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How Cyberbullying Can Affect the Academic Performance and Social Behavior of Students

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Abstract:

Cyberbullying is harassment with the help of digital media or communication tools that increases globally at a high rate. However, studies have shown inconsistent findings for the prevalence of cyberbullying victimization and perpetration. This study explored the factors of cyberbully among students and their effects toward students' academic performance and social behavior. This article covered a review on cyberbullying among students from 2016–2022. Factors contributing to the eruption of cyberbullying perpetration and victimization are mainly gender differences, the behavior of internet users, age factor, emotional stability, academic achievement, family background, victimization experiences, racial factors, physical appearance, and school quality. In terms of academic performance, victims will mostly shoulder the impacts such as lower academic grades, reduction in concentration during class, and failure. Not only academic performance, but social behavior of victims especially may turn out worse that may lead to depression, unstable emotions such as anxiety and stress, low social skills, and confidence, and to the worst extent, suicidal attempts. We also learned that many methods are used to reduce the rate of cyberbullying and creating a safe environment in school and internet platforms, mainly via programs such as TEI intervention program, T.I.P.I.P, as well as indirect methods such as consulting parents, or teachers for support. This article will help provide resources for developing intervention and prevention programs for cyberbully among teenagers.

Keywords: cyberbullying, victimization, academic performance, social behavior, students.

网络欺凌如何影响学生的学业成绩和社会行为

摘要:

网络欺凌是借助数字媒体或通信工具进行的骚扰,这种骚扰在全球范围内高速增长。然而,研究表明,对于网络欺凌受害和犯罪的普遍性,研究结果不一致。本研究探讨了学生网络欺凌的因素及其对学生学业成

绩和社会行为的影响。本文涵盖了对2016–

2022年学生网络欺凌的回顾。导致网络欺凌犯罪和受害事件爆发的因素主要有性别差异、网民行为、年龄因素、情绪稳定性、学业成绩、家庭背景、受害经历、种族因素、外貌、学校质量等。在学习成绩方面，受害者大多会承担学习成绩下降、上课注意力不集中、失败等影响。不仅学业成绩，而且受害者的社会行为尤其可能变得更糟，这可能导致抑郁、焦虑和压力等不稳定情绪、社交技能和信心低下，最坏的情况是自杀企图。我们还了解到，在学校和互联网平台上，许多方法被用来减少网络欺凌的发生率，创造一个安全的环境，主要是通过有针对性的早期干预计划、创伤干预计划等计划，以及咨询家长等间接方法，或老师们的支持。本文将有助于为开发针对青少年网络欺凌的干预和预防计划提供资源。

关键词：网络欺凌，受害，学习成绩，社会行为，学生。

1. Introduction

Cyberbullying involves the use of information and communication technologies that support deliberate, hostile, and often repeated behavior by an individual or group that intends to hurt others. Although anyone is often the victim of cyberbullying, like bullying more generally, children and youth are the foremost common perpetrators and targets of this type of conduct. Cyberbullying can be generally defined as an aggressive behavior that is intentionally done using electronics against a victim who has no power to defend himself/herself by a group or individually. It may occur in many types like abuse or offensive messages, hateful rumors, embarrassing posting, sensitive information, pictures or inappropriate videos, trolling and many more that intentionally hurt others online. (Musharraf & Anis-Ul-Haque, 2018)

Bullying behavior involves the systematic abuse of power through the unjustified and repeated acts intended to hurt or inflict some form of harm. Its impact can be direct (physical and verbal teasing) or indirect (relational, such as social exclusion and spreading nasty rumors).

In modern days, as technology advances, people are spending more time with their gadgets. Undoubtedly, people misuse technology and make it a threat (González-Cabrera et al., 2019). Since the victims are often hurt psychologically, the depressive effects hinder students in excelling in their studies thus affect students through academic performance and social behavior. Therefore, studying the effects of cyberbullying on students may lead to useful information on whether academic performance and social behavior are related to the affection of cyberbullying.

It is estimated that 7 of 10 teenagers have been victims of cyberbullying. The percentage of youth who had been cyber-bullied in Malaysia by races was reported that the Malays had the highest cases with 67.5%, followed by Sarawakians with 63.6%, Indians with 52.6% while Chinese and Sabah Bumiputera were 51.4% and 48.1% respectively (Institute for Youth Research Malaysia, 2022). According to the Annual Bullying Survey 2017 (Ditch the Label, 2017), it has been reported that 36% of teenagers surveyed had developed depression, while 24% of teenagers had suicidal thoughts due to cyberbullying. Hinduja & Patchin (2018) also claimed that cyberbullying is often

associated with the development of depression, anxiety, and suicidal thoughts. Cyberbullying has also been listed as a factor of suicidal death in the past few years based on statistics reported. In terms of gender, cyberbully affect teenage girls more than boys, resulting in rising suicide deaths among older teen girls (Faucher et al., 2014). Students are 2 times more likely to aim suicide thanks to cyberbullying and bullying. Suicide ideation and attempts among teenagers have nearly doubled since 2008 according to current research (Hamajima, 2020). Therefore, making it the second leading cause of death for individuals ranging from 10 to 34 years.

When we experience cyberbullying, we can sometimes feel like hopeless victims. An interesting feature of cyberbullying that differentiates it from traditional bullying is that the easier path to the cyberbully-victim phenomena where people who have experienced cyber become cyberbullies or the other way around. On the Internet, this material can spread quickly and exist for a long time (Festl & Quandt, 2016).

Thus, this study identifies the most common factors that contribute to cyberbullying among students. Moreover, we want to highlight and document the effects of cyberbully on the academics and social behaviors of students.

2. Literature Review

2.1. Factors of Cyberbullying

Factors of cyberbullying will usually refer to cyber victimization and cyber perpetration. This is based on our findings from all 41 articles that generally classify the factors into these classes, thus giving us a greater depth of cyberbullying from the perspective of both perpetrators and people who have experienced cyberbullying themselves. The factors include sex and race differences, social status and family quality of life, academic achievement, prior-cyberbullying experiences, and students born with a uniqueness or speciality et cetera.

