature relating to the association of cyberbullying, self esteem and the effects on sleep quality. The result of the three variables having a link between them has allowed the current study to show how cyberbullying can indirectly effect sleep quality levels through self esteem.

Limitations and Strengths of Current Study.

Although this study showed a significant result of self esteem being a mediator it does have some limitations. The first limitation that can be identified is in regard to the sample size. Although this study had an adequate sample size to detect a significant effect, it would have been more beneficial to have a larger sample size to obtain a larger effect size. Sample

size is important when conducting a mediation analysis, if the sample size is too small the study can lack statistical power to detect an effect size of importance (Pan et al., 2018). Another limitation recognised is that the nature of the study would have been more suited for longitudinal methods. As this used a cross sectional method, it cannot be assumed that there is any causation between the variables as they have not been examined long enough. A longitudinal study is more effective to assess cybervictimization and its effect on sleep quality levels and how they can change overtime. The only way it would be possible to overcome this limitation is with more time. A lack of literature surrounding cyberbullying can also be identified as a limitation. Most of the research to date has focused on the prevalence of cyberbullying among youths (Yeung et al., 2013). Therefore, it is difficult to find research that focuses on an adult population to compare studies (Wang et al., 2019). In regard to the demographic section, questions about whether individuals are employed, unemployed or in the educational system would have been beneficial to understand more about where the instances of cybervictimization are coming from. However, this study also possessed various strengths. The RSES and PSQI are reliable measures to collect data on self esteem and sleep quality. These measures have been used globally and are known to be reliable in various populations (Sinclair et al., 2010), (Spira et al., 2012). As well as this The Florence Cyberbullying Scale was ideal in that it had wide variety of questions that cover a broad spectrum of cyber victimization experiences. There were few limitations in regard to sampling, the method used to collect participants was convenience sampling, the survey was open to all genders providing that they were of the age of 18 or above with majority of participants identifying as being male or female. The survey also did not put limitations on whether individuals were in employment, the education system or unemployment. The lack of limitations in regard to sampling contributed to being able to generalize the findings to an adult population.

Implications

Cyberbullying represents an aggressive form of communication which uses an electronic medium to provoke mental health consequences (Zalaquett & Chatters, 2014). Future study is needed to investigate bullying behaviour throughout the lifespan (Kowalski et al., 2018). As most of the cyberbullying literature focuses on adolescents there is a need for practical implications for adults. Souza et al (2017) has highlighted the need for interventions to find ways to prevent cyberbullying situations. Prevention and awareness of the responsible use of the internet is needed for the wider community to help them handle situations responsibly, make prosocial decisions and intervene as bystanders that have identified cyberbullying situations. In regard to cyberbullying in the workplace there is no clear definition of the understanding of cyberbullying in industry and business, some say it constitutes harassment and some say it does not (Privitera & Campbell, 2009). More research of cyberbullying in the workplace would be very beneficial in preventing instances of cyberbullying during adulthood.

Conclusion

In conclusion, the current study conducted has added to the understanding of the ways in which cyberbullying can affect sleep quality in adults. Cyberbullying is still to this day a relatively new area of research and the findings in this study have contributed to the awareness of how severe the damaging impact of cyberbullying can be on a person's psychological wellbeing. It supports previous literature in regard to self esteem as being associated with both cyberbullying and sleep quality, furthermore the results have also expanded on previous research by showing how self esteem can be a mediator between cyberbullying and its effects on sleep quality. Findings from this study have also shown the

importance of maintaining positive levels of self esteem to increase healthier levels of sleep

quality. In the case of cyberbullying it is imperative that more research is needed with a much

broader spectrum in regard to age, employment background and educational status. Overall,

the importance of highlighting cyberbullying awareness and prevention is of a greater need in

order to reduce the increasingly growing rates of cyber victimization, which because of this

study, we now understand that it can happen to any individual regardless of their age.

References

Akhter, S. (n.d.). CYBER VICTIMIZATION OF ADULT WOMEN. 47.

Aliyev, R., & Gengec, H. (2019). The Effects of Resilience and Cyberbullying on Self esteem. Journal of Education, 199(3), 155–165. https://doi.org/10.1177/0022057419858346.

