



Research article

Cyberbullying, social stigma, and self-esteem: the impact of COVID-19 on students from East and Southeast Asia at the University of Jordan



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ABSTRACT

The spread of the COVID-19 pandemic has transformed the way people live, work, and socialize, and has perhaps even altered the reasons why they harass one another. To our knowledge, the present study is one of the first studies to address cyberbullying among university students during the COVID-19 pandemic. Additional objectives were to reveal the causes and types of cyberbullying that university students from East and Southeast Asia have experienced because of COVID-19, and to explore the relationship between cyberbullying and self-esteem. Of the 525 university students from different East and Southeast Asian countries and varied academic backgrounds who were invited to participate in the study, 310 students agreed and were included. Moreover, a sample of 400 Jordanian undergraduate students, who participated in cyberbullying against East and Southeast Asian students on social media, answered a questionnaire to reveal their reasons for engaging in bullying during the COVID-19 pandemic. This study also examined the relationship and differences between sex and nationality. The findings revealed that cyberbullying contributed to low self-esteem in students of East and Southeast Asian descent who were victims of bullying. Men were more likely to be bullies and cyberbullies than women. The bullies admitted that the main reason for cyberbullying was humor, and that they were unaware that their harsh or aggressive behaviors could be categorized as bullying. This study aimed to make a positive contribution to the scant literature on cyberbullying/cyber racism among university students in an Arab country. We believe our findings can help guide the formulation of policies and solutions that address cyberbullying, especially between resident and foreign students.

1. Introduction

According to the World Health Organization (WHO) [1], the COVID-19 pandemic began in the city of Wuhan, Hubei, China in December 2019. This event has prompted a global growth in acts of Sinophobia, xenophobia, segregation, brutality, and bigotry against individuals of East Asian and Southeast Asian descent and appearance. With the spread of the pandemic and designation of hotspots in Asia, Europe, and the Americas, victimization of individuals from these areas has been reported [2].

Notably, in August 2020, WHO admitted that COVID-19 may not have emerged in Wuhan. According to a study published by the National Cancer Institute on November 11, 2020, the virus may have been present in Milan, Italy as early as September 2019. This new perspective cast a new light on the onset and spread of the COVID-19, and may reshape the history of the pandemic [3].

At the onset of the COVID-19 global pandemic, the Euro-Mediterranean Human Rights Monitor reported that discrimination had not only increased because of the health crisis [4] but also expanded and taken its worst form when mixed with racism and ignorance. An example of this is that entire regions and groups have been held responsible for the virus. The report also confirmed that acts of racism might have become more harmful than the virus itself, as they established behaviors and policies that may remain long after its disappearance. Furthermore, the report pointed out that, at a time when all efforts should be focused on assisting the infected and stopping the spread of the virus, thousands of people—sometimes encouraged by their governments—exhibited negative behaviors (including bullying, hatred, and racism) against those infected or suspected of being infected, as well as against East and Southeast Asian nationals.

People of East and Southeast Asian descent are more likely to be the target of discrimination through media reports, statements made by government officials, and on social media, where hate speech related to

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COVID-19 seems to be widespread. According to Viala-Gaufrey and Lindaman, the President of the United States of America (USA) used the expression “Chinese virus” more than 20 times, between March 16 and March 30, 2020, when referring to COVID-19; similarly, the USA Secretary of State Mike Pompeo referred to COVID-19 as the “Wuhan virus.” The designation of COVID-19 as the “Chinese virus” and “Wuhan Virus,” may have empowered and normalized hate speech not just in the USA but worldwide [5].

On May 8, 2020, United Nations Secretary-General António Guterres said that “the pandemic continues to unleash a tsunami of hate and xenophobia, scapegoating, and scare-mongering” and encouraged governments worldwide to “act now to strengthen the immunity of our societies against the virus of hate” [6]. Lethal viruses do not discriminate between different nationalities, but people do.

Outbreaks of bullying and harassment against individuals of East and Southeast Asian descent have increased since COVID-19 emerged. For instance, high school students in California’s San Fernando Valley attacked a 16-year-old boy and blamed him for the virus, as CBS News journalist Christina Capatides revealed [7]. The aggressors were unaware of the victim’s COVID-19 status; they attacked him for being of Asian descent. In France, a group of Asian youths started the hashtag “#JeNeSuisPasUnVirus” on Twitter, which translates as “I am not a virus,” to express their anger at the racism and bullying they experienced [8, 9].

Media outlets reported attacks and insults [10, 11, 12, 13, 14, 15, 16, 17, 18] against individuals of Asian descent (in particular Chinese) in Britain, Germany, Australia, Vietnam, and Canada. Likewise, Arab countries reported similar incidents in Jordan, Egypt, Morocco, Syria, Iraq, Lebanon, and Tunisia. Discrimination in the media appeared in the form of misleading videos and pictures of Chinese people consuming animals that are not included in the target audience’s conventional diet and sarcastic comments directed at East Asian descent in streets, malls, and universities. Individuals of Asian descent became a focus of attention on social media and others blamed them for the spread of the virus, and ridiculed and mocked them in a dehumanizing and insulting manner. Some media reports (e.g., Sky News [19]) have denounced discrimination against Asians, including physical assaults, insults, blaming, racist jokes, as well as insulting and sarcastic comments and images. These reports demanded that Jordanian people stopped abusing Asian expatriates in Jordan, especially through social media. Although some Jordanians showed sympathy for abused Asians, this did not stop the spread of cyberbullying.

The startup L1ght tracked online activity regarding COVID-19-inspired hate speech between December 2, 2019 and April 1, 2020. According to their report, during that period, cyberbullying and hate speech directed toward China and the Chinese people had increased 900%, while traffic to hate sites and specific posts against Asians had increased 200% [20].

Criminologists agree that the increase in cybercrime is a result of technological developments that have changed social interaction and people’s behavior. Labeling theory, popularized by Howard Becker in his 1963 book “Outsiders” [21], is an excellent entry point to understanding cyberbullying behavior as a cybercrime; as such, it is a useful tool in assessing cyberbullying against Asians during the pandemic. This theory explores human reaction toward meanings and symbols in social interaction [22]. Additionally, it contributes to understanding the dynamics of cybercrime and societal response toward these crimes, and it explains why certain behaviors are defined as crimes, how human behavior is influenced significantly by the way other members in society label or classify them, and how these labels become stereotypes [23].

Labeling-related social stigma changes individuals’ self-concept and social identity [22]. Social stigma often leads to discrimination against individuals based on their culture, appearance, sex, nationality, ideas, or physical features. Over time, stigmatized people tend to internalize negative stereotypes, that is, accept labels imposed upon them, generating internalized stigma, which is closely-linked with various

psychological symptoms (i.e., depression or low self-esteem) and emotions (i.e., shame and loneliness) [24].

In the event of a health crisis, such as the COVID-19 pandemic, societies develop a tendency to identify and link individuals or groups from a specific nationality to the outbreak and spread of the virus. Subsequently, these individuals or groups are identified by society as the responsible and guilty parties and are, therefore, treated in an unfair and discriminatory manner. They are treated and seen as separate from the rest, and their social status is negatively affected because of the perception that they are linked to the disease. Furthermore, it has been found that individuals who are not infected with the disease but are in contact with the affected individuals are treated with the same social stigma [25].

In virtual communities and digital culture, social stigma associated with COVID-19 is influenced by three main factors: 1) the novelty of the disease, 2) the public’s generalized fear of the unknown, and 3) the relatively easy identification of the symptoms. Thus, a degree of apprehension, misconceptions, nervousness, and concerns driving dangerous stereotypes among the public is to be expected [25].

Cybercrime is a concept used to describe online criminal activities with harmful consequences for the social, mental, and physical health of individuals. Victims of cyberbullying are more likely to suffer from low self-esteem, declining academic performance, headaches, digestive issues, and bedwetting [26]. Cyberbullying victims are also at risk of experiencing loneliness, disillusionment, and distrust of people, and are more likely to engage in self-harm and aggressive behavior toward friends and family [27]. Moreover, cyberbullying can produce shame, guilt, fear, and social withdrawal [28]. Additional negative effects range from suicide to psychological disorders, such as chronic depression and anxiety [29].

2. Overview of cyberbullying

Cyberbullying—also called cyber harassment—is the “willful and repeated harm inflicted through the use of computers, cellphones, and other electronic devices” [30]. Harm in cyberspace occurs in many different ways: harassment via offensive or repetitive messages, denigration, and posting untrue or cruel statements, privacy violations, and intentional exclusion from an online group [31].

Cyberbullying implies behavior equivalent to that of traditional bullying, with intention, aggressiveness, power imbalance, and repetition of abusive behavior being core elements of both. However, these elements may not translate exactly in the digital world. For example, repetition of the aggression might be absent in cyberbullying, since one image or video might be sufficient to attract many views and reactions on social media. Views, shares, saves, comments, and “likes” may continuously revive the victim’s bullying experience and establish a cycle of repetition of the original aggression. Additionally, the intention may not be identifiable, as some behavior in cyberspace may be misunderstood as bullying because of an absence of non-verbal cues through cyber communication [30, 32, 33, 34]. Hasse et al. [30] discussed several challenges in defining cyberbullying. They argued that cyberbullying should be termed “cyber aggression” since the term “cyberbullying” might exclude scenarios where the aggressor and the victim are strangers. Cyberbullying can become a crime if it includes threat of violence, death threats, obscene and harassing phone calls and texts, sexting, sexual exploitation, child sexual abuse imagery, hate speech, or privacy violations [35].