2.1.1. Gender Differences

Of all 41 articles we have reviewed, the most significant predictor of cyberbullying perpetration is sex difference because it is frequently mentioned in these

articles. A study by Livazovic & Ham (2019) revealed the results of their t-test for gender differences. It shows that girls ($M=4.24$, $SD= 2.37$) talk to their parents and friends about them being people who have experienced cyber bullying more often, $t(257)= -1.98$, $p < 0.05$. Meanwhile, boys reported significantly higher cyberbullying perpetration ($M = 2.00$, $SD = 1.28$) than girls, $t(257) = 2.59$, $p < 0.05$). However, a systematic review by Ferreira et al. (2018) reveals some explanations on how sex differences can be correlated with the rate of cyberbullying perpetration and victimization. Girls are more concerned with their appearance and health, however, boys are more interested in online gaming. Girls have more intense friendships, exchanging intimate content and personal secrets mostly through text messages, whereas boys socialize in wider groups and disclose fewer personal data in social networks. This contradiction appears in the study by Alim (2016) where it was found that girls are twice as likely as boys to be the perpetrators of cyberbullying because guys are more physically confrontational, whereas girls are more "silent" when they want to harm someone, and sometimes when they bully, they become "serial". A study by Jidapa P. et al. (2020) discovered that females intervened more frequently than males, which matched with recent non-victim conventional bullying research. All of this, however, contradicts the finding by Ferreira et al. (2018) that boys are more competent at using technology than girls, thus they are the most perpetrators since online gaming is an active industry nowadays and is mostly engaged by boys. Thus, as the rate of activity of online gaming increases, the rate of cyberbullying perpetration and victimizations will also increase. This conforms to the results of a systematic review by Myers & Cowie, (2019) where it was found that male students were more likely to be bullied online rather than females.

In terms of victimization, it was found that gender was strongly associated with all bullying outcomes. Girls were more likely to be significantly bullied and cyberbullied, but less likely to be cyberbullies. The researchers found that 2% of boys and 4.5% of girls reported as people who have experienced bullying. The reason for this is that girls are more likely to be exposed to bullying from both other girls and boys. They might be received by the latter engaging in more gender-based violence such as sexual harassment or sex-based jokes. This is opposite to boys who might be bullied primarily by other boys and less likely to be bullied by girls (Bevilacqua et al., 2017). This finding is in the same direction as the study by Musharraf & Anis-Ul-Haque (2018) that found a higher percentage of females, 34.8% reported themselves as the victims compared to males with just only 26.4%. Females were also reported to have a lower percentage as bullies, which is 3.2% compared to 5.7% reported of males.

2.1.2. Races Factor

Race differences are also involved in cyberbullying victimizations. It is found that white students reported a larger percentage of cyberbullying victimization than non-white students (Alhajji et al. 2019). In a systematic review by Ferreira et al. (2018), stated that cyberbullying perpetration can be triggered by discrimination based on ethnicity or skin color. Quite a few studies emphasize the race factor as the predictor of neither cyberbullying victimization nor its perpetration. Thus, in-depth research should be conducted to study more about the relationship between race and cyberbullying.

2.1.3. Age Factor

Based age differences mostly predict cyberbullying perpetration rather than victimization on our findings. Several studies concerning age differences and its relationship to cyberbullying perpetration were found in our chosen articles. However, none of these articles mention the age factor as a predictor of cyber victimization. A study by Livazovic & Ham (2019) showed a significant difference for the variable cyberbullying perpetration, $t(257) = 3.39$, $p < .01$, with younger participants reporting cyberbullying perpetration more often ($M = 1.88$, $SD = 1.12$). This agrees with Antoniadou & Kokkinos (2015) that adolescents have the highest occurrence, but gradually decreases as students' progress through the university. However, a study by J. Panumaporn et al. (2020) showed that older teenagers had a significant desire to join in with the party. Antisocial Behaviour Theory, which asserts that late adolescents engage in greater antisocial behavior than children. Furthermore, older teenagers have more internet access, which enhances their chance of engaging in cyberbullying perpetration. This agrees with the result obtained by Yudes et al. (2020) after performing logistic regression where age is included as a predictor of cyberbullying perpetration, resulting in older adolescents (age 15 to 18 years old) obtaining a higher score in cyberbullying perpetration with the percentage of 28.1%, which is double compared with 12 to 14 years old (only 14.9%).

2.1.4. The Behavior of the Internet Users

The Internet is becoming problematic to the extent that it induces cyberbullying perpetration due to the aggressive and uncontrollable behavior of internet users. Yudes et al. (2020) showed that Problematic Internet Use (PIS) moderately has a positive relationship with cyberbullying perpetration through Pearson's and Spearman correlation. PIS showed an increased likelihood of cyberbullying perpetration when logistic regression was performed to identify the predictors of cyberbullying perpetration. By Binary Regression analysis, the Wald criterion demonstrated that PIS was a significant predictor with an odd ratio = 1.03, $p < 0.001$. Besides, the internet gives anonymity

to the perpetrators, which gives cyberbullies more power and greater helplessness to the victims. Furthermore, the anonymity of the internet also gives perceived power to the victims to fight back or cyberbullying back on those who tormented them to take revenge without the consequences that would not happen in a face-to-face context (Myers & Cowie, 2019).

In a study by Yubero et al. (2017), it is also indicated that self-reported piracy is positively related to cyberbullying victimization and perpetration, time spent on the Internet, listening to music online, and watching movies or TV series online. This means that an uncontrolled amount of time on the internet can increase the probability of cyber victimization and perpetration. The potential for harm related to the internet and social media is widely discussed, but it remains difficult to determine which aspects may be harmful and conversely, which may be supportive (Sedgwick et al., 2019).

2.1.5. Academic Achievement

Low academic achievement is considered a factor of cyberbullying perpetration based on the study by Livazovic & Ham (2019) that found a significant difference ($p < .05$) in academic success for participants with lower academic achievement ($M = 1.96$), who reported cyberbullying perpetration more than those with average academic success ($M = 1.56$) through the implementation of One-way ANOVA to analyze the academic achievement and involvement in cyberbullying perpetration. This means that those with the lowest academic success cyberbully others the most, but those most successful do not lag far behind. In agreement with that, Khan et al. (2020) reviewed that cyberbullies usually have a low academic performance that may lead them to have low self-esteem, become less prosocial and increase the frustration that will result in aggressive behaviors like cyberbullying. They seem to get trapped in a negative school climate with low peer support and end up with peers who share dangerous values. Additionally, this will make them feel uncomfortable to be in the area of the school with low peer support and will spend more time with a negative attitude peer. These values include a moral approval of bullying, antisocial behavior, and normalization of violence (Hemphill et al., 2009).

Last but not least, a unique study by González-Cabrera et al. (2019) mainly emphasizes the prevalence of cyberbullying in a sample of gifted students, the results showed that 31.5% of the sample is related to the cybervictim profile and 10.6% to the cyberbully profile. This confirms their hypothesis that the role of cyber victims is the most prevalent in cyberbullying. This will also conclude that gifted students with typically high academic achievements will expose themselves to being a subject of cyber victims due to their unique abilities that differentiate them from other ordinary students. Their sorrows of being alone may also induce cyberbullying perpetration inflicted on other people to

relieve their pain of being lonely.

2.1.6. Family Background and Qualities

A study by Livazovic & Ham (2019) found that lower family quality of life can predict cyber victimization. Similarly, their results show that higher family relations quality negatively predicts cyberbullying perpetration. Cyberbullying can also come from someone that has a poor emotional bond with a caregiver or family conflict. Cyberbullies' parents usually are not exposed to new technology, causing them not to supervise their children (Monks et al., 2016). A systematic review by Ferreira et al. (2018), also mentioned that there would be a social selection, as those who would suffer the most would be those from lower socioeconomic strata (Alim, 2016).

