International Journal of Child, Youth and Family Studies (2025) 16(1): 52–66
DOI: 10.18357/ijcyfs161202522342

# CYBERBULLYING AMONG FEMALE COLLEGE STUDENTS IN SAUDI ARABIA

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**Abstract:** In this cross-sectional study, we investigated cyberbullying among 203 female college students in Saudi Arabia during January and February 2020. The participants were randomly selected from each of the 12 colleges in the female campus of King Saud University in Riyadh City. The participants completed self-administered surveys adapted from the Compendium of Assessment Tools for Measuring Bullying Victimization, Perpetration, and Bystander Experiences, published by the Centers for Disease Control and Prevention. The findings of this study revealed that 41.6% of the sample had encountered some form of cyberbullying at least once in their lifetime. On the other hand, 15.8% reported cyberbullying others. The primary motivations for cyberbullying others were fun and vengeance. The majority of victims (16.3%) did not tell anyone that they were being cyberbullied. Only 2.0% to 2.5% reported an overlap between offline and online bullying. The study's findings indicate that female college students would benefit from comprehensive cyberbullying education and awareness campaigns. Additionally, interventions to combat cyberbullying within the population are needed.

**Keywords:** cyberbullying, online, public health, Saudi Arabia

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In today's digital age, the internet and social media have opened up new channels for children, adolescents, and young adults to harm their peers through a set of practices known as cyberbullying, internet harassment, or electronic harassment (Modecki et al., 2014). Cyberbullying is a serious public health issue that causes physical and mental health problems for both perpetrators and victims (Langos, 2012). The Centers for Disease Control and Prevention (CDC) defined bullying as: "any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings that involve an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated" (Gladden et al., 2013). Cyberbullying can be either direct or indirect. Direct cyberbullying involves the bully contacting the victim directly, whereas in indirect cyberbullying the bully harasses the victim using a platform accessible to the public (Watts et al., 2017). Cyberbullying can occur through various mediums, including websites, emails, phone calls, text messages, and social networking sites. The majority of these methods are easily accessible and widely distributed. Furthermore, they allow users to remain anonymous, which may encourage bullying (Peled, 2019).

### *Forms of Cyberbullying*

Cyberbullying has many forms, such as: (a) directly sending the victim threatening, offensive, or vulgar comments; (b) sending false or harmful remarks about one person to other people; (c) sending negative messages about someone to damage their reputation while pretending to be another person; (d) tricking people into revealing embarrassing personal information and then disseminating it to others; and (e) purposely excluding someone from an online group (Watts et al., 2017).

### *Effects of Cyberbullying*

Multiple studies (e.g., Mishna et al., 2016; Peled, 2019) have shown that cyberbullying can result in social isolation and loneliness, as well as psychological complications such as depression, lack of self-esteem, fear, anxiety, and suicidal ideation. A longitudinal study in multiple schools in London by Fahy et al. (2016) examined the effect of cyberaggression on depression and anxiety. They found that students who reported being victims of cyberbullying at baseline were more likely than students who were not involved in cyberbullying to report having experienced depressive symptoms and anxiety at a one-year follow-up. González-Cabrera et al. (2018) reported a reduction in the health-related quality of life among victims of cyberbullying. Furthermore, cyberaggression appears to affect victims' academic performance. A study by Grinshteyn (2017) found that the relative risk of missing at least 1 day of school per month was higher among students who experienced cyberbullying compared to other students; they attributed the absenteeism to fear induced by electronic bullying. Kowalski and Limber (2013) examined the consequences of cyberbullying and traditional bullying and found a strong correlation between cybervictimization and depression. The same study found that, in addition to such psychological consequences, there is a correlation between cyberbullying and absence from school.

Given all of these harmful consequences, it is crucial to invest in developing interventions aimed at preventing cyberbullying. One way is through spreading awareness generally, and educating young people about the issue. Espelage and Hong (2017) noted that health care providers can play an important role in preventing the future consequences of cyberharassment, since "research suggests that youth and parents are willing to disclose to their physician concerns with bullying if the physician handles the disclosure in a caring manner" (Summary and Future Directions, para. 3). They also suggest that youth are more likely to disclose cyberbullying if health care providers ask about it on intake forms.