Álvarez-García, D., Núñez Pérez, J. C., Dobarro González, A., & Rodríguez Pérez, C. (2015). Risk factors associated with cybervictimization in adolescence. International Journal of Clinical and Health Psychology, 15(3), 226–235. https://doi.org/10.1016/j.ijchp.2015.03.002

Ansary, N. S. (2020). Cyberbullying: Concepts, theories, and correlates informing evidence-based best practices for prevention. Aggression and Violent Behavior, 50, 101343. https://doi.org/10.1016/j.avb.2019.101343.

Aydoğan GediK, S., Ünsal, A., Arslantas, D., Atay, E., & Öztürk EmiRal, G. (2021). Evaluation of Cyber Victimization and Self esteem Level in High School Students. Konuralp Tıp Dergisi. https://doi.org/10.18521/ktd.833276

Beckman, L., Hagquist, C., & Hellström, L. (2012). Does the association with psychosomatic health problems differ between cyberbullying and traditional bullying? Emotional and Behavioural Difficulties, 17(3–4), 421–434. https://doi.org/10.1080/13632752.2012.704228

Bleidorn, W., Arslan, R. C., Denissen, J. J. A., Rentfrow, P. J., Gebauer, J. E., Potter, J., & Gosling, S. D. (2016). Age and gender differences in self esteem—A cross-cultural window. Journal of Personality and Social Psychology, 111(3), 396–410. https://doi.org/10.1037/pspp0000078

Cast, A. D., & Burke, P. J. (2002). A Theory of Self esteem. Social Forces, 80(3), 1041–1068. https://doi.org/10.1353/sof.2002.0003.

Carpenter, J. S., & Andrykowski, M. A. (1998). Psychometric evaluation of the Pittsburgh sleep quality index. Journal of Psychosomatic Research, 45(1), 5–13. https://doi.org/10.1016/S0022-3999(97)00298-5

Cénat, J., Hébert, M., Blais, M., Lavoie, F., Guerrier, M. and Derivois, D., 2014. Cyberbullying, psychological distress and self esteem among youth in Quebec schools. Journal of Affective Disorders, 169, pp.7-910.1016/j.jad.2014.07.019.

Chisholm, J. F. (2014). Review of the Status of Cyberbullying and Cyberbullying Prevention. 25, 12.

Chu, X.-W. (2020). Effect of Cyberbullying victimization on Adolescents' Sleeping Problem: The Chain Mediating Role of Perceived Stress and Depression. Journal of Psychological Science, 2, 378.

De Pasquale, C., Martinelli, V., Sciacca, F., Mazzone, M., Chiappedi, M., Dinaro, C., & Hichy, Z. (2021). The role of mood states in cyberbullying and cybervictimization behaviors in adolescents. Psychiatry Research, 300, 113908. https://doi.org/10.1016/j.psychres.2021.113908

Dekeseredy, W. (2021). Image-Based Sexual Abuse: Social and Legal Implications. Current Addiction Reports, 8, 1–6. https://doi.org/10.1007/s40429-021-00363-x

Dennehy, R., Meaney, S., Cronin, M., & Arensman, E. (2020). The psychosocial impacts of cyber victimization and barriers to seeking social support: Young people's perspectives. Children and Youth Services Review, 111, 104872. https://doi.org/10.1016/j.childyouth.2020.104872

E. Notar, C., Padgett, S., & Roden, J. (2013). Cyberbullying: A Review of the Literature. Universal Journal of Educational Research, 1(1), 1–9. https://doi.org/10.13189/ujer.2013.010101.

Feinburg, T. and Robey, N., 2009. Cyberbullying. The Education Digest, 74(7), p.26.

Feinstein, B. A., & Bhatia, V. (n.d.). Article Rumination Mediates the Association Between Cyber-Victimization and Depressive Symptoms.

Fredriksen, K., Rhodes, J., Reddy, R. and Way, N., 2004. Sleepless in Chicago: Tracking the Effects of Adolescent Sleep Loss During the Middle School Years. Child Development, 75(1), pp.84-95/10.1111/j.1467-8624.2004.00655.x.