2.1.7. Prior Victimization Experiences

Prior victimization can be a predictor of the involvement of someone in cyberbullying perpetration. In a study by González-Cabrera et al. (2019) that divided the gifted students into three mutually exclusive categories of involvement, which are cyber victim, cyberbully, and cyberbully-victim, it was observed that nearly two-thirds of the students who had committed some aggression belonged to the cyberbully-victim category. This category means they have experienced both bullies and victims. This suggests that much of the aggression committed is due to prior victimization. This conforms to the results gained by Yudes et al. (2020) who showed that cyberbullying was positively related to cyber victimization through Pearson's and Spearman correlations between cyberbullying perpetration and other measured variables. Through binary regression analysis, the Wald criterion demonstrated that the most robust predictor was cyber victimization (odd ratio = 12.07, $p < 0.001$). Logistic regression that was performed to identify the odds of being a cyberbully based on the independent variables also indicated that cyber victimization increased the possibility of cyberbullying perpetration. Also, the probability of being involved in cyberbullying perpetration is nine times higher when someone has been cyberbullied than the non-victim. (Walrave & Heirman, 2011) The involvement of the victims in cyberbullying can be the result of cyberbullies' internal motivation like redirecting feelings and taking revenge or deficits in emotional regulation and expression (Rey et al., 2018).

2.1.8. Emotion Stability

Having unstable emotions can also be a factor of cyberbullying perpetrators. In a study by Jacobs et al. (2015), participating students were divided into smaller groups consisting of 6 students who had ever experienced being cyber victims that have focus-group interviews that lasted about 30 minutes to discuss this topic. Students were asked about their opinions on cyberbullies' motivation toward cyberbullying perpetration. From the perpetrator's viewpoint, they believe that it is because perpetrators are in a bad mood,

they want to seek attention and feel better about themselves.

Additionally, this may happen due to jealousy. From a systematic review by Khan et al. (2020), a previous study reported that cyber Bullies usually have low levels of empathy, high self-esteem and are exposed to violence portrayed by media such as aggression and violence in television and video games.

Another study also found that deficits in some Emotional Intelligence (EI) can increase the tendency for the occurrence of cyberbullying. The result was found by Yudes et al. (2020) through binary regression analyses showed that emotional regulation and use of emotion was significant with an odd ratio = 0.79, $p < 0.001$, and odd ratio = 1.21, $p < 0.01$ respectively. That indicates that EI is a predictor toward cyberbullying perpetration, in particular, low levels in use and regulation of emotions. The same result was also gained by Chamizo-Nieto et al. (2020) where it showed a higher level of EI predicting less cyber-aggressive behavior. That is because adolescents with high emotional understanding reported better coping with stress and more positive relationships, whereas, lower levels of emotional regulation were related to more social anxiety and more symptoms of stress (Cejudo et al., 2018). Zhang et al. (2020) discovered that psychological distress can predict cyber victimization and cyber perpetration. These findings were consistent with prior research, which revealed that individuals who had been subjected to both traditional and cyberbullying were the most vulnerable regarding both mental distress and the risk of suicide Peng et al. (2019).

2.1.9. Victims Physical Appearance

Having a bad physical appearance can result in cyber victimization. In a study by Jacobs et al. (2015), students who participated in the study were divided into smaller groups. These groups consisted of 6 students who were cyberbullied in the past and were asked about their opinions on the reasons cyberbullying perpetration occur. Most of the groups mentioned that having a bad appearance and clothing will cause the victim to get cyberbullied easily. This means that victims can easily be easily targeted by cyberbullies when they post about themselves with a bad appearance.

2.1.10. School Quality

A school rating of "Good" was associated with a higher risk of significant bullying than schools rated "Outstanding." This finding tells us that a school organization that performs well in many aspects like leadership and management, can be a protective factor against bullying.

The schools that support elements of ethos and culture were less likely to have the occurrence cyberbullying. (Bevilacqua et al., 2017) It showed that schools that care about their students' wellbeing tend to have a low probability of cyberbullying occurring.

2.2. Effects of Cyberbullying on Academic Performance of Students

The main effects of cyberbullying are in academic performance and social behavior. This is based on our findings from all articles that mainly concluded that cyberbullying affects both academic performance and social behavior in each individual. Effects of cyberbullying will usually refer to cyber victimization and cyber perpetration.

2.2.1. Lower Academic Performance by Cyber Victimization

Cyberbullying acts as a moderating effect to see how far it may affect the relationship between collaborative learning and learner performance. Collaborative learning is an activity that requires a process with students collaborating to solve particular problems more interactively. With the aid of social media, it may allow students to interact more actively. Learner performance is enhanced when social media and other internet networking are introduced as students are more motivated to develop and become more resourceful by actively participating in internet platforms. However, the eruption of cyberbullying has dampened the positive relationship between collaborative learning and learner performance. It is proved by a study by Sarwar et al. (2019) where high-cyberbullying rates had deteriorated the positive relationship between these two variables compared with lower cyberbullying rates. This indicates that cyberbullying as a moderating effect will not only overwhelm student's emotions but also spoil their motivation for study and educational purposes.

2.2.2. Higher EI Avoids Cyber Victimization

Emotional intelligence (EI) has a negative correlation with cyber victimization and a positive link with academic success, according to a correlation analysis. That is, students with a higher EI are less likely to be victimized, have better grades and are more successful in school. A low-EI score indicates a higher chance of cyber victimization as well as poor academic performance.

We can build emotional control guidelines among children by providing EI training and managing disruptive behavior by focusing on the classroom environment, classroom management, and discipline. These initiatives are anticipated to lower the likelihood of cyberbullying, allowing young people to engage in more prosocial behaviors and improve their psychological adjustment, which will have a good impact on their grades. In other words, cyber victimization has a serious effect on individuals' EI levels, which has a bad impact on their academic success. EI improves high school teenagers' academic performance and makes them less exposed to cyber victimization.

2.2.3. Reduction in Focus and Concentration during Class

In the previous 12 months, two out of every five students had been victims of cyberbullying, and only half of the victims had shared their experiences with others. Students who were victims of cyberbullying struggled academically and began or increased their smoking, betel chewing, or alcohol consumption. In the unadjusted analysis, having been cyberbullied was strongly associated with difficulty in concentrating and understanding lectures (UOR = 6.81; 95% CI 3.31–13.98) and starting or increasing substance abuse (UOR = 4.57; 95% CI 2.25–9.31). According to this study, being a victim of cyberbullying in the previous 12 months was linked to problems concentrating and understanding lectures, as well as the beginning or increasing substance misuse. Furthermore, moving from a different state and region to attend the institution, as well as having only been at the university for three years or fewer, were both linked to experiencing cyberbullying victimization in the previous year.