### *Prevalence of Cyberbullying*

Assessing the prevalence of cyberbullying is vital to prioritizing and developing prevention programs and policies; however, this is not an easy task, as various studies have shown a wide range of cyberbullying prevalence. In Selkie et al.'s (2016) systematic review of cyberbullying research studies involving middle and high school students in the United States, they found that the reported prevalence rates of falling victim to cyberharassment ranged between 3% and 72%. They attributed the breadth of this range to two factors: different studies using different terminologies to describe cyberbullying, and variations in the period for which cyberaggression was reported — from "the last 30 days" to "ever". The same systematic review reported a 1% to 41% prevalence of cyberbullying perpetration. An Australian meta-analysis (Jadambaa et al., 2019) concluded that 7.02% of children and adolescents had been victims of cyberbullying, while 3.45% had committed the act of cyberaggression. A high prevalence of cyberbullying (52.7 %) was observed in a study in Spain assessing the prevalence of cyberteasing among college students (Caravaca Sánchez et al., 2016). The prevalence of cyberbullying has rarely been explored in Arab countries. One Egyptian study (Arafa & Senosy, 2017) observed a high rate of cyberbullying victimization (48.2%) among college students.

### *Gender Influences*

Varied results regarding the influence of gender on cyberbullying have been reported in the literature. Some studies have found no differences between females and males regarding the prevalence or the effects of cyberaggression (Barlett & Coyne, 2014; Kowalski et al., 2014). However, other studies have observed that females are more frequently affected by it than males are. A study by Kim et al. (2018) found that, among adolescents, traditional bullying was more common among male students, while victims of cyberbullying were more often female students. Furthermore, they found that females suffered more psychological damage than males did. This is in agreement with Bannink et al.'s (2014) study evaluating the effects of bullying on mental health in first-year secondary students in which they concluded that cyberbullying was associated with mental health problems among girls only. In addition to the effects on mental health, a study by Betts et al. (2017) involving 11- to 15-year-olds found evidence that

> for young women, their experiences of cyberbullying, which typically occur outside the school environment, impact their perceptions of learning and school. This

> finding suggests that factors outside school can spill over to negatively impact young women's views of learning and the value of school. (p. 477)

Additionally, research by Bauman and Newman (2013) found that females generally report greater distress from cyberbullying than do males. This highlights gender differences in responses to cyberaggression, with males potentially perceiving such experiences as less distressing than do females.

### *The Role of Public Health*

Public health has been defined as "the science and art of preventing disease, prolonging life, and promoting health through the organized efforts and informed choices of society, organizations, public and private communities, and individuals" (Centers for Disease Control and Prevention, n.d.). As cyberbullying can cause diseases such as depression (Peled, 2019), lower the quality of life (González-Cabrera et al., 2018), and even shorten life, as victims might commit suicide (Alavi et al., 2017), it is undoubtedly a public health issue. According to a report by the CDC (Gladden et al., 2014), the public health approach to bullying in general follows a four-step model. The first step is surveillance, which aims to uncover the extent, features, and consequences of the problem. The second step is to identify the risk factors. Both steps are accomplished through data collection via scientific research. The third step is to develop, implement, and continuously evaluate preventive programs based on the results of several studies. For example, Anthony et al.'s (2010) commentary on a public health approach to bullying recommended developing preventive programs that "empower all students with the skills and behaviors to promote positive behaviors and protect themselves" (para. 6). The fourth and final step is the widespread adoption of these programs across the community if they prove to be effective. Another vital factor to ensure the success of the public health approach is coordinating the efforts of several sectors, such as education, medicine, and law. Coordination is especially important for preventing and controlling cyberbullying since it is not confined to one institution and can occur in a variety of settings (Anthony et al., 2010).