Herge, W. M., La Greca, A. M., & Chan, S. F. (2016). Adolescent Peer Victimization and Physical Health Problems. Journal of Pediatric Psychology, 41(1), 15–27. https://doi.org/10.1093/jpepsy/jsv050

Hinduja, S., & Patchin, J. (2007). Offline Consequences of Online Victimization. Journal of School Violence, 6, 89–112. https://doi.org/10.1300/J202v06n03_06.

Kowalski, R. M., Toth, A., & Morgan, M. (2018). Bullying and cyberbullying in adulthood and the workplace. The Journal of Social Psychology, 158(1), 64–81. https://doi.org/10.1080/00224545.2017.1302402

Kramer, C. J., Kerkhof, G. A., & Hofman, W. F. (1999). Age differences in sleep–wake behavior under natural conditions. Personality and Individual Differences, 27(5), 853–860. https://doi.org/10.1016/S0191-8869(99)00034-3

Kwon, M., Seo, Y. S., Nickerson, A. B., Dickerson, S. S., Park, E., & Livingston, J. A. (2020). Sleep Quality as a Mediator of the Relationship Between Cyber Victimization and Depression.

Journal of Nursing Scholarship : An Official Publication of Sigma Theta Tau International Honor Society of Nursing, 52(4), 416–425. https://doi.org/10.1111/jnu.12569

Lemola, S., Räikkönen, K., Gomez, V. and Allemand, M., 2012. Optimism and Self esteem Are Related to Sleep. Results from a Large Community-Based Sample. International Journal of Behavioral Medicine, 20(4), pp.567-57110.1007/s12529-012-9272-z.

Ildırım, E., Çalıcı, C., & Erdoğan, B. (2017). Psychological Correlates of Cyberbullying and Cyber-Victimization. The International Journal of Human and Behavioral Science. https://doi.org/10.19148/ijhbs.365829

Macaulay, P. J. R., Steer, O. L., & Betts, L. R. (2020). Chapter 1—Factors leading to cyber victimization. In V. Benson & J. Mcalaney (Eds.), Emerging Cyber Threats and Cognitive Vulnerabilities (pp. 1–25). Academic Press. https://doi.org/10.1016/B978-0-12-816203-3.00001-0

Madrid-Valero, J. J., Martínez-Selva, J. M., Couto, B. R. do, Sánchez-Romera, J. F., & Ordoñana, J. R. (2017). Age and gender effects on the prevalence of poor sleep quality in the adult population. Gaceta Sanitaria, 31, 18–22. https://doi.org/10.1016/j.gaceta.2016.05.013.

Mann, M. (2004). Self esteem in a broad-spectrum approach for mental health promotion. Health Education Research, 19(4), 357–372. https://doi.org/10.1093/her/cyg041

McMullin, J. A., & Cairney, J. (2004). Self esteem and the intersection of age, class, and gender. Journal of Aging Studies, 18(1), 75–90. https://doi.org/10.1016/j.jaging.2003.09.006

Measures Package. (2006). 159.

Mesch, G. S. (2009). Parental Mediation, Online Activities, and Cyberbullying. CyberPsychology & Behavior, 12(4), 387–393. https://doi.org/10.1089/cpb.2009.0068

Miyata, S., Noda, A., Iwamoto, K., Kawano, N., Okuda, M., & Ozaki, N. (2013). Poor sleep quality impairs cognitive performance in older adults. Journal of Sleep Research, 22(5), 535–541. https://doi.org/10.1111/jsr.12054

Moore, P. J., Adler, N. E., Williams, D. R., & Jackson, J. S. (2002). Socioeconomic Status and Health: The Role of Sleep: Psychosomatic Medicine, 64(2), 337–344. https://doi.org/10.1097/00006842-200203000-00018

Newey, K. A., & Magson, N. (2010). A Critical review of the current cyber bullying research: Australian Association for Research in Education Conference. AARE Conference Proceedings : 2010, 1–12.