The victim's capacity to work and work well was impacted by his or her inability to concentrate, which was mentioned above under the area of mental health consequences. Students reported feeling uneasy in class or while asking for help, which influenced their marks.

2.2.4. Academic Problem

Some studies have concluded that it is the aggressors who have higher daily mobile consumption than the victims or those not involved (Giménez-Gualdo et al., 2015) to the extent that they risk becoming addicted, especially if we consider that students often underestimate their daily mobile use, claiming to spend between one and four hours, when in reality it has been confirmed that this is considerably higher (Garmendia, 2013). Khan et al. (2020) stated in their study that long-term consequences for both cyberbullies and cyber victims can cause academic failure.

A study found that cyberbullying can result in academic problems like greater absence and poor grades in examinations over and above traditional bullying. The sample was American students in grades 6 to 12 (Giumetti & Kowalski, 2015).

2.3. Effects of Cyberbully on Social Behaviour of Students

2.3.1. Unstable Emotions and Feelings

The results shown by Livazovic & Ham (2019) reveal that the number of participants who reported distinct emotional disturbance (31.3%), anger (20.8%), helplessness (13.1%), and sorrow (20.5%). All results from the present study are in line with previous research that found participants reporting a state of anger, sorrow, anxiety, and decreasing proper efficiency after getting cyberbullied from others. Similarly, Myers & Cowie (2019) stated that the emotion experienced by the victim can be anger, hurt sadness, depression, embarrassment, anxiety, difficulty in concentrating,

isolation, self-blame, fear, suicidal thoughts. Jacobs et al. (2015) research focused on conducting focus group interviews that may lead to a better and clearer understanding of cyberbullying rather than using self-report questionnaires. Focus group interviews with several groups consisting of students who once were cyber victims were conducted. Several victims from different groups said they felt depressed, bad, and angry. Some shared their opinion, that the consequences of experiencing (cyber) bullying could last a lifetime.

A study was done by Pillay & Sacks (2020) evaluating a face-to-face interview with 10 participants of age between 20 and 23+ to have a better understanding of cyberbullying impacts on the victims. One of the participants experienced getting abused by the perpetrators online. As a result, the relationships she used to have with some of the bullies have now altered due to cyberbullying. Trust is lost while tension and distance were created between her and the bully and as well the bystanders. Chouhan (2019) points out that bullied children are much more likely than other children to have very low subjective well-being, according to the Children's Society's research. Children who have been bullied four or more times in the last three months are six times more likely to have a poor level of happiness than children who have not been tormented. Furthermore, a revolutionary longitudinal study published just recently showed that bullying might have long-term negative consequences. According to the study, younger people who were bullied during their childhood are more likely to seek mental health services later in life than those who were not bullied.

Cassidy et al. (2017), on the other hand, conducted a qualitative thematic analysis of the impacts of cyberbullying on post-secondary students, faculty, and administrators from four participating Canadian universities and their results supported the hypothesis that cyberbullying aroused a wide range of negative emotions, including sadness, embarrassment, anger, humiliation, isolation, marginalization, and powerlessness, as well as a desire to retaliate and exact revenge. Many people described long periods of crying, as well as being agitated, emotional, strangled, crushed, hurt, and generally feeling bad. Stress, anxiety, depression, and suicidal thoughts are some of the mental health consequences. The scenario was "stressful" or "difficult to deal with," or they felt "stressed out" or "exhausted" by it, was a common response. Several respondents stated that the cyberbullying they had experienced or witnessed was frightening and made them fear for their own or others' safety. Respondents also expressed concern that online or verbal attacks will escalate into a physical assault. Cyberbullying had an impact on their self-esteem, self-confidence, and/or self-image. While some indicated they began to blame themselves for what had happened, the most common answer was that they came to accept what the cyberbullies claimed about them and developed shortcomings as a result. Their personal and

professional lives were affected as a result of this.

Regarding unstable emotions and feelings, Chamizo-Nieto et al. (2020) stated consistent with the mediational approach, we did find some support that gratitude is an underlying mechanism in the link between emotional intelligence and cyber-aggression during a sample of Spanish adolescents. This research suggests that gratitude mediates the influence of EI dimensions on cyber-aggression and that EI can positively predict gratitude. One plausible explanation for the relationship between EI and cyber-aggression is said to the condition that folk who report higher levels of self-emotion appraisal and other's emotion appraisal and use emotions and skills to manage emotions can become more grateful because they're more sensitive to the emotions, thoughts, and actions that underlie the positive contributions of others than people who report lower levels of EI. Serious negative consequences can arise from cyberbullying. The effect of this action is both on the cyber victims and also cyber aggressors which is they would show lower scores on life satisfaction and a higher level of loneliness, depressive symptomatology, and perceived stress (Cañas-Pardo, 2017).

2.3.2. Health and Mental Health Problems

When considering research regarding cyberbullying, health, and mental health problems, specifically, we have found a positive association between health, mental health problems, and cyberbullying. Out of a total of 14 publications addressing this issue and found a positive association between cyberbullying, health, and mental health problems. According to a study conducted by Chouhan (2019), 45% of younger and children who responded to the study said they are currently dealing with a mental health problem, and 47% said they have dealt with a mental health problem in the past. Similarly, Cassidy et al. (2017) stated that cyberbullying can lead to sleep disturbances, gastrointestinal issues, and weight loss that were among the physical health consequences. Anxious, depression, and avoidant attachment, as well as rejection sensitivity, were found to be three significant predictors of sexting experiences and assessments, as well as sexting victimization (Brenick et al., 2017). This is because, when the victim gets cyberbullied, their self-esteem will drop and often leads to social withdrawal from peer-group networks (Myers & Cowie, 2019).

Links between adolescent brain development, peer victimization, and psychopathology have been investigated. The researcher finds that changes in left putamen volume were negatively associated with general anxiety and peer victimization was indirectly associated with generalized anxiety via decreases in putamen volume. This suggests that it could indicate that victimization during adolescence could lead to psychopathology-relevant deviations from normative brain development (McLoughlin et al., 2020). Another

study about Swiss and Australian teens found that cyberbullying can result in more depression compared to traditional bullying (Perren et al., 2010).

A systematic review by Vaillancourt et al. (2016) stated a study of comparison of cyberbullying and traditional bullying in relation to psychological distress, the result indicated that the victim of cyberbullying faces greater effects of depression symptoms, suicidal ideation, self-injury, and suicide attempt compared to traditional bullying. The result showed the adjusted odds ratio (aOR)s and their 95% Confidence Interval (CI)s for the associations between cyberbullying victimization and mental health and substance-use-related outcome. For mental health-related outcomes, the aOR increased in a stepwise fashion in relation to the frequency of exposure to cyberbullying victimization. The information we can get here are the adjusted odds ratio (aOR) of suicide ideation with female never exposed to cyberbullying victimization was 1.97 with 95% CI and among those exposed 2 or more, it was 4.60 (95% CI). A similar pattern for psychological distress where aOR for females not exposed to Cyberbullying victimization is 2.42 compared to exposed 2 or more with aOR 4.63. These results indicated that the increased odds of adverse mental health implications (suicide ideation, psychological distress) have a relationship with cyber victimization (Kim et al., 2019).