A growing body of research shows that cyberbullying is prevalent among young people across the globe. In Saudi Arabia, however, there is a lack of information regarding the issue. The purpose of this study was to investigate cyberbullying among female college students in Saudi Arabia by posing the following questions:

1. Is there a correlation between cyberbullying victims and perpetrators?
2. Is there any overlap between online and offline harassment and bullying?
3. Does the victim disclose to other people (family, friends, or teachers) that they have been cyberbullied?

## Method

### *Research Setting and Participants*

This is a cross-sectional study conducted at the female campus of King Saud University (KSU) in Riyadh, Saudi Arabia. The target population consists of female university undergraduate and postgraduate students. The inclusion criteria specified female students over the age of 18 who were currently enrolled at KSU and willing to participate in the study. Those who did not meet these requirements were excluded.

The sample size was calculated by the formula: $n = Z^2 [P(1-P)]/d^2$. The conventional level of confidence was set at 95%, making the Z-value 1.96. The estimate for P (prevalence) was made using the data from a previously published meta-analysis (Modecki et al., 2014), which found that across 80 studies the mean prevalence for cyberbullying involvement was 15%. The margin of error (d) was set at 5%. Based on this calculation, a sample of approximately 196 participants was needed.

The study employed simple random sampling to select a smaller subset of the population from colleges on the campus of King Saud University in Riyadh. Researchers employed simple random sampling to select students from all-female colleges in the Departments of Humanities, Sciences, and Health.

### *Instruments*

A two-part, self-complete questionnaire with a total of 18 items was used. The first part comprised demographic information, such as age, marital status, and academic specialty. The second part was adapted from the CDC's Compendium of Assessment Tools for Measuring Bullying Victimization, Perpetration, and Bystander Experiences (Hamburger et al., 2011). Bullying victimization can be defined as experiencing negative behaviors from one or more people on a regular basis over an extended period of time. Cyberbullying perpetration is an act of deliberate aggression committed over time against victims who are unable to defend themselves, using electronic forms of contact.

In this study, the CDC's Bystander, Bully, and/or Victim Scales (Hamburger et al., 2011, Section D) were used as a starting point. As our research questions did not include bystanders, those items were dropped. Examples of remaining items are: "In my entire life, I have cyberbullied others" and "In my entire life, I have been cyberbullied". A 5-point response scale was used: *never*, *once or twice*, *a few times*, *many times*, or *every day*.

An additional question was added to the instrument to measure the overlap of online and offline bullying: "Do the same people who harass or bully you on the internet also harass or bully you in school?". This question was taken from a previous study (Ybarra et al., 2007, Methods, para. 10) that examined the overlap of online harassment with school bullying. These modifications produced the bullying prevalence scale that was used to answer the research questions.

The questionnaire was translated into Arabic by a certified translation office. It was then piloted on nine female KSU students to assess the phrasing, simplicity, and understandability of each question. Based on the responses from the pilot study, minor modifications to the wording of some of the questions were made.

### *Ethical Consideration*

This study was approved by the Ethics Committee Review Board of the College of Medicine, King Saud University, Riyadh, Saudi Arabia (E-19-4362). Participants were free to participate and were assured that their identities would not be disclosed. After being briefed on the study's background and objectives, students who agreed to participate signed consent forms and completed the questionnaire.

### *Data Collection*

College students were recruited from the seating areas of all-female colleges on the KSU campus, including popular spots such as the libraries, cafeterias, student lounges, and outdoor seating zones. Researchers approached students in these spaces, briefly explained the study's purpose, and invited them to participate voluntarily. Those who agreed were provided with a paper survey to complete on-site. The data for this study was collected during January and February 2020. A total of 217 questionnaires were distributed; however, 14 of them had missing data and were excluded, leaving 203 questionnaires to be analyzed in this study.

### *Data Analysis*

The statistical analysis used IBM SPSS version 21 with a significance level of $p < .05$. Cronbach's alpha was used to determine the questionnaire's inter-item reliability. Frequencies and correlations were also calculated.

## Results

### *Demographics*

The majority of the participants were between 20 and 25 years old, were single, and were Saudi. A total of 43.3% of the participants were from Science colleges, 37.4% were from Humanities colleges, and 19.2% from Health colleges (see Table 1).