Nixon, C. L. (2014). Current perspectives: The impact of cyberbullying on adolescent health. Adolescent Health, Medicine and Therapeutics, 5, 143–158. https://doi.org/10.2147/AHMT.S36456

Núñez, A., Álvarez-García, D., & Pérez-Fuentes, M.-C. (2021). Anxiety and self esteem in cyber-victimization profiles of adolescents. Comunicar, 29(67), 47–59. https://doi.org/10.3916/C67-2021-04

Orth, U., Robins, R. W., Trzesniewski, K. H., Maes, J., & Schmitt, M. (2009). Low self esteem is a risk factor for depressive symptoms from young adulthood to old age. Journal of Abnormal Psychology, 118(3), 472–478. https://doi.org/10.1037/a0015922

Özdemir, Y. (2014). Cyber victimization and adolescent self esteem: The role of communication with parents: Cyber victimization and self esteem. Asian Journal of Social Psychology, 17(4), 255–263. https://doi.org/10.1111/ajsp.12070

Palladino, B. E., Nocentini, A., & Menesini, E. (2015). Psychometric Properties of the Florence CyberBullying-CyberVictimization Scales. Cyberpsychology, Behavior, and Social Networking, 18(2), 112–119. https://doi.org/10.1089/cyber.2014.0366

Pan, H., Liu, S., Miao, D., & Yuan, Y. (2018). Sample size determination for mediation analysis of longitudinal data. BMC Medical Research Methodology, 18(1), 32. https://doi.org/10.1186/s12874-018-0473-2

Patchin, J. and Hinduja, S., 2010. Cyberbullying and Self esteem*. Journal of School Health, 80(12), pp.614-62110.1111/j.1746-1561.2010.00548.x.

Pérez-Fuentes, M. del C., Molero Jurado, M. del M., Barragán Martín, A. B., Martos Martínez, Á., & Gázquez Linares, J. J. (2019). Association with the Quality of Sleep and the Mediating Role of Eating on Self esteem in Healthcare Personnel. Nutrients, 11(2), 321. https://doi.org/10.3390/nu11020321.

Privitera, C., & Campbell, M. A. (2009). Cyberbullying: The New Face of Workplace Bullying? CyberPsychology & Behavior, 12(4), 395–400. https://doi.org/10.1089/cpb.2009.0025https://doi.org/10.1016/j.chb.2015.04.014

Roesch, R., Coburn, patricia, & Connolly, D. (2015). Coburn, P. I., Connolly, D. A., & Roesch, R. (2015). Cyberbullying: Is Federal criminal legislation the solution? Canadian Journal of Criminology and Criminal Justice, 57, 566–579.

Rzewnicki, D. I., Shensa, A., Levenson, J. C., Primack, B. A., & Sidani, J. E. (2020). Associations between positive and negative social media experiences and sleep disturbance among young adults. Sleep Health, 6(5), 671–675. https://doi.org/10.1016/j.sleh.2020.02.013

Shahid, A., Wilkinson, K., Marcu, S., & Shapiro, C. M. (2011). Pittsburgh Sleep Quality Index (PSQI). In A. Shahid, K. Wilkinson, S. Marcu, & C. M. Shapiro (Eds.), STOP, THAT and One Hundred Other Sleep Scales (pp. 279–283). Springer New York.

https://doi.org/10.1007/978-1-4419-9893-4_67

Sinclair, S. J., Blais, M. A., Gansler, D. A., Sandberg, E., Bistis, K., & LoCicero, A. (2010). Psychometric Properties of the Rosenberg Self esteem Scale: Overall and Across Demographic Groups Living Within the United States. Evaluation & the Health Professions, 33(1), 56–80. https://doi.org/10.1177/0163278709356187

Smith, P., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S. and Tippett, N., 2008. Cyberbullying: its nature and impact in secondary school pupils. Journal of Child Psychology and Psychiatry, 49(4), pp.376-385 /10.1111/j.1469-7610.2007.01846.x.

Souza, S., Veiga Simão, A. M., Ferreira, A., & Ferreira, P. (2017). University students' perceptions of campus climate, cyberbullying and cultural issues: Implications for theory and practice.   Studies   in   Higher   Education,   43,   1–16. https://doi.org/10.1080/03075079.2017.1307818

Spira, A. P., Beaudreau, S. A., Stone, K. L., Kezirian, E. J., Lui, L.-Y., Redline, S., Ancoli-Israel, S., Ensrud, K., Stewart, A., & for the Osteoporotic Fractures in Men Study. (2012). Reliability and Validity of the Pittsburgh Sleep Quality Index and the Epworth Sleepiness Scale in Older Men. The Journals of Gerontology: Series A, 67A(4), 433–439. https://doi.org/10.1093/gerona/glr172