Moreover, a systematic review by Vaillancourt et al. (2016) showed that the data from a total population survey of Swedish adolescents aged 15 to 18 years and controlling for exposure to traditional bullying, it was found that the victim of cyberbullying was subjected to poor physical health like having headaches, stomach aches, loss of appetites, and sleep problems. A study found that patterns of cortisol release and perceived stress in 11 - 18 years old's are related to cyber victims exhibiting higher cortisol secretion levels and greater perceived stress (Gonzalez-Cabrera et al., 2017). That is, boys with higher experiences of childhood victimization showed high cortisol levels and smaller ventrolateral prefrontal cortex (vlPFC) structure. The researcher suggests that this may be due to a stress sensitivity that could influence brain development. Cortisol levels could be particularly important in regard to brain development during adolescence and further study needs to be done to see the effect on adolescent brain development over time (McLoughlin et al., 2020).

2.3.3. Violent Behaviors and Suicidal Ideation

Moving on to the next effects, Chouhan (2019) stated in his article according to a study conducted by Birmingham Faculty, young adults and children under the age of twenty-five who are victims of cyberbullying are more than twice as likely to self-harm and attempt suicide than non-victims. Bullied adolescents are more likely to abuse alcohol and drugs than non-bullied adolescents. Most studies also believe that

cyberbullying is linked to depression, drug usage, suicidal ideation, stress, loneliness, and anxiety, all of which have psychiatric effects that damage mental health and school development, particularly among targeted teens and students who have been frightened by cyberbullying are eight times more likely to bring a weapon to school than students who have not had this experience (Ferreira et al, 2018).

A systematic review by Gassó et al. (2019) stated that sexting has been linked to depression, suicidal ideation or attempt, and becoming a victim of physical abuse or cyberbullying. Cyberbullying victims and sexting participants reported higher rates of suicidal ideation and high-risk behaviors than non-participants (alcohol, drugs, stealing) (Bauman, 2015). Research conducted by Azami & Termian (2020) showed that being bullied in both ways was significantly associated with cigarette/hookah and hashish/marijuana smoking, and especially self-harm and suicide attempts. These results were in line with previous studies that found those who experienced both traditional and cyberbullying were at great risk for suicide and self-harm. This group feels more pressure and frustration because of their victimization experience, and according to General Strain Theory, this issue can lead to more damage for them.

A systematic review was published to compare the victim of cyberbullying with non-victims. The results revealed that cyber victims were 2.35 times more likely to harm themselves and they were 2.57 times more likely to attempt suicide (John et. al, 2018). A review of the impacts of cyber victimization on adolescent health showed that cyber victims reported increased depressive affect, anxiety, loneliness, as well as suicidal behavior and somatic symptoms (Nixon, 2014). We can say that bullying victimization can cause low self-esteem, and thus this can lead to suicide or substance use. As mentioned earlier, bullying victims may feel social isolation, their frequent need for help from family and friends could lead them to feel they have become a burden on other people, and the interaction between these two factors may lead to suicide, or they may harm themselves to relieve overwhelming negative feelings.

Another report said that cyberbullying can lead to an extremely negative effect like suicide that such treatment had on the mental health of staff and students (Monks et al., 2016). The victims usually being told to commit suicide, being sexually harassed, being taunted on account of their religion, being bullied on account of their sexual orientation, being attacked by a 'gang' of former friends on Twitter, and having nasty comments posted online by a former romantic partner (Myers & Cowie, 2019). Cyberbullies face long-term consequences including drug/alcohol use, dropping out of school, criminal convictions, early sexual activity, and being emotionally and physically abusive to others as adults (Khan et al., 2020).

The study's key conclusion was that being a victim of both conventional and online bullying had the strongest link to all suicidal outcomes, including death

(Peng et al, 2019).

2.3.4. Low Social Skills

A study conducted by Cassidy et al. (2017) showed that as a result of being cyberbullied, they avoid specific people, locations, social media sites, and activities, as well as the impact on their relationships. Participants said they were bullied by someone they thought was a friend, which caused trust issues and, in some cases, a broken relationship. Basically, when cyberbullying, the perpetrators are often rewarded by the approval of the peer group. But, the long-term outcome, they will continue to repeat their cyberbullying behavior as the approval or the popularity is based on fear and intimidation rather than genuine friendship. This is because the perpetrators think that they can only gain acceptance in their peer group across the educational lifespan by this behavior (Myers & Cowie, 2019).

2.4. Preventions of Cyberbullying

2.4.1. TEI Intervention Program

TEI program, acronyms that refer to the terms in Spanish "Tutoría Entre Iguales", is a school-based intervention of peer-tutoring, oriented towards the prevention of school violence and cyberbullying, and designed for students of secondary education. The main objective of this program is the improvement of the varsity climate and therefore the promotion of a positive school coexistence through the event of adequate problem-solving strategies and the integration of a culture of zero tolerance for violence as an identity school trait. The TEI program is based on an institutional intervention that entails the collaboration and commitment of the whole school community. It is designed on the basis of the Ecological Systems Theory of Bronfenbrenner. This program consisted of 6 stages to ensure that this program could be successful. Stage 1 is about Dissemination and Awareness of the Intervention of the School Community. While stage 2 is about Teacher Training. Then stage 3 is about Student Tutors Training. Next stage 4 is about Pairing Students. After that stage 5 is about Intervention Development. Lastly, stage 6 is about the Closing.

In a study conducted by Ferrer-Cascales et al (2019), they analysed and compared students behavior of EG and CG proved that the obtained results show a significant effect of the interaction group*time for Bully behavior ($F(1, 20) = 30.973$; $p = 0.00$; $\eta^2 = 0.015$), Peer victimization ($F(1, 20) = 15.299$; $p = 0.00$; $\eta^2 = 0.007$) and Fighting ($F(1, 20) = 19.552$; $p = 0.00$; $\eta^2 = 0.009$). As previously indicated, age was introduced in the model as a covariate, but did not reach statistical significance for Bully behaviors ($F(1, 20) = 9.389$; $p = 0.256$), Peer victimization ($F(1, 20) = 0.2$; $p = 0.644$), Fighting ($F(1, 20) = 0.318$; $p = 0.573$). The values of the Bully behavior, Peer victimization, and Fighting subscales decreased significantly from T1 to T2 only in the students who participated in the TEI