### *Reliability*

The Cronbach's alpha of our bullying prevalence scale was .69, indicating a borderline adequate level of inter-item reliability. However, analyses revealed that deleting the seventh question ("Has someone posted something on another web page that made you upset or uncomfortable?") raised the Cronbach's alpha to .70, an adequate level.

### *Cyberbullying Prevalence*

To measure the prevalence of cyberbullying victims and perpetrators, frequencies and percentages for each response (*never*, *once or twice*, *a few times*, *many times*, and *every day*) to each relevant item from the survey were compiled, and the average was calculated for the entire sample.

Table 1. *Demographics (N = 203)*

| Characteristic | *n* | % |
|---|---|---|
| Age | | |
| Under 20 | 28 | 13.8% |
| 20–25 | 172 | 84.7% |
| 26–30 | 3 | 1.5% |
| Marital status | | |
| Single | 185 | 91.1% |
| Married | 18 | 8.9% |
| Divorced\widowed | 0 | 0.0% |
| Nationality | | |
| Saudi | 191 | 94.1% |
| Non-Saudi | 12 | 5.9% |
| College department | | |
| Health | 39 | 19.2% |
| Science | 88 | 43.3% |
| Humanities | 76 | 37.4% |

Table 2. *Items for Cyberbullying Victimization*

| Question | Never | Once or twice | A few times | Many times | Every day |
|---|---|---|---|---|---|
| In my entire life, I have been cyberbullied … | 65.0% | 16.7% | 13.8% | 3.9% | 0.5% |
| Have you received a message or an email that made you really mad? This does not include "spam" mail. | 47.3% | 23.2% | 21.2% | 7.9% | 0.5% |
| Has someone posted something on another web page that made you upset or uncomfortable? | 21.7% | 16.3% | 22.2% | 34.0% | 5.9% |
| Have you been bullied or picked on by another person while online? | 61.6% | 20.7% | 13.3% | 4.4% | 0.0% |
| Have you been afraid to go online? | 79.3% | 8.9% | 7.9% | 3.4% | 0.5% |
| Has anyone posted anything about you online that you didn't want others to see? | 75.4% | 16.7% | 5.9% | 2.0% | 0.0% |

### *Cyberbullying Victims*

In our survey, questions 5 to 10 measured the prevalence of having been a victim of cyberbullying. Items included, for example, asking if the participant had been bullied by someone while online, and whether they had ever received a message or email that made them very angry.

An average of 58.4% of the students answered "never" to the questions. The average percentages of students who responded with "once or twice", "a few times", "many times", or "every day" were 17.1%, 14.0%, 9.3%, and 1.2% respectively. See Table 2 for a detailed breakdown of the participants' answers to each question regarding cyberbullying victimization.

### *Cyberbullying Perpetrators*

Questions 11 to 14 measured the prevalence of perpetrating cyberbullying, with questions such as, "Have you sent someone a text message or an email to make them angry or to make fun of them?"

An average of 84.2% of the students answered "never" to these questions. The average percentages of students who responded with "once or twice", "a few times", "many times", or "every day" were 4.0%, 5.3%, 1.35%, and 0.25%, respectively. See Table 3 for a detailed breakdown of the participants' answers to each question regarding cyberbullying perpetration.

Table 3. *Items for Cyberbullying Perpetration*

| Question | Never | Once or twice | A few times | Many times | Every day |
|---|---|---|---|---|---|
| Have you posted something online about someone else to make others laugh? | 84.2% | 9.4% | 4.9% | 1.0% | 0.5% |
| Have you sent someone a text message or an email to make them angry or to make fun of them? | 76.4% | 11.3% | 8.9% | 3.4% | 0.0% |
| Have you taken a picture of someone and posted it online without their permission? | 92.1% | 4.9% | 3.0% | 0.0% | 0.0% |
| In my entire life, I have cyberbullied others … | 84.2% | 9.9% | 4.4% | 1.0% | 0.5% |