Stress, self esteem and well-being among female health professionals: A randomized clinical trial on the impact of a self-care intervention mediated by the senses. (n.d.). Retrieved March 12, 2022, from https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0172455

Tennant, J. E., Demaray, M. K., Coyle, S., & Malecki, C. K. (2015). The dangers of the web: Cybervictimization, depression, and social support in college students. Computers in Human Behavior, 50, 348–357. https://doi.org/10.1016/j.chb.2015.04.014

Tiffany, F. (2018). Cyberbullying: A narrative review. Journal of Addiction Therapy and Research, 2(1), 010–027. https://doi.org/10.29328/journal.jatr.1001007

Van Cauter, E., Spiegel, K., Tasali, E., & Leproult, R. (2008). Metabolic consequences of sleep and sleep loss. Sleep Medicine, 9(0 1), S23–S28. https://doi.org/10.1016/S1389-9457(08)70013-3

von Soest, T., Wagner, J., Hansen, T., & Gerstorf, D. (2018). Self esteem across the second half of life: The role of socioeconomic status, physical health, social relationships, and personality factors. Journal of Personality and Social Psychology, 114(6), 945–958. https://doi.org/10.1037/pspp0000123

Waasdorp, T. E., & Bradshaw, C. P. (2015). The Overlap Between Cyberbullying and Traditional Bullying. Journal of Adolescent Health, 56(5), 483–488. https://doi.org/10.1016/j.jadohealth.2014.12.002

Waasdorp, T. E., Mehari, K. R., Milam, A. J., & Bradshaw, C. P. (2019). Health-related Risks for Involvement in Bullying among Middle and High School Youth. Journal of Child and Family Studies, 28(9), 2606–2617. https://doi.org/10.1007/s10826-018-1260-8

Wang, M.-J., Yogeeswaran, K., Andrews, N. P., Hawi, D. R., & Sibley, C. G. (2019). How Common Is Cyberbullying Among Adults? Exploring Gender, Ethnic, and Age Differences in the Prevalence of Cyberbullying. Cyberpsychology, Behavior, and Social Networking, 22(11), 736–741. https://doi.org/10.1089/cyber.2019.0146

Yeung, A. S., Craven, R., & Arens, A. K. (2013). Self-concept enhancement programs: Issues, challenges, and new perspectives. Educational Programs and Special Education: Issues, Challenges and Perspectives, 29–53.

Yip, T. (2015). The Effects of Ethnic/Racial Discrimination and Sleep Quality on Depressive Symptoms and Self esteem Trajectories Among Diverse Adolescents. Journal of Youth and Adolescence, 44(2), 419–430. https://doi.org/10.1007/s10964-014-0123-x

Zalaquett, C. P., & Chatters, S. J. (2014). Cyberbullying in College: Frequency, Characteristics, and Practical Implications. SAGE Open, 4(1), 215824401452672. https://doi.org/10.1177/2158244014526721

Zhong, H., Li, H., Squicciarini, A., Rajtmajer, S., Griffin, C., Miller, D., & Caragea, C. (2016). Content-Driven Detection of Cyberbullying on the Instagram Social Network.

Appendices

Appendix 1

<u>Florence Cyberbullying Scale</u>

1. Threatening and insulting text message

2. Violent videos/photos/pictures by mobile phone

3. Threats and insult on the Internet (Web sites, chatrooms, blogs, MSN, Facebook, Twitter, MySpace)

4. Silent/prank phone calls

5. Threatening and insulting e-mails

6. Videos/photos/pictures of embarrassing or personal situations by mobile phone

7. Threatening and insulting phone calls

8. Violent videos/photos/pictures shared on the Internet

9. Phone calls with rumors about me

10. Videos/photos/pictures of embarrassing or personal situations on the Internet (e-mail, Web sites, YouTube, Facebook)

11. Manipulating private personal data in order to reuse them

12. Ignoring on purpose in an online group

13. Theft of personal information (images, photos) in order to reuse them

14. Rumours on the Internet

15. Theft of password and account (e-mail, Facebook)

16. Exclusion from an online group (chats, forum, Facebook groups)

17. Theft and use of phone book

18. Block in a chatroom or on Facebook in order to exclude from the group

Appendix 2

Rosenberg Self esteem Scale

Please record the appropriate answer for each item, depending on whether you Strongly agree, agree, disagree, or strongly disagree with it.