Rosenthal et al. [36] indicated that most studies had focused on social stigma as a type of bullying, which is accrued because of individual characteristics, such as “race” (physical features), weight, gender, social class, or sexual orientation. According to Trent et al. [37] racism is a “system of structuring opportunity and assigning value based on the social interpretation of how one looks.” Several studies have shown that bullying due to racial stigma or to discrimination against an identifiable group of people, a place, or a nation, can occur online among children, adolescents, emerging adults, and older adults (e.g. [38, 40]).

Cyber racism, which is a form of cyberbullying, encompasses a specific rhetoric that includes racist attitudes toward specific social categories, hate-speech, nationalism and common destiny; it may also include racist or discriminatory comments, symbols, images or language in text messages, blogs, or videos posted on social media or sent through email [37, 38]. Racism can have a negative impact on the health and well-being of those individuals affected by it [37, 38, 39]. Likewise, cyber racism or discrimination based on nationality on social media platforms can also have a negative impact on mental health. Indeed, Cano et al. [38] confirmed that social media discrimination is associated with symptoms of depression and generalized anxiety. During the COVID-19 pandemic, there has been an increase in cyber racism because of the stigma and discrimination resultant from the association created between nationality and the pandemic. There has been a significant increase in racial verbal abuse, harassment, and violence in public spaces, particularly targeting people of Asian descent [41]. The COVID-19 pandemic has sparked discussions and arguments about the morbid character of racism [42].

Cyberbullying is a common social maladjustment that can affect the victim, the bully, and those who witness the bullying behavior. It can lead to serious adverse social, emotional, physical, and psychological effects [43, 44, 45]. Moreover, cyberbullying victims report increased feelings of fear, hopelessness, hurt, sadness, self-blame, and embarrassment [27, 30, 46, 47, 48]. Recent empirical studies involving young people who had been victims of cyberbullying revealed that it can have an emotional and behavioral impact on these individuals. Furthermore, as a way of coping with cyberbullying, young people can develop several coping strategies, which are classified as either passive or positive [49] for example, acts of revenge [50], avoiding the internet, ignoring cyberbullies or asking them to stop [49, 51, 52], and seeking social support. Similarly, Wright [50] found that cyber victims used social support (adaptive) and revenge (maladaptive) coping strategies, or a combination of both, to deal with the bullying. In this context, the role and support of parents is crucial in helping to mitigate the negative effects of cyberbullying on one hand and reducing the involvement of adolescents in this type of bullying on the other hand, through parental mediation strategies (i.e., restrictive, co-viewing, and instructive) [53, 54, 55].

Conversely, cyberbullies are more likely to report increased substance abuse, aggression, and delinquent behaviors [56]. Furthermore, bullies score lower on academic achievement [57] and are at risk of suicidal ideation and behavior [58]. Musharraf and Anis-ul-Haque [59] found a prevalence of psychopathology and low mental well-being among cyberbullies.

2.1. Cyberbullying among university students

Cyberbullying is an emerging issue in the context of higher education as information and communication technologies (ICT) are increasingly accepted and normalized as part of daily life in universities [47, 60]. As university students become "digital natives" [61], they become sophisticated users of technology, but are also exposed to a host of additional risks, including cyberbullying [62university]. Cyberbullying among university students influences their academic, social, and emotional development [63, 64, 65], and is associated with difficulties in concentration and substance abuse [66].

A survey of university students in Hong Kong revealed that social norms and personal factors such as internet self-efficacy, motivation, and cyber-victimization experiences are strong predictors of engagement in cyberbullying behaviors [67]. There is growing evidence that cyberbullying can be a catalyst for impaired mental health, psychological distress, fear, and increased risk of suicide [68]. Moreover, student victims of cyberbullying report depression, loneliness, interpersonal and family problems, maternal attachment anxiety, low self-esteem, substance abuse, and suicidal ideation, all of which affect their personal and professional lives and mental health [60, 65, 66, 69, 70]. Additionally, a

study by Felipe-Castaño et al. [71] found that the psycho-pathological symptomatology associated with cyberbullying among university students can vary between males and females, and according to the intensity of the aggression.

Students who leave home to go to university, are exposed to feelings of loneliness and isolation and thus, tend to use the internet as a useful tool to enhance existing relationships and forge new social connections, or look for entertaining activities to reduce feelings of loneliness [71, 72], often spending numerous hours browsing the internet and social media [74, 75]. However, this behavior might lead to problematic internet usage [73], and increase both the likelihood of being a victim of cyberbullying [76] and a perpetrator [77]. Furthermore, victims of cyberbullying are also likely to be bullied offline [78]. In a study involving university students, Eristi et al. [49] listed the most common behavioral reactions to cyberbullying: revenge, counter measure, negotiation, and avoidance. Furthermore, these different types of reactions seem to be associated with factors such as computer self-efficacy and internet use. Wachs et al. [55] proposed the existence of six strategies used to cope with cyber hate: assertiveness, close support, helplessness/self-blame, retaliation, and distal advice.

In the context of the global COVID-19 pandemic, the present study aims to evaluate cyberbullying experienced by East and Southeast Asian students in Jordanian universities. By this categorization we mean: belonging to, or being characteristic of East Asia, Southeast Asia, or its inhabitants; a person of East or Southeast Asian descent; or one who is said to possess physical features like those of East or Southeast Asian people. Therefore, the definition for a unit of analysis in this study is nationality of students.

We defined three hypotheses in this study. Hypothesis 1 (H1) states that there are no statistically significant differences in the mean cyber-victimization on the Adolescent Cyber-Victimization Scale (CYBVICS) between students of different nationalities. People who are targeted by cyberbullying report negative effects, such as emotional distress, depression, anxiety, social isolation, loneliness, substance misuse/use, self-harm, suicidal behavior, loss of trust in others, and somatic symptoms [34, 45, 56, 63, 79, 80]. Cyber victims often inform a parent or a trusted adult of their abuse [81]. Furthermore, recent studies have shown a negative association between cyberbullying and self-esteem [80, 82, 83, 84]. Low self-esteem is one of the outcomes most commonly associated with cyberbullying among children and young people [80]. Hypothesis 2 (H2), thus, seeks to determine if there is an observable relationship between self-esteem of East and Southeast Asian students and their exposure to cyberbullying. Since the type of cyberbullying tends to differ by sex [85], it seems important to determine its prevalence across sexes and nationalities among East and Southeast Asian students. This would inform us whether both sexes from different nationalities face the same level of cyberbullying. Thus, hypothesis 3 (H3) states that there exists no significant interaction between the sex and nationality of students of East and Southeast Asian descent on the CYBVICS.

2.2. Research Questions

1. What are the reasons for cyberbullying against East and Southeast Asian students in Jordan during the COVID-19 pandemic?
2. Which students of East and Southeast Asian descent are more likely to face cyberbullying during the COVID-19 pandemic?
3. What are the most frequent types of cyberbullying that East and Southeast Asian students have encountered during the COVID-19 pandemic?
4. Is there a relationship between the self-esteem of students of East and Southeast Asian descent and their exposure to cyberbullying?
5. Are there statistically significant differences due to sex and nationality among East and Southeast Asian students who faced cyberbullying?

3. Materials and methods

3.1. Participants and data collection

Data were collected through a survey distributed to 525 East and Southeast Asian students (Chinese, Korean, Indonesian, Singaporean, Thai, Filipino, and Malaysian) of different education levels (Bachelor's, Master's, and Doctorate), aged 19–28 years, during the 2019–2020 academic year. Three hundred and thirty-two students consented to participate in the study and 22 participants were excluded from the dataset because of incomplete data.

Because of restrictions imposed by the government due to the COVID-19 pandemic, it was not possible for the researcher to collect data by interviewing the students in person. Furthermore, it should be noted that, because of these restrictions, there was less accountability and a wide margin for inaccurate (or dishonest) responses. The survey was conducted in English [86, 87] through an online anonymous survey platform via Google Forms, between March 25 and May 20, 2020. Students who wished to respond were invited via social media sites, such as Facebook, WhatsApp, or Twitter to access the survey through an anonymous link. There are several pre-existing groups on Facebook (such as students' union groups, Art students' gatherings) that allow students to exchange survey links. Participants who consented to participate in the survey clicked "yes" on the first question in the survey, which was "Do you consent to participate in this study?" Once students selected this option, they were directed to complete the self-administered questionnaire, which typically took 30 min to finish. In order to retain the respondents' interest, the online survey was accessible for two months. Therefore, participants could choose the most suitable time to complete it. The data were collected anonymously. Students personally known to the researcher were assured anonymity and were informed that the data would be treated in strict confidence and only for the purposes of scientific research.

Additionally, a convenience sample of 400 randomly selected Jordanian undergraduate students from the School of Art and School of Sharia answered four self-report questions about their reasons for bullying during the COVID-19 pandemic (see Table 3). Moreover, based on the review of literature, seven questions were designed and, following consultations with specialists in sociology and electronic media from the University of Jordan, were tested on 50 students to ensure their clarity and relevance. Finally, three questions regarding the experience of cyberbullying, consequences of cyberbullying, and online anonymity, were deleted, as these were either bypassed or answered hesitantly by the students. The four questions finally used in the study surveyed whether students had shared, "liked," uploaded, or written humorous or sarcastic comments about people of East and Southeast Asian descent; and whether they had made posts on social media in the form of doctored photos, videos, songs, memes, rumors, and misinformation regarding COVID-19 (especially on Facebook, WhatsApp, and YouTube).