intervention program, finding statistically significant differences between the EG and CG in T2 ($p = 0.001$). Thus, proving that TEI programs may affect students' behavior and emotional state to become even better and optimized. With respect to Cyberbullying reduction, a significant interaction effect of group*time was found for Cyberbullying (E-bullying scale) ($F(1,20) = 12.382$; $p = 0.000$; $\eta^2 = 0.006$), and Cybervictimization (E-victimization scale) ($F(1,20) = 9.516$; $p = 0.002$; $\eta^2 = 0.005$). When age was introduced in the model as a covariate, no significant statistical effects on this variable were found for Cyberbullying ($F(1,20) = 2.733$; $p = 0.098$) or Cyber Victimization ($F(1,20) = 0.435$; $p = 0.510$). CG scores were similar from T1 to T2 while EG scores significantly decreased from T1 to T2 indicating that the program's effectiveness in reducing cyberbullying is successful on the participating students. The analyses of differences regarding School Climate showed a significant effect of the interaction group*time in Satisfaction ($F(1,20) = 16.818$; $p = 0.000$; $\eta^2 = 0.008$), Sense of belonging ($F(1,20) = 126.234$; $p = 0.00$; $\eta^2 = 0.058$), Cooperation ($F(1,20) = 195.768$; $p = 0.000$; $\eta^2 = 0.089$), and Communication between family and school ($F(1,20) = 233.528$; $p = 0.000$; $\eta^2 = 0.102$). As in the previous cases, when age was introduced in the model as a covariate, this variable did not reach statistical significance in any of the variables of the School Climate; Satisfaction ($F(1,20) = 2.056$; $p = 0.152$), Sense of belonging ($F(1,20) = 2.515$; $p = 0.113$), Cooperation ($F(1,20) = 2.132$; $p = 0.4$), and Communication between family and school ($F(1,20) = 1.853$; $p = 0.174$). Although the EG and CG obtained similar scores in T1, the Experimental Group (EG) seems to have a significant increase at the T2 stage meaning that the School Climate has improved positively and its TEI program's effectiveness is proven. Our results suggest that the Spanish TEI program may be effective for improving school climate factors including satisfaction with the school, sense of belonging, cooperation, and positive communication between family and school. These factors were positively related to low rates of fighting, bullying, and cyberbullying victimization.

2.4.2. *Tabby Improved Prevention and Intervention Program (T.I.P.I.P)*

Another program made to reduce cyberbullying rates is the Tabby Improved Prevention and Intervention Program (T.I.P.I.P) by Sorrentino et al (2018). The Tabby Improved Prevention and Intervention Program is a combination of both Ecological System Theory (EST) and Threat Assessment Approach (TAA) used to assess the presence of risk factors for both cyberbullying perpetrations and victimizations and to take the best preventive ways before massive disasters followed by. Significant differences were found in cyberbullying rates between the Experimental and Control Group where drastic decrement was found in

the Experimental Group compared to the Control Group from the T1 stage to T2 stage. Conversely, the rates of cyberbullying increase in the Control Group from the T1 (Pre-Intervention) to the T2 (Post-Intervention) stage. Hence, proving that cyberbullying perpetration can be reduced through this prevention program. Speaking of cyber victimization, the rate decreases notably in the Experimental Group from the T1 to T2 stage showing this program's high efficacy while a slight increment is found in the Control Group indicating that cyber victimization is still occurring over time. In terms of gender differences, both cyberbullying and cyber victimization rates decreased significantly among boys in the Experimental Group at the T2 stage, however, the rates increased significantly in the boy's Control Group at the T2 stage. Fortunately, this may allow for a clearer comparison between these two groups to estimate this program's effectiveness in combating cyberbullying. To summarize, the Tabby Improved Prevention and Intervention Program is clearly effective in lowering the rates of both cyberbullying perpetrations and cyber victimizations and should be integrated into every school to reduce cyberbullying effects to the lowest, especially among boys as boys usually perform cyberbullying perpetrations more aggressively compared to girls.

2.4.3. *Role of School*

In a systematic review by Espelage & Hong (2015), the researchers examined the Noncadiamointrappola (Let's not fall into the trap!) as a program developed in Italy to focus on peer educators to decrease cyberbullying (ages 14-19 years). 4 offline and 4 online peer educators are trained on bullying prevention concepts and then participate in several cyberbullying school-wide events (e.g., raising awareness, making a short film, meeting with school administrators, developing a guide on email and cell phone safety). Results indicated significant reductions in cyberbullying (Hedges's $g = .15$, .06). The researchers found that the KiVa program developed in Finland is effective in reducing cyberbullying cases. It is a school-based program that incorporates teachers, parents, families, community leaders, and students. This multi-component program consists of teacher training, student lessons, and virtual learning environments that are all essential and crucial. Briefly speaking, the teacher training is where all the teachers were given a manual for classroom instruction, and it is then supplemented in an anti-bullying computer game for primary school children. The student lessons basically consist of an internet forum for secondary school students. At the end of the day, this results in significant levels of reduction of cyberbullying victimization (Hedges's $g = .23$). In a systematic review by Espelage & Hong (2015), Surf-fair, a German-based curriculum for 11 to 12 years. It is either a 90-minute or two 90-minute sessions (depending on the situation) that explains everything

that the kids should know about cyberbullying. The definition, coping strategies were all compacted into this session and exposed to the kids to give an early awareness to them. The results yielded substantial reductions in cyberbullying victimization with Hedges's $g=.49$ but not for cyberbullying perpetration (Hedges's $g=.08$). Though it does not bring the desired results in terms of cyberbullying perpetrations, positive effects can still be seen on the reduction of cyberbullying victimization as it can reduce many more negative consequences such as depression, anxiety, suicidal temptation usually faced by victims of cyberbullying. A school-based, the psychoeducational program was conducted in Germany as a means to raise the awareness of students about the risks related to technology use, increase empathy and social responsibility, and teach the strategies to defend themselves and people around them from cyberbullying, be it victimization or perpetration. It is ten 90-minute sessions involving middle and high school students which were delivered weekly to give a consistent awareness that lasts for a long period of time. The topics covered include the definition of cyberbullying, discussion of its negative impact, safety tips regarding the Internet, and opportunities to react appropriately using hypothetical scenarios. All of this was recorded in a systematic review by Van Cleemput et al. (2014). Results from this study found that significant cyberbullying reduction is recorded with Hedges's $g=.19$ based on the studies conducted by Chaux et al (2016).

Another study was conducted on interventions to combat cyberbullying at the school level that consists of a meta-analysis of 44-school based interventions carried out over a period of 25 years in Europe, Australia, America, and South Africa, it was found that the reduction rates of cyberbullying perpetration by 20-23% and victimization by 17-20% (Myers & Cowie, 2019). The intervention programs included parent meetings and training, consistent disciplinary methods, classroom rules, school conferences, and skilled classroom management by teachers.

Another study was conducted to examine the effect of discipline and method and that these need to be non-punitive, which means not involving punishment but by adult negotiation to emphasize the safety school and promote the positive school (Wegmann, & Smith, 2019). This evidence showed that the effectiveness of this prevention arose from a process of consultation in which members of the school community had taken part. Many schools across the world now adopt Social and Emotional Learning (SEL) programs whose objective is to increase empathy inside the people for the distress of others (Cefai et al., 2018).