1 = Strongly agree

 2 = Agree

3 = Disagree

4 = Strongly disagree

1. On the whole, I am satisfied with myself. _____

2. At times I think I am no good at all. _____

3. I feel that I have a number of good qualities. _____

4. I am able to do things as well as most other people. _____

5. I feel 1do not have much to be proud of. _____

6. I certainly feel useless at times. _____

7. I feel that I'm a person of worth. _____

8. I wish I could have more respect for myself. _____

9. All in all, I am inclined to think that I am a failure. _____

10. I take a positive attitude toward myself._____

Appendix 3

Pittsburgh Sleep Quality Index

PITTSBURGH SLEEP QUALITY INDEX INSTRUCTIONS: The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

1. During the past month, what time have you usually gone to bed at night?

    BED TIME _____

2. During the past month, how long (in minutes) has it usually taken you to fall asleep each night?

    NUMBER OF MINUTES _____

3. During the past month, what time have you usually gotten up in the morning?

    GETTING UP TIME _____

4. During the past month, how many hours of actual sleep did you get at night? (This may be different than the number of hours you spent in bed.)

    HOURS OF SLEEP PER NIGHT _____

For each of the remaining questions, check the one best response. Please answer all questions.

5. During the past month, how often have you had trouble sleeping because you . . .

 a) Cannot get to sleep within 30 minutes?

        Not during the past month

        Less than once a week

        Once or twice a week

Three or more times a week

b) Wake up in the middle of the night or early morning?

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

c) Have to get up to use the bathroom?

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

d) Cannot breathe comfortably?

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

e) Cough or snore loudly?

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

f) Feel too cold?

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

g) Feel too hot?

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

h) Had bad dreams?

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

i)Have pain?

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

j) Other   reason(s),   please   describe_____

_____

How often during the past month have you had trouble sleeping because of this?

Not during the past month

Less than once a week

Once or twice a week

Three or more times a week

6.During the past month, how would you rate your sleep quality overall?

Very good

Fairly good

Fairly bad

Very bad

Appendix 4

Information Sheet

You have been invited to take part in this research study. The sheet you are reading now explains what the study is about and what it entails. Please read carefully before deciding whether you would like to take part. For any further questions about this study or the information sheet you are reading please use the contact information below to contact me.

a) About This Study.

My name is Kate Farrelly and I am a final year student in the BA Psychology program in The National College of Ireland. As part of my degree I must complete a final year research project independently. The aim of this project is to assess whether cyberbullying can have an impact on an individual's sleep quality using self esteem as a mediator. The project will be supervised by Dr. Caoimhe Hannigan who is a lecturer at The National College of Ireland.

b) What will taking part in the study involve?

If you choose to take part in this study, you will be asked to complete a questionnaire. The questionnaire will be divided into three parts. You will be informed at the top of the page which part you will be answering. The first questionnaire will be about experiences of being a victim of cyberbullying, the second one will be about general self esteem and the third questionnaire will assess sleep quality. The entire survey should take no more than 15 minutes to complete.

c) Who can take part?

You can take part in this study if you are over the age of 18. Anyone under the age of 18 should not take part in this study. People who frequently use any form of social media can take part in this study. Anyone who is suffering from any mental health disorders and feels this would have a significant negative impact on them should not take part in this study.

d) Do I have to take part?

You do not have to take part in this study. There will be no consequences for you should you decide not to take part in this study. If you wish to withdraw from the questionnaire at any time you can simply do this by exiting the browser. It will be impossible to withdraw your data once the questionnaire has been submitted as all the data collected will be anonymous and individual answers can not be identified. There is a minor risk of distress that can be caused by this study. The questionnaires that will be provided will be about topics such as cyberbullying, self esteem and sleep quality. If you feel some or all of these topics are distressing to you or can cause a serious level of stress to you personally you should not take part in this study.

e) Risks and Benefits of taking part.

There will be no direct benefits to you by taking part in this study. All the data collected will contribute to research that can help us understand how cyberbullying can affect sleep quality indirectly. However, some topics discussed can cause minor distress to some participants. If you find this has happened to you, you can exit the questionnaire at any time by simply exiting the browser without any consequences. There will also be contact information for helplines

and websites provided at the end of the questionnaires and the debriefing sheet for any distress caused.

f) What will happen to data, and will this be confidential?