The two selected schools were chosen because they include students from various nationalities and there is greater interaction here between foreign and Jordanian students. Moreover, the researcher is a faculty member of Art school. Even though the Jordanian students were not the focus of this study, obtaining their opinion on their reasons for bullying was a secondary objective; this is why the data collected from these students were not as much as those collected from the students of other nationalities. The most suitable candidates were identified by screening through the Facebook and WhatsApp groups of different academic departments and faculties, as well as the students' council, and following up on students' publications about the pandemic, especially those containing videos, pictures, and jokes depicting East and Southeast Asian individuals.

This study did not include economic and social situation variables of foreign students, because these criteria are difficult to measure and define, and because analyzing them was not the purpose of the study. Moreover, based on previous studies, those variables are not relevant

when studying different nationalities in one country in the context of cyberbullying. According to Cummings, cyber-victimization transcends age, culture, socio economic status, and a host of other social classification variables [29]. In addition, religion is a sensitive issue in Arab countries and not an easy variable to research; thus, it was not included in this study. Therefore, this study took into account the most influential and controversial variables that have been proven to be significant in the study of cyberbullying. The research study obtained ethical approval from the Scientific Committee of the Department of Sociology at the University of Jordan, as well as students' statistical permission from the Admission and Registration Unit at the same university. Table 1 shows the demographic characteristics of the participants.

3.2. Measures

3.2.1. Adolescent Cyber-Victimization Scale (CYBVICS)

According to Buelga et al. [86] this scale is an adaptation of the Adolescent Victimization through Mobile Phone and Internet Scale [88, 89]. CYBVICS consists of 18 self-reported items rated on a four-point Likert-type scale (1 = never, 2 = rarely, 3 = often, 4 = always). The reliability of this scale, in terms of its internal consistency, is discussed in the results section.

3.2.2. Self-esteem

The self-esteem scale of the Cyber-Victimization Risk Factors Questionnaire used in this study was developed by Álvarez-García et al. [87, 90]. This self-assessment scale consists of five items: "I am content with my physical appearance," "I am proud of what I do," "I can do things at least as well as most of my classmates," "I like the way I am," and "I consider myself a good person." The items are rated on a four-point Likert-type scale (1 = completely false, 2 = mostly false, 3 = mostly true, 4 = completely true). The reliability of this scale, in terms of its internal consistency, is discussed in the results section.

3.3. Procedure

We used our adaptation of CYBVICS as well as the aforementioned self-esteem scale. Twenty-two participants were excluded from the data set because they did not complete the questionnaire properly. The remaining 310 participants answered a self-report survey composed of 25 questions (18 items from the CYBVICS), five items from the self-esteem scale, and two demographic variables: sex and nationality).

A second data set consisted of 400 Jordanian undergraduate students who answered a questionnaire with four questions designed to examine their reasons for cyberbullying against East and Southeast Asian students during the COVID-19 pandemic.

3.4. Data analysis

To perform the statistical analysis, we used IBM SPSS-22. We calculated Cronbach's alpha coefficient to assess the reliability of our adjusted CYBVICS and the self-esteem scale, using composite reliability. The frequency distribution and descriptive statistics were calculated. To test the hypotheses, we used a one-way ANOVA for hypothesis 1 (H1), Pearson's Correlation Coefficient for hypothesis 2 (H2), and a two-way ANOVA for hypothesis 3 (H3). For each ANOVA R^2 are reported which reflect the proportion of total variability attributable to a factor. In pairwise comparisons effect sizes are presented using Cohen's d . Cohen's d is defined as the difference between two means divided by the pooled standard deviation for the corresponding groups. Effect sizes larger than .5 were considered medium or stronger [91].

Estimates for the group of Filipino students should be treated with caution as the group consisted only of men and was small ($n = 9$), which may have led to the lack of significant differences between other nationalities and the Filipinos. However, we did not remove this group from our analysis for three reasons. First, the Filipino community in Jordan is

Table 1. Frequency distribution of demographic variables.

Demographic Variables	Frequency	%
Data Set 1 (East and Southeast Asian Students N = 310)		
Sex		
Male	187	60.3
Female	123	39.7
Nationality		
Chinese	104	26
Korean	26	6.5
Indonesian	60	15
Singaporean	42	10.5
Thai	32	8
Filipino	9	2.3
Malaysian	37	9.3
Data Set 2 (Jordanian Students N = 400)		
Sex		
Male	190	47.5
Female	210	52.5

rather small and even small-sample evidence is qualitatively valuable. Second, estimates for this nationality may be useful for future meta-analytic studies where data were pooled across many studies, which results in evidence based on a larger sample size. Finally, despite the small sample size, some of the effect sizes were large enough to show clear statistical significance.

Before conducting ANOVAs with the Cyber-Victimization Scale scores as the dependent variable, the homogeneity of variances assumption was checked using the Levene's test. The null hypothesis of homogeneous variance across nationalities was rejected ($p < .05$). That is why a version of ANOVA not assuming equality of variances was used. More specifically, in order to address both the problems of a relatively small sample size and of non-homogeneity of variance, we performed bootstrapping which is widely recognized as an alternative to parametric estimates when the assumptions of parametric methods are in doubt [92]. In the case of one-way ANOVA, post-hoc comparisons were conducted using the bootstrapped (and thus nonparametric) version of Tamhane's T2 test—a conservative pairwise comparisons test based on a t-test not assuming equal variances. P-values and bias-corrected and accelerated (BCa) intervals were obtained based on 1,000 bootstrap samples.

4. Results

As shown in Table 2, our adjusted version of the CYBVICS ($M = 29.25$, $SD = 6.055$) showed good internal consistency estimates for the Cronbach alpha ($\alpha = .808$) and for the composite reliability ($\alpha = .701$). The self-esteem scale ($M = 12.75$, $SD = 3.251$) also showed high internal consistency for the Cronbach's alpha ($\alpha = .887$) and for the composite reliability ($\alpha = .897$). Moreover, the reasons for cyberbullying against East and Southeast Asian students during the COVID-19 pandemic ($M = 1.323$, $SD = 0.8032$) showed an acceptable internal consistency ($\alpha = .724$).

Table 2. Reliability statistics (Cronbach's alpha and composite reliability) for scale and subscale variables.

Variables	Cronbach's Alpha	Composite Reliability	N of Items
Adjusted CYBVICS	0.808	0.701	18
Self-esteem scale	0.887	0.897	5
Reason for cyberbullying	0.724		4

CYBVICS, Adolescent Cyber-Victimization Scale.

The study was conducted on two data sets, the first consisted of East and Southeast Asian students ($N = 310$) who faced cyber-victimization, and the second set consisted of Jordanian students ($N = 400$) who bullied students of East and Southeast Asian descent. The first data set (Form 1) was used to gather information from the CYBVICS ($M = 29.25$, $SD = 6.055$) and the self-esteem scale ($M = 12.75$, $SD = 3.251$). There were two demographic variables for data set 1: sex and nationality. Regarding the sex of data set 1, 60.3% were male and 39.7% were female; as for nationality, 33.55% were Chinese, 19.35% Indonesian, 13.55% Singaporean, 11.93% Malaysian, and 10.32% Thai. The least represented groups were Korean (8.39%) and Filipino students (2.9%) (Figure 1). Sex was also included as a demographic variable for data set 2; there were 52.5% females and 47.5% males among the Jordanian students.

4.1. Research Questions

4.1.1. Research Question 1: what are the reasons for cyberbullying against East and Southeast Asian students in Jordan during the COVID-19 pandemic?

To evaluate the main reasons for cyberbullying that East and Southeast Asian students faced in Jordan during the COVID-19 pandemic, we measured the frequency distribution of four items asked of Jordanian students. As shown in Table 3, most of the bullies (99.5%) believed that students of East and Southeast Asian descent were responsible for the pandemic and for spreading the virus, which explains why they engaged in harassing behaviors. However, most Jordanian students (85%) did not intend to hurt and offend their East and Southeast Asian counterparts. Thus, they were bullying these students inadvertently. Harassment was relatively light, as 91.0% of Jordanian students had no reason for bullying other than humor. Thus, the negligence of 91.3% of surveyed Jordanian students resulted in bullying. Regarding awareness, only 8.8% of Jordanian students considered that their actions could be considered bullying.

