

School Coexistence and Social Distancing in Mexican College Students at Covid-19's Pandemic

Convivencia escolar y distanciamiento social en estudiantes universitarios mexicanos durante la pandemia por Covid-19

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Resumen

Durante la pandemia de COVID-19, la educación superior en México experimentó una profunda transformación al adoptar modalidades de aprendizaje a distancia, como la educación híbrida y virtual. Los estudiantes universitarios se vieron obligados a abandonar las aulas y la forma de relacionarse cambió. Este artículo analiza cómo evolucionó la convivencia escolar entre estudiantes universitarios mexicanos a través de las distintas fases de aprendizaje a distancia y a las medidas de contención comunitaria, y pone énfasis en el impacto del mundo virtual en las relaciones sociales y en ciertos casos de agresión entre pares. La investigación se basa en narrativas y datos recopilados de personas que experimentaron el distanciamiento social obligatorio durante sus años universitarios. El objetivo es comprender cómo los estudiantes universitarios convivieron en cuatro instituciones de educación superior en México. El estudio emplea un enfoque mixto exploratorio, con entrevistas cualitativas en la primera etapa y un cuestionario cuantitativo en la segunda, dirigido a 1270 estudiantes. Entre los hallazgos, se destaca que, aunque los estudiantes inicialmente se adaptaron a la socialización virtual mediante las TICs, el aislamiento prolongado provocó un distanciamiento y una añoranza por la interacción presencial. Asimismo, se reveló que las TICs actuaron como un vehículo contra el aislamiento social.

Palabras clave: aprendizaje en línea; enseñanza superior; educación en situación de emergencia; convivencia escolar; pandemia Covid-19

Abstract

With the arrival of the COVID-19 pandemic, higher education in Mexico underwent a profound transformation, shifting towards remote learning modalities such as virtual and blended education. Young college students left out classrooms and their social relationships. This article investigates how was school coexistence among Mexican college students evolved through various phases of remote learning and community containment, emphasizing the impact of the virtual world on social relationships and instances of aggression. It draws narratives and data gathered from individuals who experienced mandatory social distancing during their college years. The aim is to understand what happened and how coexistence took place among college students at four higher education Institutions in Mexico. In terms of methodology, this study presents the results of an exploratory mixed-methods research approach, consisting of two distinct stages. The first stage adopts a qualitative and exploratory lens, aiming to capture the voices of students through 12 interviews, each lasting 1.5 hours. The second stage employs a quantitative approach, utilizing a questionnaire with 54 questions administered to 1270 higher education institution students. Among the findings, it is highlighted that, while

students initially adapted to virtual socialization through ICTs, prolonged isolation led to disengagement and a yearning for face-to-face interaction. Also, findings reveal that ICTs served as a vehicle against social isolation.

Key words: open learning systems; higher education; education in emergencies; peaceful coexistence; Covid-19 pandemic

INTRODUCCIÓN

Following the community containment caused by pandemic crisis by COVID-19, college students were forced to start or continue their studies in Virtual Learning Environments (VLE) through online educational platforms (Bacher-Hicks et al., 2022) and through the implementation of the Emergency Remote Teaching (Hodges, et al., 2020). The crisis accelerated the integration of ICT into education, leading to the adaptation and implementation of diverse forms of online teaching. There was a rapid shift from traditional face-to-face teaching to remote learning (Yacob et al., 2020). The International Institute for Higher Education in Latin America and the Caribbean (IESALC) stated that for students, the most significant impact because of COVID-19 had been the temporary closure of institutions and the cessation of face-to-face activities (Vidal et al, 2021).

This disruption not only affected academic continuity but also had profound implications for students' mental and physical well-being. Higher education students faced health challenges during this period. For instance, anxiety was likely exacerbated by the sudden shift to online learning, isolation from peers, and uncertainties regarding their academic and professional futures (Wang et al., 2021). Cao *et al.* (2020) highlighted that 24.9% of college students experienced anxiety due to the COVID-19 outbreak. A study made in a College of the United States, 71% of college students indicated increased stress and anxiety due to COVID-19. (Son, 2020). In the international context, research showed that the prevalence of anxiety, depression, and stress prevalence among college students increased during the pandemic, with non-Chinese students showing higher levels of these symptoms compared to Chinese students (Cao, et al., 2020; Wang et al., 2021)

The sudden shift compelled young individuals to engage with their peers in novel ways, as their conversations and interactions shifted to virtual realms. This rapid and dramatic change, termed Emergency Remote Teaching (ERT), denotes a temporary shift in instructional delivery to alternate modes due to crisis circumstances (Hodges et al., 2020). From one to another, ICT became a critical medium for teaching and learning (Wambui, 2022).

In March 2020, the Mexican government implemented community containment measures and social isolation in response to the COVID-19 emergency. Nationally, educational institutions transitioned to virtual education. According to the National Association of Mexican Universities and Institutions of Higher Education (ANUIES), in the 2019-2020 cycle, there were 4,931,200 higher education students, with, 4,043, 584 students engaging in online classes shortly after the declaration of the pandemic (ANUIES, 2022).