The questionnaire will remain completely anonymous. Participants will not be asked to provide any names. It will also not be possible to identify participants based on their answers. Data collected from the study will be treated in the strictest confidence. The researcher and supervisor will only have access to the data. The questionnaire answers will be stored in a password protected computer file on the researcher's computer. The researcher and supervisor will be the only people to have access to this file. Data will be retained in the file for 5 years in accordance with the NCI data retention policy.

g) What will happen to the results?

Results from the study will be presented in a final year dissertation. The dissertation will be submitted to The National College of Ireland. The data will remain completely anonymous. Participant's data will be non-identifiable. The results may also be presented as part of a presentation, conference or submitted to an academic journal which may be published.

h) Contact Information.

Please do not hesitate to contact the researcher or supervisor should you have any further information or questions.

Researcher

Kate Farrelly, undergraduate in BA Psychology

Email: x19489084@student.ncirl.ie

Dr. Caoimhe Hannigan, lecturer at The National College of Ireland

Email: Caoimhe.Hannigan@ncirl.ie

Appendix 5

Consent Form

In agreeing to participate in this research I understand the following:

The research is being conducted by Kate Farrelly who is an undergraduate student at The National College of Ireland for her final year project. The research is being supervised by Dr. Caoimhe Hannigan, lecturer of psychology at The National College of Ireland.

The method of the study has been approved by The Departmental Ethics Committee; therefore they have no concern about the method of data collection. It is the researcher's responsibility to adhere to ethical guidelines when conducting the study, collecting and handling data.

I have been informed of the method and research aims of the study. I agree to voluntarily participate. I understand that I can refuse to participate in the study without any consequences. I also understand that if I have any concerns throughout the study, I can withdraw from it at any time by exiting the browser.

I understand that there are no direct benefits to participating in this study. I understand that there is a risk of distress being caused due to the topics being assessed which is Cyberbullying, Self Esteem and Sleep Quality. I understand that I should not participate if I feel this will cause serious stress to myself. I understand there will be contact information for support helplines for any issues I might have. These will be provided at the end of the questionnaire and debriefing sheet.

I understand that all data will be confidential, even when it is presented at the end of the study. It will be stored on a computer file that is password protected and can only be accessed by the researcher and supervisor. I understand that once my data has been submitted, I will not be able to withdraw it as it will be completely non identifiable. I understand that it will be retained for 5 years by the researcher in accordance with the NCI data retention policy. I understand that data will be put into a dissertation at the end and may be presented in a presentation or can be submitted to an academic journal.

Information about the study will be provided in a debriefing sheet at the end of the questionnaire. Contact information for the researcher and supervisor will be provided for further enquiries. There will also be helplines and websites provided in case of any distress caused.

I understand that I must be over the age of 18 in order to participate in this study. I understand that being under the age of 18 means I am prohibited from participating in this study.

I understand all the information presented above in the information sheet and consent form.

I am over the age of 18.

I voluntarily agree to participate in this study.

Appendix 6

Debriefing Sheet

Thank you very much for participating in this study.

This study was examining the indirect effect of cyberbullying on sleep quality using self esteem as a mediator. The questionnaires completed collected data on sleep quality, self esteem and cyberbullying.

If you have any concerns or queries about the study, please contact me (the researcher) at x19489084@student.ncirl.ie or the supervisor Dr. Caoimhe Hannigan at Caoimhe.Hannigan@ncirl.ie.

All data submitted is completely anonymized and will only be used for the purpose of this study. The data will only be accessible by the researcher and will be stored on a SPSS software. The data will be kept for 5 years, this is in accordance with the NCI retention policy.

In the event you are subject to cyberbullying please notify a member of your family or close friends and contact An Garda Siochana and visit this website

https://antibullyingcentre.ie/

Garda.ie

Tel: +353 1 666 0000

If this study has caused any emotional distress or you are feeling any form of anxiety as a result of low self esteem caused by cyberbullying, please visit these websites:

https://www.samaritans.org/ireland/samaritans-ireland/

https://jigsaw.ie/

Appendix 7

<u>Histograms</u>