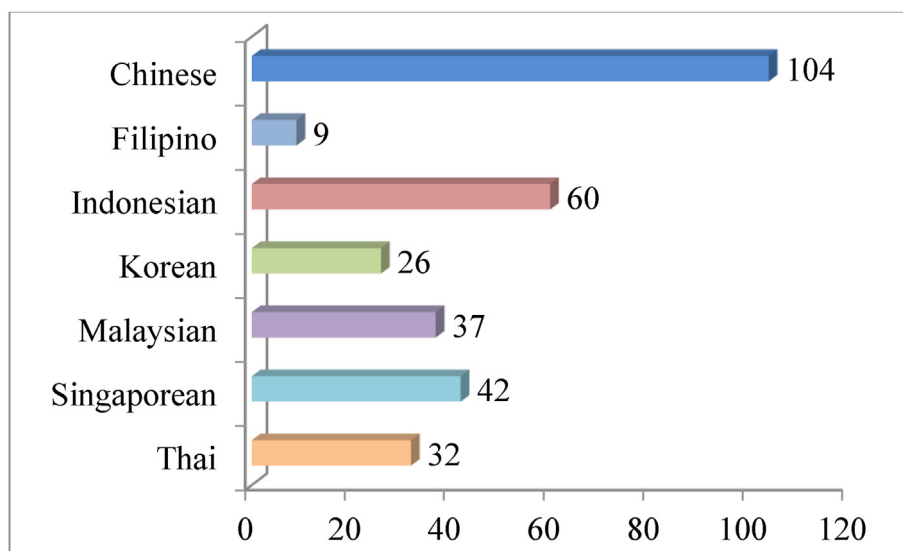


Figure 1. Nationality, Data Set 1 (East and Southeast Asian students) N = 310.

Table 3. Frequency distribution of four items related to bullying (Data Set 2).

Bullies (Jordanian students)	No		Yes	
	Frequency	%	Frequency	%
Do you believe that East and Southeast Asians are responsible for the pandemic and for spreading the virus?	2	0.5	398	99.5
Was it your intention to hurt and offend them?	340	85	60	15
Do you have a reason for doing this, other than humor?	364	91	36	9
Were you aware that your actions are equivalent to bullying?	365	91.3	35	8.8

4.1.2. Research Question 2: which East and Southeast Asian students are more likely to face cyberbullying during the COVID-19 pandemic?

H₀₁: There are no statistically significant differences in the mean cyber-victimization on the CYBVICS between students of different nationalities.

H₁₁: There are statistically significant differences in the mean cyber-victimization on the CYBVICS between students of different nationalities.

Table 4 shows descriptive statistics for the Cyber-Victimization Scale. As shown in Table 5, we evaluated the statistically significant differences in cyber-victimization between students' nationalities through a one-way ANOVA ($F(6, 303) = 31.213, p = .000$). We used Tamhane's T2 test with bootstrapping (Table 6) to examine which nationalities had a statistically significant difference in mean cyber-victimization on the CYBVICS. All pairs of nationalities were sorted by their Cohen's d effect size estimates. All differences that were statistically significant at the 5% level also had at least a medium effect size (Cohen's $d > .5$).

Chinese students had significantly higher mean CYBVICS scores (33.76 ± 5.38) compared to students of any other nationality ($p \leq$

.001), especially compared to their Thai (24.22 ± 4.41), Indonesian (25.38 ± 5.39), and Malaysian (25.84 ± 4.68) peers (Cohen's $d > 1, p < .001$). In turn, Thai, Indonesian, and Malaysian students had the lowest cyber-victimization scores, which did not statistically differ from one another ($p > .1$). There is evidence that all other nationalities had significantly higher CYBVICS scores compared to any of these three groups.

Korean students (3.46 ± 4.55) had the lowest cyber-victimization scores, and Singaporean students (29.98 ± 3.10) had a closer score to that of the Chinese students. Korean and Singaporean students had different mean cyber-victimization scores ($p = .312$), and on average, students of Korean nationality were the most victimized ones.

Despite the small size of the Filipino students' sample ($28.00 \pm .87$), there is sufficient evidence that its mean CYBVICS score was higher compared to that of Thai, Indonesian, and Malaysian students ($p < .05$), and significantly lower compared to that of Chinese ($p < .001$), Singaporean ($p < .001$) and Korean ($p = .004$) students.

Table 4. Descriptive statistics of the CYBVICS.

East and Southeast Asian Students	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Chinese	104	33.7596	5.37613	0.52717	32.7141	34.8051	19	5
Korean	26	3.4615	4.54516	0.89138	28.6257	32.2974	22	4
Indonesian	60	25.3833	5.39017	0.69587	23.9909	26.7758	18	43
Singaporean	42	29.9762	3.1038	0.47893	29.009	3.9434	26	38
Thai	32	24.2188	4.41211	0.77996	22.628	25.8095	2	4
Filipino	9	28	0.86603	0.28868	27.3343	28.6657	27	29
Malaysian	37	25.8378	4.6816	0.76965	24.2769	27.3988	2	35
Total	310	29.2516	6.05487	0.34389	28.5749	29.9283	18	5

Table 5. ANOVA results of the CYBVICS.

	Sum of Squares	df	Mean Square	F	Sig.
Between Nationalities	4327.267	6	721.211	31.213	0
Within Nationalities	7001.107	303	23.106		
Total	11328.374	309			

4.1.3. Research Question 3: what are the most frequent types of cyberbullying that East and Southeast Asian students have encountered during the COVID-19 pandemic?

According to the frequency distribution of the 18 items of the CYBVICS, most of the students faced the following experiences at least once:

1. "To make fun of me, someone made or manipulated videos or photos of me and uploaded or distributed them through social networks." (9.0%)
2. "Someone insulted or ridiculed me through social networks or WhatsApp groups." (85.5%)
3. "Someone provoked me in social networks or groups to make me angry and cause a big argument." (73.2%)
4. "Someone eliminated or blocked me from groups to leave me without any friends." (7.7%)
5. "Someone ignored me or did not answer messages or posts I shared in groups or social networks, just to make me feel bad." (68.1%)
6. "Someone criticized me or made fun of comments, photos, or videos I uploaded to social networks or WhatsApp groups." (55.5%)
7. "Someone called my cellphone and hung up to bother or frighten me." (54.2%)

4.1.4. Research Question 4: is there a relationship between the self-esteem of East and Southeast Asian students and their exposure to cyberbullying?

H₀₂: There is a statistically insignificant correlation between the self-esteem of students of East and Southeast Asian descent and their exposure to cyberbullying.

H₁₂: There is a statistically significant correlation between the self-esteem of East and Southeast Asian students and their exposure to cyberbullying.

As shown in Table 7, the self-esteem of students of East and Southeast Asian descent and their exposure to cyberbullying were significantly negatively correlated ($r = -.682, p < .01$). Thus, cyberbullying is linked with low self-esteem.

4.1.5. Research Question 5: are there statistically significant differences due to sex and nationality among East and Southeast Asian students who faced cyberbullying?

H₀₃: There is no statistically significant interaction between the sex and nationality of students from East and Southeast Asia on the CYBVICS.

H₁₃: There is a statistically significant interaction between the sex and nationality of East and Southeast Asian students on the CYBVICS.

Table 8 shows the descriptive statistics for the CYBVICS scores by nationality and sex. According to the Welch robust test of equality of means, Chinese, Malaysian, and Indonesian males are significantly more susceptible to cyber-victimization than females ($p < .01$). The opposite is true for Singaporean students ($p < .001$), where women reported higher victimization level than men (the effect size is very large with Cohen's d absolute value of 2.24). Sex differences are insignificant in the case of other nationalities.

We used a two-way ANOVA to examine the effect of sex and nationality of East and Southeast Asian students on the CYBVICS, as shown in Table 9. There was a statistically significant effect of sex and nationality on the CYBVICS, $F(5, 297) = 6.472, p < .001$. Males ($29.183 \pm .397$) were statistically significantly more likely to face cyber-

Table 6. Multiple comparisons (dependent variable: CYBVICS, bootstrapped Tamhane's T2 test).

Nationality 1	Nationality 2	Mean Difference (Nationality1-Nationality2)	Std. Error	95% CI lower	95% CI upper	p ^a	Cohen's d	
Chinese	Thai	9.54	*	0.96	7.51	11.41	0	1.85
Chinese	Indonesian	8.38	*	0.87	6.54	1.18	0	1.56
Singaporean	Thai	5.76	*	0.94	3.79	7.46	0	1.55
Chinese	Malaysian	7.92	*	0.9	6.1	9.85	0	1.52
Korean	Thai	6.24	*	1.2	3.73	8.46	0	1.4
Chinese	Filipino	5.76	*	0.6	4.58	7.06	0	1.11
Singaporean	Malaysian	4.14	*	0.91	2.38	6.06	0	1.06
Singaporean	Indonesian	4.59	*	0.85	2.82	6.41	0	1
Korean	Malaysian	4.62	*	1.17	2.25	7.03	0	1
Korean	Indonesian	5.08	*	1.11	2.88	7.25	0	0.99
Filipino	Thai	3.78	*	0.85	1.9	5.3	0	0.96
Chinese	Singaporean	3.78	*	0.72	2.22	5.21	0	0.78
Singaporean	Filipino	1.98	*	0.58	0.87	3.03	0	0.69
Chinese	Korean	3.3	*	1.05	1.08	5.48	0.001	0.63
Korean	Filipino	2.46	*	0.92	0.82	4.13	0.004	0.62
Filipino	Indonesian	2.62	*	0.73	1.07	4.03	0	0.52
Filipino	Malaysian	2.16	*	0.81	0.61	3.8	0.004	0.51
Malaysian	Thai	1.62		1.08	-0.66	3.48	0.068	0.36
Indonesian	Thai	1.16		1.05	-0.91	3.19	0.133	0.23
Korean	Singaporean	0.49		0.99	-1.31	2.45	0.312	0.13
Malaysian	Indonesian	0.45		1.03	-1.57	2.39	0.33	0.09

^a Levene's Test is significant ($P < 0.05$). * Difference significant at the 5% level (2-tailed).