### *Reasons for Cyberbullying Others*

Question 15 in the survey asked participants their main reason for committing cyberbullying. The predefined response options included: (a) I have not cyberbullied another person, (b) to get revenge (because they picked on me), (c) because others were doing it, (d) for fun, (e) to demonstrate power, and (f) for other reasons. Participants were able to select more than one reason if they felt that multiple factors contributed to their behavior. Most participants (82.3%) responded with "I have not cyberbullied another person", which is consistent with the results from the questions about cyberbullying perpetrators. A smaller percentage reported engaging in cyberbullying for specific reasons: 6.4% said they did it "for fun"; 5.9% answered "for other reasons"; and 4.4% indicated that they cyberbullied others "to get revenge" on people who had bullied them.

### *Disclosure to Others of Having Been Cyberbullied*

Question 16 in the survey asked whom participants confided in after experiencing cyberbullying. The options provided for this question were: (a) a family member, (b) a friend, (c) a teacher or faculty member, (d) I didn't tell anyone, (e) I was not involved in cyberbullying. Of those participants who had experienced cyberbullying, 16.3% reported that they had not told

anyone about the incident, while 11.8% disclosed the experience to a friend and 11.3% confided in a family member. Interestingly, no one reported telling a teacher or a faculty member about their cyberbullying experience.

### *Overlap Between Online and Offline Bullying*

For question 17, "Were the threats you received online carried out at college?", the majority (55.7%) answered with "never", while 41.9% said they didn't receive any online threats. Additionally, in question 18, only 2.0% reported that the same people who had bullied them on the internet had also bullied them in college.

### *Overlap Between Victims and Perpetrators*

It was found that being a victim and being a perpetrator of cyberbullying have a weak but statistically significant positive correlation ($p < .01$).

## Discussion

Cyberbullying is emerging as an issue in several societies. When cyberbullying is prevalent among young people, serious consequences are usually observed, such as depression, fear, anxiety, and adverse effects on academic performance. Exploring the local prevalence and patterns of cyberharassment is vital to deciding whether prevention strategies are needed, and, if so, what strategies would be appropriate. In Saudi Arabia, very little is known about cyberaggression and its prevalence. Thus, this study was designed to fill the literature gap by exploring cyberbullying among female college students. Rather than measuring the prevalence of cyberharassment involvement in general, this study assessed the prevalence of cyberbullying victims and cyberbullying perpetrators separately.

The majority of the participants (58.4%) reported never having been victims of cyberbullying. However, 41.6% had experienced some form of cyberharassment at least once in their lifetime, and 1.2% had been exposed to it daily. A higher prevalence was detected in a study in Malaysia (Lai et al., 2017), in which 66% of college students reported having been cyberbullied. On the other hand, a lower rate of victimization (17%) was observed in Selkie et al.'s (2015) study conducted among female college students in the United States. Among Arab countries, a study in Qatar reported a 32% rate of cyberbullying among youth (Foody et al., 2017), which is lower than the percentage detected in the present study.

A total of 15.8% of the sample admitted having committed some form of cyberbullying at least once in their lifetime. For instance, 11.3% reported having once or twice sent someone a text message or an email to make them angry or to make fun of them. Al-Zahrani (2015) conducted a study in Saudi Arabia among the students of King Abdulaziz University and found that 26.5% had bullied other students online once or twice. This is a higher prevalence than reported in our study, which could be because their sample included both males and females.

Motivations for online bullying can include revenge, imitation, demonstrating power, or just having fun. Akbulut and Eristi's (2011) study of Turkish university students found that approximately 10% cyberharassed others to take revenge. In our study, when asked why they committed cyberbullying, 82.3% claimed that they had not done so. Some who had cyberbullied (4.4% of the sample) said they had done so to get revenge on people who bullied them but most (6.4%) of the participants who admitted cyberbullying said that they had done it for fun. This might indicate a lack of awareness about the serious consequences of the act.

One way people cope with the experience of being cyberbullied is to confide in others. Of the 80 (39.4%) participants who had been involved in cyberbullying, approximately one quarter (23%) had revealed their experience to someone else. In Paullet and Pinchot's (2014) study of college students in the United States, they reported that more than half of the victims had told someone about being cyberharassed, a much higher proportion than in our study. However, they found that 21% and 5% had reported the incident to a school counselor or a teacher, respectively, whereas in our study, no one did. It also implies that there is a gap in communications or trust between faculty members and students at King Saud University.