In a study by Khan et al. (2020), it was suggested that schools should introduce prevention and early intervention programs against cyberbullying. This program should be aimed at resilience building, moral and positive value promotion, age-appropriate emotional skills training, social skills development,

conflict resolution skills, democratic values, and media literacy programs. This program can help adolescents to understand that basic human rights are universal and lack boundaries. One of the studies suggests that the student should be taught the safe use of the internet and modern communication technologies. It also suggests that the administration arrange seminars and workshops in universities to spread awareness about cyberbullying. Another suggestion is to give enough training to the students so they can learn better ways to report cyberbullying and how they can seek psychological help to deal with the negative effect of cyberbullying. The study also mentions that training for anger management and empathy can be helpful as a protective factor against cyberbullying (Musharraf & Anis-UI-Haque, 2018).

According to Hellfeldt et al (2020), cyberbullying has been related to negative adolescent outcomes, it is critical for teachers and other practitioners to understand how children's varying levels of engagement in bullying connect to psychosocial well-being results, as well as the variables that may influence those results. According to a prior study, both emotional and instrumental perceived social support might be valuable resources for children who are subjected to bullying in various forms. In this sense, perceived social support, particularly from family and teachers at school, may help to mitigate the possible relationship between cyberbullying and a variety of distressing psychological effects. Educators, schools, and communities must create a healthy school culture and specific standards to better educate individuals about using the internet and avoiding hostile or violent behavior in cyberspace. It is critical to intervene as soon as possible to educate young people about these very important issues.

Den Hamer et al (2014) stated that we must have the obligation and the opportunity to create social spaces and to change attitudes towards the use of these important technologies, provide teachers with resources to prevent undesirable attitudes, and tackle the different forms of harassment. There is a need for implementing prevention programs beyond school, given the importance of eradicating situations where harassment and/or cyberbullying can take place. The aim of such measures is that young people identify with the values of respect, empathy, and non-violence, which should prevail at the university level. In order to identify all forms of harassment, with special emphasis on those produced by new technologies, deepening our knowledge of the positive uses and the consequences of abuse by promoting responsible use and healthy enjoyment as strategies that can prevent digital violence.

2.4.4. Family Cohesion

In a study about cyberbullying in the university setting, it was found that from a sample of 1282 students, a deteriorated family environment increased the probability of being involved in cyberbullying either being a victim or a perpetrator (Martínez & Rodríguez-

Hidalgo, 2020). Thus the family is seen to play their role as a protective factor from cyberbullying by controlling the behavior of its members and the use of new technologies (Myers & Cowie, 2019). In another research, it states that students who get parental restrictive mediation with emotional support have been associated with reductions in adolescent Internet addiction and cyberbullying (Khan et al., 2020). Strong family support has more open communication between family members, can provide emotional support with moral guidance, and can validate and reinforce positive behavior and values in kids. This works as a protective factor as self-esteem can be strengthened (Khan et al., 2020).

2.4.5. Social Support

A study by Khan et al (2020) found that Social support functions as a protective factor in stressful situations by offering a soft place for youth to express their thoughts and feelings. Adolescents identified sharing their condition to others like his/her friend as a helpful coping strategy (Hellfeldt et al., 2019).

A study has suggested that the health care provider can use the following prevention methods which are screening, validation, and advocacy. A survey was distributed toward adolescents aged 13 to 17 years who presented to an urban emergency department for any reason. It was reported that the occurrence of posttraumatic stress disorder, depression, and past-year suicidal ideation is due to cyberbullying. This study highlights the informative knowledge we can get by asking youth about their involvement in cyberbullying. When we detect the presence of bullying, the health care providers should partner with the school and family to help youth develop positive social relationships.

In an interview run by Pillay & Sacks (2020) consisting of 4 males and 6 females, the female students chose to deal with cyberbullying victimization by seeking support systems. Support systems in this case refer to people that may help them combat these cyberbullying issues. From the interview, one of the participants reported to the police for getting threatened through text message, some even informed their parents about getting bullied at school and the school immediately took disciplinary actions against the bullies and some of them confide in their friends as well because they trust them more. This shows that peers also act as defenders, confidants, and supporters of the cyber victim since they understand each other deeper.

A study by Sedgwick et al (2019) found that the writing style could help detect suicidal youth via online platforms through identification of internal attribution, excessive self-focus, and higher psychological pain and cognitive constriction. Social media content on self-harm is not always used to actively encourage others to self-harm, but predominantly to express difficult emotions and inspire recovery (Shanahan N. et. al,

2019). For some young people, the anonymous potential of social media/internet may make it an easier place to express themselves and find support, beyond what can be offered via conventional means.

The survey conducted in a study showed that attachment to members of the peer group can be a way to prevent cyberbullying from occurring. Young people have a strong need for social connectedness to have better mental health compared to those who were not (McLouglin et al., 2018). This can be an effective defense against cyberbullying as this way can decrease the feeling of lower self-esteem and loneliness inside young people (Myers & Cowie, 2019).

2.4.6. Emotional Intelligence

In a sample of 1282 students, it was found that the emotional intelligence of the students had a correlation with predictive factors of being involved in cyberbullying. The researchers stated that EI level may be part of the problem in cyberbullying (Martinez-Martinez et al., 2020). Thus, EI plays an important role as a protective factor to avoid cyberbullying among students (Myers & Cowie, 2019).

2.4.7. Employing Passive Tactics

A study by Myers & Cowie (2019) found that victims progress through the educational lifespan, they are less likely to actively avenge the perpetration, but they rather employ passive tactics like blocking or ignoring those perpetrators. In a qualitative study of cyberbullying during early adolescence, the cyberbullying event becomes a performance where the more the victims become distressed, the greater the entertainment and less likely the bystander or crowd wanting to help. Because of this, avoiding fighting fire with fire can be the best way to prevent cyberbullying (Myers & Cowie, 2019).

There was a study run by Jacobs et al (2015). In a focus group interview, most of the cyber victims mentioned that passive strategies are effective and effortless in coping with cyberbullying. Passive responses such as doing nothing or ignoring the bullies appear to be successful in preventing cyberbullying. Moreover, replying to the bullies online with a short message such as "OK" may also degrade their intentions to bully more. Some of the cyber victims also consider active responses as effective ways to prevent the cyberbullies from making their moves. This includes blocking them online or deleting them, encountering the bullies and speaking to them bravely, and seeking parents, teachers, and family members to help relieve the feeling of depression for getting bullied online.