Table 7. Correlation between cyberbullying and self-esteem.

Cyber-Victimization Scale	Self-esteem scale	
	Pearson Correlation	-.682**
	Sig. (2-tailed)	0
	N	310

** Correlation is significant at the .01 level (2-tailed).

Table 8. Comparison of the CYBVICS scores by sex across nationalities.

Nationality	Male		Female		Welch robust test of equality of means	Cohen's d
	Mean	Std. Deviation	Mean	Std. Deviation		
Chinese	35	4.5	31.8	6.1	F(1,65.0) = 7.89, p = .007	0.61
Korean	31.38	4.06	29	5.1	F(1,16.0) = 1.55, p = .231	0.53
Indonesian	26.32	6.12	23.77	3.37	F(1,16.0) = 4.31, p = .042	0.48
Singaporean	28.48	1.81	33.31	2.81	F(1,16.6) = 32.3, p < .001	-2.24
Thai	26.08	5.74	23.1	3.02	F(1,14.7) = 2.78, p = .117	0.71
Filipino	28	0.87	-	-	-	-
Malaysian	29.05	4.01	22.44	2.38	F(1,29.6) = 37.6, p < .001	1.99

Table 9. Tests of between-subjects effects: Dependent variables for the CYBVICS.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5,374.718a	12	447.893	22.343	0
Intercept	162,496.5	1	162,496.5	8,106.189	0
Sex	262.125	1	262.125	13.076	0
Nationality	3,957.645	6	659.607	32.905	0
Sex * Nationality	648.67	5	129.734	6.472	0
Error	5,953.656	297	2.046		
Total	276,582	310			
Corrected Total	11,328.374	309			

R square = coefficient of determination.

R Squared = .474 (Adjusted R Squared = .453).

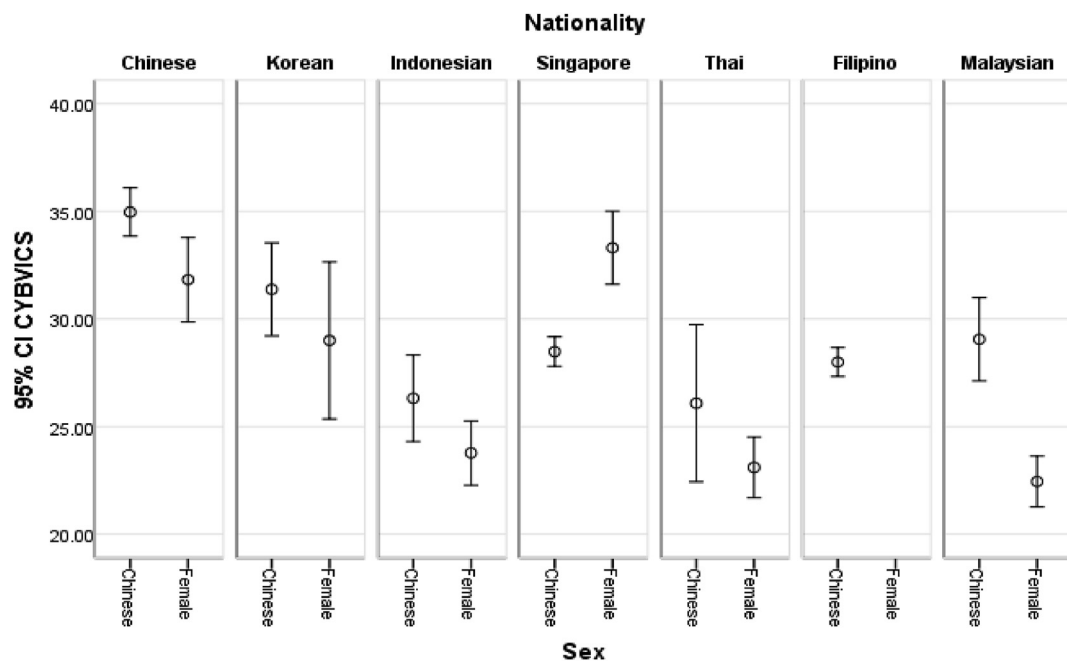


Figure 2. Error bar plots of mean CYBVICS scores by nationality and sex.

victimization than females ($27.242 \pm .443$) when exposed to cyberbullying $F(1, 297) = 13.076, p < .001$. There was also a statistically significant main effect of nationality $F(6, 297) = 32.905, p < .001$. We will not discuss the multiple comparisons between different students' nationalities, as we have already explained them in Research Question 2.

The significance of the interaction between nationality and sex reiterates that there are significant differences in the sex gap across different nationalities, which are clearly illustrated in Figure 2.

5. Discussion

The spread of the COVID-19 virus has transformed the way people live, work, and socialize, and even the reasons why they harass one another. To our knowledge, this is one of the first studies to address cyberbullying during the COVID-19 pandemic in Jordan. The intention of this study was to make a positive contribution to the literature on cyberbullying during the COVID-19 pandemic while focusing on a specific setting, that is, a university in an Arab country. It also aimed to examine the relationship between cyberbullying and self-esteem among the participating students. The results of this study confirm the hypothesis that exposure to cyberbullying is a predictor of low self-esteem, and that both are significantly correlated; previous studies support this. Students who experience cyberbullying, either as victims or offenders, have significantly lower self-esteem than those who do not [45, 56, 70, 93, 94].

Rosenberg [95] defined self-esteem as the "totality of the individual's thoughts and feelings with reference to himself as an object." Self-esteem refers to one's positive or negative disposition toward oneself. Our self-esteem is determined by various factors, such as how well we view our own performance and appearance, and how satisfied we are with our relationships with other people. Thus, when individuals succeed and do something useful, or when they feel that others accept and value them, they develop high self-esteem. Conversely, when they feel they have failed or are being ignored or criticized, they experience low self-esteem [96, 97, 98]. The Health & Wellness Centre of the University of Toronto Scarborough indicates that university students with low self-esteem often experience unhealthy and dissatisfying relationships with friends and family members, impaired academic and professional performance, anxiety, stress, loneliness, depression, avoidance of social interaction, isolation, and academic failure [99].

In this study, East and Southeast Asian students reported having experienced cyberbullying in the form of social stigma and discrimination based on nationality and/or physical features, because of the association created between being "East or Southeast Asian" and the origin and spread of COVID-19. The results showed that when participants felt blamed, accused, and that their nationality was being publicly discussed in a disdainful or passive way, this contributed to their low self-esteem. In relation to the causes of cyberbullying against students of East and Southeast Asian descent during the pandemic, our results showed that the main reasons were that the aggressors believed those students to be responsible for the spread of the COVID-19 virus, followed by the fact that the aggressors did not know that their behavior could be categorized as bullying, and that Jordanian students found cyberbullying humorous. The ongoing COVID-19 pandemic has triggered social stigma toward individuals of a specific nationalities, mainly due to the lack of knowledge about how the COVID-19 virus is transmitted and treated. This has produced fear and confusion about the virus and its consequences. In general, it appears that there has been a societal need to blame someone for the pandemic. Unfortunately, this situation has worsened due to unsubstantiated rumors regarding the virus. Thus, social stigma has been imposed even upon people who have recovered from COVID-19 and have completed their quarantine period. Groups subjected to social stigma experience discrimination, in the form of not being accepted by others who tend to avoid and ignore them, and are denied proper healthcare and access to education, housing, and employment. They are also exposed to verbal abuse and physical violence [25].

Racial discrimination refers to the distinction, exclusion, restriction or preference based on race, color, descent, or national or ethnic origin [100]. Racial discrimination, as a key social determinant of health [101], has a negative long-term effect on the mental health [102] and self-esteem of the members of the stereotyped or stigmatized groups [103]. Johnson [104] investigated the relationship between racism, self-esteem, and internalized shame among African-American college students and found that they reported low levels of self-esteem. Additionally, racism was positively associated with internalized shame. Another study found that self-esteem and internalized shame have a significant negative association, and self-esteem mediates the relationship between "racial identity" and impostor syndrome among African-American college students [105]. Moreover, Mereish et al. [106] found that daily discrimination was associated with poorer self-esteem and depressive symptoms.

Kahn et al. [107] suggested that the fact that social media platforms often require their users to reveal their identities, can make them more susceptible to discrimination. On the other hand, increased online anonymity, and digital freedom of speech have allowed cyber racism to emerge and grow, by fostering people's confidence to express racist opinions and ideologies more openly, without fear of being held accountable, as it would likely happen with offline interactions. Moreover, online anonymity reinforces people's dependence on familiar group norms, such as those grounded in nationality, when navigating the digital life, which can foster racist representations online [40]. This is in agreement with Notar et al.'s findings [108], which revealed that online profiles, if within cyberbullies' reach, could be targets of cyberbullying.