In response to the pandemic-induced challenges, in Mexico, higher education institutions began integrating new technologies into educational practices, adopting various teaching approaches. These included distance and online classes, virtual synchronous or

asynchronous education, and later, a mixed or blended model, contingent upon infection rates and vaccination levels against COVID-19.

The public health emergency reshaped the role of technology in the classroom, elevating it to a fundamental component of education (Arriaga et al., 2023). There is ample evidence on this matter. A wide range of studies have been conducted on the teaching-learning process and mental health among Mexican young college students during COVID-19 pandemic (Zúñiga-Rodríguez, 2023; Gaeta, 2023).

The integration of ICT into education has significantly altered the ways students communicate, engage in recreational activities and coexist within the college environment. While this shift has brought numerous benefits, it has also introduced personal challenges. Peer socialization, in particular, was disrupted. The daily life at college and social interactions suddenly migrated to virtual spaces.

Amidst these educational transformations, changes in student coexistence and communication, and alterations in socialization patterns became evident. Arana (2020) argues that the imposition of virtual education and mandatory social distancing led to communicative isolation among students, due to the lack of daily coexistence between classmates and the reduction of communication channels involving eye contact and body language. The study by Rodríguez Figueroa and colleagues (2023) explores school coexistence in a private college in central Mexico, before, during, and after the pandemic. Among its findings, it is concluded that the pandemic represented a rupture in the students' daily lives and that the concept of "university coexistence" should be employed given its particularities.

This new way of socializing, as well as the beginning of massive virtual education, have opened up spaces of coexistence that remain underexplored in educational practices, school climate, coexistence among students, and related areas. Consequently, new questions have arisen:

How did college students manage their social interactions during COVID-19 pandemic? What were the socialization dynamics during periods of virtual education and blended learning models? How did the shift to online education affect students' sense of belonging within their academic communities?

Additionally, it is pertinent to examine whether these forms of coexistence were accompanied by instances of violence. Even prior to the pandemic of COVID-19, research indicated that new technologies could serve as conduits for aggression among peers, as seen in cyberbullying and sexting cases (Bacher et al., 2022; Del Rey et al., 2018, 2019; Ojeda et al., 2020; Velázquez, 2017, Francisco et al., 2015).

In this context, numerous scholars have emphasized the potential for ICT to facilitate defamatory and aggressive behaviors, against a person or a group, and may even involve cases of cyberbullying (MacDonald, 2010; Rodríguez et al., 2018; Redondo et al., 2017). As highlighted by Rodríguez and Rivadulla (2018) in their study with higher education students, the impact of cyberbullying via phone or the internet often exceeds that of traditional forms of bullying.

This study thus provides an analysis of how the shift to online and hybrid education during the COVID-19 pandemic affected social coexistence among students. By using qualitative and quantitative methodologies, the research examines how students' interactions, communication, and sense of community evolved during this period, drawing on data collected from four higher education institutions in Mexico. By exploring student narratives and quantitative data, the study's aim is to understand the impact of COVID-19 pandemic on college students' social interactions and socialization dynamics during periods of virtual, blended and hybrid education¹

METHODOLOGY

Study design

This study employed an exploratory mixed-methods design, integrating qualitative and quantitative approaches across two distinct phases to capture and enrich student perspectives comprehensively.

Data collection

Qualitative stage

In-depth interviews were conducted with first-year college students from a higher education institution in Mexico City. Interviews occurred at two time points: at the end of the fifth semester (November 2021) and at the end of the sixth semester (May 2022), corresponding to the students' third year of college. These interviews, totaling twelve (12) and averaging 1.5 hours each, captured insights into student experiences across various learning modalities, including virtual, blended, hybrid, and on-site formats. The interviewer, a familiar teacher, fostered a comfortable and candid atmosphere during discussions. Once the qualitative data had been analyzed, the instrument for the second stage of the research (quantitative stage) was constructed.

Quantitative stage

A convenience sample of 1270 college students from four different Mexican higher education institutions participated voluntarily in the quantitative phase. Participants were in the final two years of college (6th, 7th, 8th, 9th and 10th semesters), corresponding to the cohort's first year of college in March 2020. A questionnaire, developed based on qualitative insights, was piloted and administered during October and November 2022. The pilot study was conducted by three experts and reviewed by students from a private higher education

¹ It is important to highlight that the preliminary results of this study were presented at the VIII Congress of Social Sciences and the Mexican Council for Educational Research, which played a crucial role in the reflection and analysis of the final data. The discussions and feedback generated in these academic forums facilitated a deeper interpretation of the results, enriching the final analysis and providing a more comprehensive and accurate perspective on the study's findings.

institution, whose feedback allowed for relevant adjustments to the wording of the items. With a total of 54 questions, the questionnaire included three dimensions: 1) Coexistence and effects of social isolation among college students during virtual education; 2) Aggressive behaviors via ICT among classmates during hybrid education; and 3) Aggressive behaviors via ICT among classmates upon returning to in-person classes. This article is focused on the first and second dimensions.