On the other hand, the findings of the current study show that some students did confide in a friend or a family member (11.8%, and 11.3% out of 39.4%, respectively). Again, this is a much lower proportion than in Paullet and Pinchot's (2014) study, in which the majority of their sample talked about their problem with a friend (68%), followed by their parents (16%). In a qualitative study about the perceptions and coping of adolescent victims in the Czech Republic, Šléglová and Cerna (2011) explored the reasons why students might or might not seek help from their friends or parents. According to them, adolescents mainly avoid telling their parents about being cyberbullied because they believe their parents will not understand the situation or that they may overreact; furthermore, victims tend to feel that there is nothing anyone can do about the problem. They also noted that adolescents who told their friends felt they had received support, either directly or indirectly, in dealing with the perpetrators (Šléglová & Cerna, 2011). A relatively high proportion of our study sample, 13 (16.3%) of the 80 who had been cyberbullied, reported that they did not tell anyone about their experience. According to Crosslin and Golman's (2014) qualitative study, this might be attributed to the feeling of independence college students tend to have.

In our study, there was not a large overlap between online and offline bullying. A small number (2.0%) of the participants stated that they had been exposed to offline harassment following cyberbullying. This agrees with the findings of a U.S. study by Kowalski and Limber (2013), which found that only 1.6% of the 931 participants were victims of both cyberbullying and traditional bullying. On the other hand, these findings are at odds with a study from Thailand (Ojanen et al., 2015), which found that 33.6% of their participants were victims of both online and offline bullying.

Our study found a statistically significant positive correlation between cyberbullying victims and perpetrators; however, the correlation is weak. The study by Kowalski and Limber (2013) also reported a low percentage (7.2%) of their participants had both suffered and committed cyberaggression. In general, there is a lack of studies that focus on reporting the correlation between victims and perpetrators when it comes to cyberbullying.

An incidental finding of our study is that the students seemed to lack awareness of what cyberbullying entails. When the participants were asked if they had cyberbullied before, more answered with "never" than when they were asked more detailed questions regarding cyberbullying victimization, such as whether they had received a message that made them angry.

The limitations of this study include the fact that it was conducted among the female students of King Saud University only; thus, more studies that include several universities in Saudi Arabia are needed. Also, this is a cross-sectional study in which the variables under consideration are measured at only a single time. A longitudinal research design would be required to detect associations efficiently. Another limitation is that despite reassuring the participants of anonymity and confidentiality, there still might be students who would not admit that they had committed cyberaggression, leading to a possible underestimation of the prevalence of perpetrators. Since this study also found indications of a lack of awareness regarding what is considered cyberbullying, it is recommended that future research be conducted that focus on awareness of and attitudes towards the issue. This could help guide the development of preventive and educational programs in universities. Further research on cyberbullying victimization is necessary considering the possible risk it presents to internet-connected Saudi Arabian youth. Furthermore, future research should consult stakeholders (e.g., police officers, academic experts, and health care workers) on available support, as their responses may suggest different strategies to combat cyberbullying.

It is also recommended that counselling be provided within the colleges for students experiencing cyberharassment. Students should be encouraged to reach out to university faculty members for guidance and help. Accordingly, faculty members need to be aware of this problem and how to deal with it effectively. To help lower cyberbullying rates and exposure to cyberbullying, we recommend promoting anti-cyberbullying messaging and developing national policies and practices to help young people to securely use the internet and seek social support for cyberbullying when it occurs.

### *Conclusion*

This study aimed to explore cyberbullying in female college students in Saudi Arabia, since cyberbullying is an emerging problem around the world with possible grave consequences, such as depression. We found that substantial cyberbullying does occur and that the main reason cyberbullies give for cyberharassing others is to have fun. This shows that there is a lack of awareness among female college students in Saudi Arabia about the possible consequences of cyberbullying.

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