Additionally, our results showed that most East and Southeast Asian students who faced cyberbullying during the pandemic were of Chinese descent, followed by those of Indonesian, Singaporean, Malaysian, and Korean nationality. Despite the small sample size of the Filipino group, their mean CYBVICS score was higher compared to Thai, Indonesian, and Malaysian students, and significantly lower compared to Chinese, Singaporean, and Korean students. Thus, there was a statistically significant main effect based on nationality. Predictably, Chinese students were vulnerable to cyberbullying during the COVID-19 pandemic. Most Jordanian students held East and Southeast Asian students responsible for the pandemic, based on the announcement by WHO that the COVID-19 virus originated and spread from the city of Wuhan, Hubei, China, on December 8, 2019 [1]. Thus, nationality had an important impact on people's exposure to cyberbullying during the COVID-19 pandemic. This result is in agreement with previous studies that cultural differences are a strong predictor of the characteristics and nature of cyberbullies, cyberbullying frequency, or reinforcement [109, 110]. A recent study [111] found that the escalation of COVID-19-related racial discrimination and bullying against non-citizens and people of color in many places around the world. Covid-19-related discrimination and bullying have been triggered by anti-Asian content present in several international social media. During the COVID-19 pandemic, racial discrimination linked to differences in phenotypic traits across racial and ethnic categories, triggered assumptions regarding differences in COVID-19 susceptibility, transmission, and incubation period across different nationalities. Using a snowball sampling, He et al. [112] found that Chinese nationals residing in 70 Western countries reported that since the outbreak and spread of COVID-19 across the world, they had suffered discrimination and social exclusion in various forms. Of the respondents, a total of 25.11% had experienced discrimination and 90% of respondents inside of China exhibited discriminatory attitudes. Nonetheless, our results contrast with those of Adebayo et al. [113], which concluded that as a behavior, cyberbullying is particular to an individual, rather than typical of a nationality. In other words, their results showed that there is no significant relationship between nationality and cyberbullying behavior.

To our knowledge, this was the first study that investigated the relationship between cyberbullying and nationality; however, our result can be interpreted in different ways, depending on the researcher's

observation and their interaction with students. First, the percentage of female students of Singaporean and Indonesian nationalities in the study sample was higher than that of female students of other nationalities. In the Jordanian cultural context and Bedouin traditions, confrontation is a behavior exclusively displayed among men; it is not permissible to confront women. Additionally, the fact that female students of Singaporean and Indonesian nationalities identify primarily with the Jordanian and Islamic traditions, and thus, wear the hijab, may act as a deterrent to Muslim male students (the Islamic religion accounts for the main religion of the Jordanian students in the study sample) to abuse females.

Regarding male students from China, Malaysia, and Indonesia being the most targeted nationalities for COVID-19-related cyberbullying compared to other Asians, the number of Chinese male students was the highest in the study sample. The researcher found, based on the students' comments on Facebook, that Indonesian and Malaysian male students supported the Chinese students by rejecting hate speech and showing that they did not like the posts of Jordanian students; this may have been the reason why they became a target for bullying by Jordanian students.

Moreover, our findings revealed a statistically significant interaction between the sex and nationality of East and Southeast Asian students, as males were more likely than females to experience cyber-victimization when exposed to cyberbullying. Our result echoes previous studies by confirming that men are more likely than women to be bullies and cyberbullies [114, 115, 116]. In investigating the relationship between sex differences and cyberbullying, most existing studies have focused on the prevalence of cyberbullying rates, without examining the influence of sex on various determinants of cyberbullying perpetration, such as sociocultural variables and psychological determinants [117, 118]. Cyberbullying victimization and perceived online disinhibition enhance the intention to perpetrate cyberbullying, whereas self-control acts as a critical buffer, repressing the propensity to cyberbully others [119]. Zsila et al. [118] found that males were more likely than females to engage in cyberbullying when they had been previously bullied online. Additionally, a high tendency to engage in anger rumination is linked to an elevated risk of perpetration among male cyberbullying victims.

On the other hand, female students are more likely to behave cautiously online, especially across social media platforms, to avoid cyber stalking, harassment, technology-facilitated sexual violence, and gendered cyber-hate in the form of rape threats and sexualized vitriol, which have become regular aspects of women's quotidian experiences online [120]. Female university students deploy various defensive strategies while navigating online spaces, from normalizing harassment to self-censorship and withdrawal [121]. This is in contrast with other studies that found that undergraduate females were more likely to be victims of cyberbullying than their male counterparts [113, 122], and that men comprised the majority of cyberbullies among university students [71, 122]. Furthermore, Felipe-Castaño et al. [71] did not find differences with respect to sex in the frequency of being a victim.

Furthermore, our results showed that the most frequent types of cyberbullying against East and Southeast Asian students during the COVID-19 pandemic were insults, ridicule, provocation, and ostracism. We also found that cyberbullying could be a catalyst for a decrease in mental health among university students; this was consistent with results of previous studies [48, 67, 123]. According to WHO, communication regarding COVID-19 is necessary to take effective steps to avoid fueling fear and stigma, especially in the media [25, 124]. As media and social conversations are dominated by information on COVID-19, some researchers have referred to this phenomenon as "infodemic" of misinformation [125], in that rumors regarding the virus could spread more quickly than the virus itself. This can also contribute to negative effects, including stigmatization and discrimination of people from areas affected by the outbreak. Owing to the significant impact of the discourse of

individuals in the media, the public assimilate their views frequently. Therefore, it is imperative to educate community members about the language they use to describe COVID-19 and its causes, to avoid contributing to social stigma and the prevalence of cyberbullying through social media [25, 124]. Additionally, people should seek information of COVID-19 from reliable sources [125].

The mandatory quarantine that has been characteristic of this outbreak, has been robbing people of real, physical interaction. As a consequence, people have turned to the internet and social media, engaging and spending more time online. Thus, the risk of being exposed to problematic internet use, may increase the tendency to use psychoactive substances and other reinforcing behaviors (e.g., gambling, video gaming, watching pornography) for adaptive with staying at home [126].

In summary, there are contrasting results from several studies around cyberbullying and differences regarding sex and nationality, and whether students are more likely to be victims or aggressors. Furthermore, the link between self-esteem and cyberbullying is ambiguous. Therefore, future studies can investigate these contradictions using different samples, as well as different measures, reflecting the fact that cyberbullying can be defined in different ways. Furthermore, it is necessary to continue investigating racial and nationality discrimination in the context of cyberbullying. Racial discrimination became a particular focus of scholarly investigation in the 1980s, with the emergence of the "critical race theory" [127]. Finally, we support the suggestion of Felipe-Castaño et al. [71] regarding the necessity of designing prevention and intervention programs for universities, and increasing students' awareness of both cyberbullying and coping strategies to deal with it. Advocating against racial discrimination, and promoting tolerance and acceptance of ethnic and cultural differences among university students are useful methods for eliminating racial discrimination [111].

One of this study's strengths is that it was conducted at a university with a large and diverse sample of students of various cultural and academic backgrounds. Nevertheless, the present study also has some limitations. First, the lack of knowledge of Jordanian students regarding cyberbullying may have increased the lack of conceptual model basics; had the students been more aware of cyberbullying, it could have contributed to the enhancement of the results and to the expansion in detailing the causes of cyberbullying at the university level. Second, the researcher's inability to reach other public universities because of the restrictions inherent to the current COVID-19 pandemic, resulted in data collection being confined to a single university. An inclusion of participants from other universities could have contributed to a more detailed perspective of the implications of COVID-19 for East and Southeast Asian students in Jordan. In addition, Chinese students had a high response rate as their percentage was high compared to other nationalities. A random sampling of students from multiple universities (public and private) could have significantly contributed to understanding this phenomenon at the university level in Jordan. Finally, including additional variables, in conjunction with other nationalities and sex, could have provided added value in terms of understanding the differences and impact of COVID-19 among university students.

6. Conclusion

This article investigated the relationship between cyberbullying and the self-esteem of East and Southeast Asian university students in Jordan during the COVID-19 pandemic. It also examined the relationship and differences between sex and nationality, and how these are linked to cyberbullying. The findings on cyberbullying at a university level in an Arab country have the potential to contribute to the development of policies and solutions that address this issue, especially between resident and foreign students.