2.4.8. RPC ("Relazioni per crescere"—Relationships to Grow) Program

According to Guarini et al. (2019), RPC is a short, teacher-led program that raises student awareness of

cyberbullying and helps them develop appropriate coping methods to deal with it. Students were more likely to consider the various roles in cyberbullying (cyberbully, cyber victim, reinforce/assistant, defender, and bystander/observer) following the intervention, according to hierarchical logistic regression. Furthermore, after the training, hierarchical linear regressions revealed an improvement in social and cognitive coping methods. Because this type of intervention may fit with the restricted cost and time resources of the schools, teacher-based, and quick interventions may be the only way to activate student activities to minimize cyberbullying. Students' coping skills in dealing with cyberbullying improved significantly as a result of the RPC program. "Conscious efforts humans take to manage emotion, cognition, behavior, internal states, or circumstances to lessen threat" is what coping is defined as (Raskauskas & Huynh, 2015).

3. Conclusion

From our findings, the sex factor is considered the predictor of cyberbullying perpetrations. It is found that boys are involved in cyberbullying perpetrations more than girls as they are more actively using the internet especially online gaming than girls. Speaking of cyber victimization, girls are mentioned by some researchers to be the great perpetrators competitive to boys, girls are as well exposed to the risk of being cyberbullied and bullied since they can be both bullying subjects for girls and boys among them. Being bullied by boys is mostly based on sex-based jokes and harassment. Thus in this study we found more females than males reported being victims of cyberbullying, which indicates gender differences in cyberbullying prevalence. There are limited articles that mention the correlation between racial differences and cyberbullying out of all articles we have screened. These articles generally mentioned skin colors and ethnicity as the crucial reasons for cyberbullying victimization to erupt. Though few articles emphasize these correlations, we believe that this is due to the limitations from our side. We may obtain more information if more search processes are conducted.

Age is considered as the factor of cyberbullying perpetrations. Younger adolescents tend to inflict cyberbullying harm on others than older ones, and as they grow older, the intention to bully others online gradually declines. However, some studies mentioned older adolescents as more active cyber perpetrators than younger ones. It is because most of them possess anti-social behavior and engage in cyberbullying perpetrations to neutralize their behaviors. Besides, they have more authority and freedom over internet access in comparison to younger adolescents, thus, the tendency to engage in cyberbullying perpetrations may also be high as they are available online. Although the overall findings are contrastive to each other, we may still conclude that cyberbullying can be inflicted by anyone to anyone regardless of their age. After all, in-depth

research should be carried out to emphasize the impact of age on cyberbullying and justify the age factor as the predictor of cyber victimization by studying more about the common characteristics and personality of a person with regards to their age that may trigger cyber victimizations.

The behaviors of the internet also induce cyberbullying perpetrations. Studies conducted showed people that spent more time online had a high possibility of being cyberbully. This is due to intense cyber socialization and a greater amount of online contact with strangers. We can conclude that the significant risk of being a cyberbully comes from the heavy use of the internet supported by the fact that the internet allows for anonymity for the perpetrators thus giving them more powers while victims are put in an even deeper hole of helplessness. In addition, anonymity will also be a reason for the victims to obtain perceived power and cyber-bullied back those who ridiculed them, in the same way, they were once bullied.

Three researchers found that family background and quality as some of the factors that can predict cyber victimization. It shows the importance of family to play their role as a protective factor against cyber victimization. The quality of relationships children and adolescents had, was the strongest predictor of bullying victimization. Thus, parents nowadays must have general knowledge about new technology so they can supervise their children to avoid the occurrence of cyberbullying victimization. We also found that prior victimization can be a factor in cyberbullying perpetration. There is a high probability of being involved in cyberbullying perpetration when someone has been a victim in their past. This is because they have the feeling of taking revenge towards their past and this leads them to bully others. The other factors included are race differences, having bad physical appearances, and school quality. All of these factors we found can benefit us to find prevention as a protective shield against cyberbullying.

As the purpose of the study is to find the relationship between cyberbullying and academic performance. Lower academic achievement was associated with both perpetration and victimization from cyberbullying. First and foremost, cyberbullying can lower the academic performance of individuals. The eruptions of cyberbullying had dampened the positive relationship between collaborative learning and learner performance. Next, individuals with higher emotional intelligence can avoid being cyber victims. We found that students with a higher EI are less likely to be victimized, have better grades, and are more successful in school. Reduction in focus and concentration during class is also caused by cyberbullying resulting in academic failure and also academic problems.

The evidence regarding the relationship between cyberbullying and social skills remains scarce, although the survey items show strong inter-correlation reliability, the level of underreporting or overreporting

of behaviors cannot be evaluated. Despite the study's limitations, one strength was the use of measures with reliable psychometric qualities to quantify online perpetration or victimization, as well as social-emotional effects. The findings of their study suggest that cyberbullying and bad social-emotional outcomes are linked constructs, with the quality of family, school, and peer relationships playing a specific protective role. Moreover, the findings on cyberbullying victimization and perpetration among adolescents demonstrate a concerning upward trend when compared to previous studies, emphasizing the importance of further research into the complex ontology and phenomenology of cyberbullying.

Based on this study, we also learned that there are many ways used to reduce the rate of cyberbullying and create a safe environment in school and internet platforms mainly via programs such as TEI intervention program, T.I.P.I.P, and as well as indirect methods such as consulting parents, or teachers for support.

These programs are designed to reduce the rates of cyberbullying perpetration and victimization. School also plays an important role in eradicating cyberbullying. A deteriorated family environment increased the probability of being involved in cyberbullying. Strong family support has more open communication between family members, can provide emotional support with moral guidance, and can validate and reinforce positive behavior and values in kids. Attachment to members of the peer group also can be a way to prevent cyberbullying. Young people have a strong need for social connectedness to have better mental health compared to those who were not.

In conclusion, cyberbullying is a serious problem that needs to be resolved immediately. It differs from traditional bullying especially in terms of the effects. It is known that the impact can be direct such as physical and verbal teasing or indirect such as social exclusion and spreading nasty rumors. This may lead to low academic performance and aggressive and disturbing social behavior of the victims mostly. Factors contributing to the eruption of cyberbullying perpetrations and victimization are mainly sex factors, the behavior of internet users, age factor, emotional stability, academic achievement, family background, victimization experiences, racial factors, physical appearances, and school quality. In terms of academic performance, victims will mostly shoulder the impacts such as lower academic grades, reduction in concentration during class, and failure. Not only academic performance, but social behavior of victims especially may turn out worse that may lead to depression, unstable emotions such as anxiety and stress, low social skills and confidence, and to the worst extent, suicidal attempts. We also learned that there are many ways used to reduce the rate of cyberbullying and create a safe environment in school and internet platforms mainly via many intervention program.

4. Research Limitations

Lack of study emphasizes the relationship between races and cyberbullying. More articles need to be searched to find out more about it as it is rarely mentioned. Specific studies regarding the role of sex and age in predicting cyberbullying perpetrations should also be conducted since there are some contraries during our findings. By studying more specifically about their characteristics based on gender and age may give a clearer understanding to correlate it with the action of cyberbullying.

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