- [36] L. Rosenthal, V. Earnshaw, A. Carroll-Scott, K. Henderson, S. Peters, C. McCaslin, et al., Weight and race based bullying: health associations among urban adolescents, *J. Health Psychol.* 20 (2015) 401–412.
- [37] M. Trent, D.G. Dooley, J. Dougé, Section on adolescent health, council on community pediatrics, & committee on adolescence. The Impact of Racism on Child and Adolescent Health, *Pediatrics* 144 (2) (2019), e20191765.
- [38] M.Á. Cano, S.J. Schwartz, D.P. MacKinnon, B.T.H. Keum, G. Prado, F.F. Marsiglia, et al., Exposure to ethnic discrimination in social media and symptoms of anxiety and depression among Hispanic emerging adults: examining the moderating role of gender, *J. Clin. Psychol.* 77 (3) (2020 Sep) 571–586.
- [39] Y. Cheng, From campus racism to cyber racism: discourse of race and Chinese nationalism, *China Q.* 207 (2011) 561–579.
- [40] B. Keum, M. Miller, Measurement invariance of the perceived online racism scale across age and gender, *Cyberpsychology* 12 (3) (2018).
- [41] United Nation Human Rights, *Racial Discrimination in the Context of the COVID-19 of the Crisis*, 2020. Available from: https://www.ohchr.org/Documents/Issues/Racism/COVID-19_and_Racial_Discrimination.pdf.
- [42] K. Murji, G. Picker, Racist morbidities: a conjunctural analysis of the COVID-19 pandemic, *Eur. Soc.* (2020) 1–14.
- [43] T. Field, Cyberbullying: a narrative review, *Journal of Addiction Therapy and Research* 2 (2018) 10–27.
- [44] N. Boonchooduang, O. Louthrenoo, C. Charnsil, A. Narkpongphun, Cyberbullying and emotional-behavioral functioning among Northern Thai adolescents, *BJSTR* 17 (3) (2019) 12877–12881.
- [45] M.C. Martínez-Monteaudo, B. Delgado, C.J. Inglés, R. Escortell, Cyberbullying and social anxiety: a latent class analysis among Spanish adolescents, *Int. J. Environ. Res. Publ. Health* 17 (2) (2020) 406.
- [46] D. Finkelhor, K.J. Mitchell, J. Wolak, *Online Victimization: A Report on the Nation's Youth*, National Center for Missing and Exploited Children, 2000. Available from: http://www.unh.edu/ccrc/pdf/Victimization_Online_Survey.pdf.
- [47] C. Myers, H. Cowie, Cyberbullying across the lifespan of education: issues and interventions from school to university, *Int. J. Environ. Res. Publ. Health* 16 (2019) 1217.
- [48] W. Wang, X. Xie, X. Wang, L. Lei, Q. Hu, S. Jiang, Cyberbullying and depression among Chinese college students: a moderated mediation model of social anxiety and neuroticism, *J. Affect. Disord.* 1 (256) (2019) 54–61.
- [49] B. Eristi, Y. Akbulut, Reactions to cyberbullying among high school and university students, *Soc. Sci. J.* 56 (1) (2019) 10–20.
- [50] M.F. Wright, Cybervictims' emotional responses, attributions, and coping strategies for cyber victimization: a qualitative approach, *Safer Communities* 15 (3) (2016) 160–169.
- [51] F. Sticca, K. Machmutow, A. Stauber, S. Perren, B.E. Palladino, A. Nocentini, et al., The coping with cyberbullying questionnaire: development of a new measure, *Societies* 5 (2) (2015) 515–536.
- [52] T. Safaria, F. Tentama, H. Suyono, Cyberbully, cybervictim, and forgiveness among Indonesian high school students, *Turkish Online Journal of Educational Technology* 15 (3) (2016) 40–48.
- [53] M. Wright, Cyberbullying victimization through social networking sites and adjustment difficulties: the role of parental mediation, *J. Assoc. Inf. Syst. Online* 19 (2) (2018) 1.
- [54] M.F. Wright, S. Wachs, Does parental mediation of technology use moderate the associations between cyber aggression involvement and substance use? A three-year longitudinal study, *Int. J. Environ. Res. Publ. Health* 16 (13) (2019) 2425.
- [55] S. Wachs, M. Gámez-Guadix, M.F. Wright, A. Görzig, W. Schubarth, How do adolescents cope with cyberhate? Psychometric properties and socio-demographic differences of a coping with cyberhate scale, *Comput. Hum. Behav.* 104 (2020) 106167.
- [56] C.L. Nixon, Current perspectives: the impact of cyberbullying on adolescent health, *Adolesc. Health Med. Therapeut.* 5 (2014) 143–158.
- [57] G.M. Glew, M. Fan, W. Katon, F.P. Rivara, M.A. Kernic, Bullying, psychosocial adjustment, and academic performance in elementary school, *Arch. Pediatr. Adolesc. Med.* 159 (2005) 1026–1031.
- [58] A. John, A.C. Glendenning, A. Marchant, P. Montgomery, A. Stewart, S. Wood, et al., Self-harm, suicidal behaviours, and cyberbullying in children and young people: systematic review, *J. Med. Internet Res.* 20 (4) (2018) e129.
- [59] S. Musharraf, M. Anis-ul-Haque, Cyberbullying in different participant roles: exploring differences in psychopathology and well-being in university students, *Pakistan J. Med. Res.* 57 (1) (2018) 33–39.
- [60] W. Cassidy, C. Faucher, M. Jackson, *Cyberbullying at university in International Contexts*, first ed., Routledge, London, 2018.
- [61] C. Myers, H. Cowie, Bullying at university: the social and legal contexts of cyberbullying among university students, *J. Cross Cult. Psychol.* 48 (8) (2017) 1172–1182.
- [62] O.T. Aricak, Psychiatric symptomatology as a predictor of cyberbullying among university students, *Eur. J. Educ. Res.* 34 (2009) 167–184.
- [63] K.N. Ryan, T. Curwen, Cyber-victimized students: incidence, impact, and intervention, *SAGE Open* 3 (4) (2013).
- [64] G. Egeberg, S. Thorvaldsen, J.A. Rønning, The impact of cyberbullying and cyber harassment on academic achievement, in: E. Elstad (Ed.), *Digital Expectations and Experiences in Education*, Sense Publishers, Rotterdam, 2016, pp. 183–204.
- [65] Y. Peled, Cyberbullying and its influence on academic, social, and emotional development of undergraduate students, *Heliyon* 5 (3) (2019), e01393.
- [66] A.T. Khine, Y.M. Saw, Z.Y. Htut, C.T. Khaing, H.Z. Soe, K.K. Swe, et al., Assessing risk factors and impact of cyberbullying victimization among university students in Myanmar: a cross-sectional study, *PLoS One* 15 (1) (2020), e0227051.
- [67] S.B. Xiao, Y.M. Wong, Cyber-bullying among university students: an empirical investigation from the social cognitive perspective, *International Journal of Business & Information* 8 (1) (2013) 34–69.
- [68] C.P. Zalaquett, S.J. Chatters, *Cyberbullying in College: Frequency, Characteristics, and Practical Implications*, SAGE Open, 2014.
- [69] N. Extremera, C. Quintana-Orts, S. Mérida-López, L. Rey, Cyberbullying victimization, self-esteem and suicidal ideation in adolescence: does emotional intelligence play a buffering role? *Front. Psychol.* 9 (2018) 367.
- [70] M.E. Varghese, M.C. Pistole, College student cyberbullying: self-esteem, depression, loneliness, and attachment, *J. Coll. Counsel.* 20 (1) (2017) 7–21.
- [71] E. Felipe-Castaño, B. León-Del-Barco, M.I. Polo-Del-Río, S. Mendo-Lázaro, T. Gómez-Carroza, F. Fajardo-Bullón, Differential analysis of psychopathological impact of cyberbullying in university students, *Front. Psychol.* 10 (2019) 1620.
- [72] K. Vasileiou, J. Barnett, M. Barreto, J. Vines, M. Atkinson, K. Long, et al., Coping with loneliness at University: a qualitative interview study with students in the UK, *Mental Health and Prevention* 13 (2019) 21–30.
- [73] J. Skues, B. Williams, J. Oldmeadow, L. Wise, The effects of boredom, loneliness, and distress tolerance on problem internet use among university students, *Int. J. Ment. Health Addiction* 14 (2016) 167–180.
- [74] N. Saini, G. Sangwan, M. Verma, A. Kohli, M. Kaur, P.V.M. Lakshmi, Effect of social networking sites on the quality of life of college students: a cross-sectional study from a city in North India, *Sci. World J.* 2020 (2020). Article ID 8576023.
- [75] A. Frederick, Y. Run, Social media usability among university students: a case study of Jiangsu University - China, *Global Media J.* 16 (2018) 31.
- [76] C.A. Myers, H. Cowie, Cyberbullying across the lifespan of education: issues and interventions from school to university, *Int. J. Environ. Res. Publ. Health* 16 (7) (2019) 1217. Published 2019 Apr 4.
- [77] N. Gisladóttir, *Cyberbullying Among Adolescents: Bullies and Victims Associated with Parental Relations, Online Usage Time and Gender Differences*, 2016. <https://skemman.is/bitstream/1946/25677/1/N%C3%ADna%20Bj%C3%B6rk%20Final%20BScSKEMMAN.pdf>.
- [78] M.C. Bergmann, D. Baier, Prevalence and correlates of cyberbullying perpetration. Findings from a German representative student survey, *Int. J. Environ. Res. Publ. Health* 15 (2) (2018) 274.
- [79] M. Price, J. Dalgleish, Cyberbullying experiences, impacts and coping strategies as described by Australian young people, *Youth Stud. Aust.* 29 (2) (2010) 51–59.
- [80] I. Kwan, K. Dickson, M. Richardson, W. MacDowall, H. Burchett, C. Stansfield, et al., Cyberbullying and children and young people's mental health: a systematic map of systematic reviews, *Cyberpsychol., Behav. Soc. Netw.* 23 (2) (2020) 72–82.
- [81] National Crime Prevention Council, *Stop cyberbullying before it starts*. <http://archive.npcpc.org/resources/files/pdf/bullying/cyberbullying.pdf>. (Accessed 5 December 2020).
- [82] R. Aliyev, H. Gengec, The effects of resilience and cyberbullying on self-esteem, *J. Educ.* 199 (3) (2019) 155–165.
- [83] H. Lei, W. Mao, C.M. Cheong, Y. Wen, Y. Cui, Z. Cai, The relationship between self-esteem and cyberbullying: a meta-analysis of children and youth students, *Curr. Psychol.* 39 (2020) 830–842.
- [84] Z. Zhang, *Survey on the Relationship of Frustration, Self-Esteem and Cyberbullying in Vocational School Students*, Master's thesis, Hebei Normal University, Shijiazhuang, China, 2017. Available from China Master's theses full-text database.
- [85] Cyberbullying Research Center, *Cyberbullying Data*, 2019. Retrieved from: <https://cyberbullying.org/2019-cyberbullying-data>.
- [86] S. Buelga, B. Martínez-Ferrer, M.J. Cava, J. Ortega-Barón, Psychometric properties of the CYBVICs cyber-victimization scale and its relationship with psychosocial variables, *Soc. Sci.* 8 (13) (2019) 1–13.
- [87] D. Álvarez-García, J.C. Núñez, A. Barreiro-Collazo, T. García, Validation of the cybervictimization questionnaire (CYVIC) for adolescents, *Comput. Hum. Behav.* 70 (2017) 270–281.
- [88] S. Buelga, M.J. Cava, G. Musitu, Cyberbullying: adolescent victimization through mobile phone and internet [original article in Spanish], *Psicothema* 22 (2010) 784–789. Available from: <https://www.redalyc.org/pdf/727/72715515039.pdf>.
- [89] S. Buelga, M.J. Cava, G. Musitu, Validation of the adolescent victimization through mobile phone and internet scale [original article in Spanish], *Rev. Panam. Salud Pública* 32 (2012) 36–42. Available from: <https://www.scielosp.org/article/rpsp/2012.v32n1/36-42/>.
- [90] D. Álvarez-García, J.C. Núñez, A. Dobarro, C. Rodríguez, Risk factors associated with cybervictimization in adolescence, *Int. J. Clin. Health Psychol.* 15 (3) (2015) 226–235.
- [91] J.C. Goulet-Pelletier, D. Cousineau, A review of effect sizes and their confidence intervals, Part I: the Cohen's d family, *Quant Meth* 14 (4) (2018) 242–265.
- [92] G.T. LaFlair, J. Egbert, L. Plonsky, A practical guide to bootstrapping descriptive statistics, correlations, t tests, and xANOVAs, in: L. Plonsky (Ed.), *Advancing Quantitative Methods in Second Language Research*, Routledge, Abingdon, 2015, pp. 46–77.
- [93] J.W. Patchin, S. Hinduja, Cyberbullying and self-esteem, *J. Sch. Health* 80 (12) (2010) 614–624.
- [94] S. Wiggdori, M. Lynch, Cyber- and traditional peer victimization: unique relationships with adolescent well-being, *Psychol Violence* 3 (4) (2013) 297–309.
- [95] M. Rosenberg, Beyond self-esteem: some neglected aspects of the self-concept, in: *Paper Presented at the Annual Meeting of the American Sociological Association*, New York, New York, USA, 1976 Aug.
- [96] A. Raevuori, D.M. Dick, A. Keski-Rahkonen, L. Pulkkinen, R.J. Rose, A. Rissanen, et al., Genetic and environmental factors affecting self-esteem from age 14 to 17: a longitudinal study of Finnish twins, *Psychol. Med.* 37 (11) (2007) 1625–1633.

- [97] C. Strangor, R. Jhangiani, H. Tarry, *Principles of Social Psychology - 1st International Edition*, BCcampus OpenEd, 2014. Available from: <https://opentextbc.ca/socialpsychology>.
- [98] J.M. Saha, *Management and Organizational Behaviour*, Excel Books, New Delhi, 2006.
- [99] Low self-esteem. Health and wellness Centre of the university of Toronto Scarborough, Available from: <https://www.uts.utoronto.ca/hwc/low-self-esteem>.
- [100] United Nations, Art. 1(1) of UN convention on the elimination of all forms of racial discrimination, Available from: <https://www.ohchr.org/EN/ProfessionalInterest/Pages/CERD.aspx>.
- [101] J. Stanley, R. Harris, D. Cormack, A. Waa, R. Edwards, The impact of racism on the future health of adults: protocol for a prospective cohort study, *BMC Publ. Health* 19 (1) (2019) 346.
- [102] S. Wallace, J. Nazroo, L. Bécaries, Cumulative effect of racial discrimination on the mental health of ethnic minorities in the United Kingdom, *AJPH (Am. J. Public Health)* 106 (7) (2016) 1294–1300.
- [103] J. Crocker, D. Quinn, Racism and self-esteem, in: J.L. Eberhardt, S.T. Fiske (Eds.), *Confronting Racism: the Problem and the Response*, Sage Publications, Inc., 1998, pp. 169–187 (PsycInfo Database Record (c) 2020 APA).
- [104] A.J. Johnson, Examining associations between racism, internalized shame, and self-esteem among African Americans, *Cogent Psychology* 7 (1) (2020) 1757857.
- [105] Q.M. Lige, B.J. Peteet, C.M. Brown, Racial identity, self-esteem, and the impostor phenomenon among African American college students, *J. Black Psychol.* 43 (4) (2017) 345–357.
- [106] E.H. Mereish, H.S. N'cho, C.E. Green, M.M. Jernigan, J.E. Helms, Discrimination and depressive symptoms among Black American Men: moderated-mediation effects of ethnicity and self-esteem, *Behav. Med.* 42 (3) (2016) 190–196.
- [107] Kahn KB, Spencer K, Glaser J. Online prejudice and discrimination: from dating to hating. In Y. Amichai-Hamburger (Ed.), *The Social Net: Understanding Our Online Behavior*. 2013:201–19. Oxford: Oxford University Press.
- [108] C.E. Nortar, S. Padgett, J. Roden, Cyberbullying: a review of the literature, *Univers J Educ Res* 1 (1) (2013) 1–9.
- [109] L. Edwards, A. Edwards Kontostathis, C. Fisher, Cyberbullying, race/ethnicity and mental health outcomes: a review of the literature, *Media Commun.* 4 (3) (2016) 71–78.
- [110] C.P. Barlett, D.A. Gentile, C.A. Anderson, K. Suzuki, A. Sakamoto, A. Yamaoka, et al., Cross-cultural differences in cyberbullying behavior: a short-term longitudinal study, *J. Cross Cult. Psychol.* 45 (2) (2014) 300–313.
- [111] I.Y. Addo, Double pandemic: racial discrimination amid coronavirus disease 2019, *Social Sciences & Humanities Open* 2 (1) (2020) 100074.
- [112] J. He, L. He, W. Zhou, X. Nie, M. He, Discrimination and social exclusion in the outbreak of COVID-19, *Int. J. Environ. Res. Publ. Health* 17 (8) (2020) 2933.
- [113] D.O. Adebayo, M.T. Ninggal, F.N. Bolu-Steve, Relationship between demographic factors and undergraduates' cyberbullying experiences in public universities in Malaysia, *Int J Instr* 13 (1) (2020) 901–914.
- [114] Q. Li, Cyberbullying in schools: a research of sex differences, *Sch. Psychol. Int* 27 (2) (2006) 157–170.
- [115] Ö. Baker, I. Tanrikulu, C. Topcu, Sex differences in cyberbullying perpetration: the role of moral disengagement and aggression, in: M. Wright (Ed.), *A Social-Ecological Approach to Cyberbullying*, Science Publishers, Inc., 2016, pp. 77–96.
- [116] T. Phizacklea, R.J. Sargisson, The cyberbullying experiences survey with New Zealand psychology students, *Int J Psychol Behav Anal* 4 (2018) 146.
- [117] R.Y. Wong, C.M. Cheung, B. Xiao, Does gender matter in cyberbullying perpetration? An empirical investigation, *Comput. Hum. Behav.* 79 (2017) 247–257.
- [118] Á. Zsila, R. Urbán, M.D. Griffiths, et al., Gender differences in the association between cyberbullying victimization and perpetration: the role of anger rumination and traditional bullying experiences, *Int. J. Ment. Health Addiction* 17 (2019) 1252–1267.
- [119] C. Barlett, S.M. Coyne, A meta-analysis of sex differences in cyber-bullying behavior: the moderating role of age, *Aggress. Behav.* 40 (5) (2014) 474–488.
- [120] Vitak J, Chadha K, Steiner L, Ashktorab Z. Identifying women's experiences with and strategies for mitigating negative effects of online harassment. In: *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*.
- [121] K. Chadha, L. Steiner, J. Vitak, Z. Ashktorab, Women's responses to online harassment, *Int. J. Commun.* 14 (2020) 239–257.
- [122] M.F. Wright, I. Aoyama, S.V. Kamble, Z. Li, S. Soudi, L. Lei, et al., Peer attachment and cyber aggression involvement among Chinese, Indian, and Japanese adolescents, *Societies* 5 (2) (2015) 339–353.
- [123] S.M. Francisco, A.M.V. Simão, P.C. Ferreira, M.J. das Dores Martins, Cyberbullying: the hidden side of college students, *Comput. Hum. Behav.* 43 (2015) 167–182.
- [124] S. Bagechi, Stigma during the COVID-19 pandemic, *Lancet Infect. Dis.* 20 (7) (2020) 782.
- [125] B.V. Reddy, A. Gupta, Importance of effective communication during COVID-19 infodemic, *J. Fam. Med. Prim. Care* 9 (8) (2020) 3793–3796.
- [126] O. Király, M.N. Potenza, D.J. Stein, D.L. King, D.C. Hodgins, J.B. Saunders, et al., Preventing problematic internet use during the COVID-19 pandemic: consensus guidance, *Compr. Psychiatr.* 100 (2020) 152180.
- [127] A. Smedley, Racism. *Encyclopedia Britannica*, 2020. <https://www.britannica.com/topic/racism>.