Data Analysis and Categorization

A convenience sample of 1270 college students from four different Mexican higher education institutions participated voluntarily in the quantitative phase. Participants were in the final two years of college (6th, 7th, 8th, 9th and 10th semesters), corresponding to the cohort's first year of college in March 2020. A questionnaire, developed based on qualitative insights, was piloted and administered during October and November 2022. The pilot study was conducted by three experts and reviewed by students from a private higher education institution, whose feedback allowed for relevant adjustments to the wording of the items. With a total of 54 questions, the questionnaire included three dimensions: 1) Coexistence and effects of social isolation among college students during virtual education; 2) Aggressive behaviors via ICT among classmates during hybrid education; and 3) Aggressive behaviors via ICT among classmates upon returning to in-person classes. This article is focused on the first and second dimensions: a) Use of ICTs for coexistence among college students; b) College-school coexistence (educational experiences).

These dimensions were further categorized based on the period of community containment and educational modality, including virtual (synchronous and asynchronous); blended (synchronous and face-to-face); and on-site education. Each of the modalities were described as follows: *Virtual*: involves full-time distance teaching-learning; by means of virtual technological learning platforms with synchronous activities (where teacher and students are present in the virtual classroom) and asynchronous activities (in which the teacher contemplates learning activities for the student to carry out outside the virtual classroom time). *Blended*: includes the virtual modality, both synchronous and asynchronous, and the teacher and student's presence in certain subjects in the educational facilities (face-to-face, physically). It includes a model of adaptation to the circumstances and possible manifestations of symptoms among the educational community, in which certain days are attended to at the school and other days classes are taken by distance. *On-site*: Involves in-person learning at educational facilities. Example, it contemplates teachers and students taking all subjects in the educational facilities; that is, students learn in person, in the school, full time. Table 1 illustrates these dimensions and categories, capturing the evolving educational landscape amidst the pandemic.

Table 1

Dimensions and Categories for Data Analysis Regarding the Period of Community Containment and Educational Modality

<i>Dimension</i>	<i>Categories</i>		
	Period of community containment	Time	Education modality
<i>Use of ICTs in COVID-19 compulsory isolation</i> <i>College-school coexistence (educational experiences)</i>	The beginning of mass virtual education	From March 2020 to December 2020	Virtual (synchronous and asynchronous)
	Consolidation of mass virtual education	From January 2021 to August 2021	Virtual (synchronous)
	Towards blended education	From August 2021 to December 2021	Blended (synchronous and face-to-face)
	A confluence of virtual, blended, and on-site education	From January 2022 to June 2022	Blended, and on-site education (face-to-face / physically)

Source: Vallejos-Parás (2023, 2024).

FINDINGS

The findings presented in this study derive primarily from in depth interviews conducted with students, complemented by quantitative data to enrich and support their perspectives. The qualitative analysis followed the principle of saturation, concentrating on predefined categories: “The beginning of mass virtual education” and “Consolidation of mass virtual education”.

Study design

Use of ICTs for coexistence among college students

The beginning of mass virtual education

During this period, student voices underscored a notable change in school coexistence compared to the pre-pandemic era. Despite being in their first year of college, 84.3% of respondents reported having already made friends before the pandemic. However, they expressed a sense of disappointment at the reality of college life during the pandemic: “I imagined that the college would be the most fun time, more social, and it ended up being the opposite.” (EAA02).

Once community containment began, social isolation, contrary to initial expectations, was not as challenging as anticipated, with only 24.6% of students reporting occasional difficulty. Some attributed this to changes in their family dynamics and the novelty of the situation. Virtual interactions, primarily facilitated through platforms like Zoom and Skype, became the principal mode of communication, fostering discussions on pandemic-related topics. The following opinions are good illustration of this:

The first weeks there was this euphoria about having virtual meetings, and we did get together as a whole group on Skype (EAA02). When we entered community containment, the way we related was through video calls. Although we did not imagine that it would last two years, it was like a very fresh dynamic for us (...) the first months of the pandemic, it was fun (ESS01).

Isolation wasn't difficult for me; I'm very social, but it wasn't that hard. What was tough was not being able to go out, not going to the movies—adjusting to that lifestyle was really hard. But with my friends, I didn't miss seeing them in person because we messaged each other every day, and on weekends, we'd get together all three days, even up to three times a day. We'd stay up until 3 a.m.; we hung out more than we did in person (EFS03).

Respondents stated that, at the beginning of the pandemic, it was common to get together to talk and chat through virtual meetings on Zoom or Skype. Conversations revolved around pandemics, data, the number of infections and deaths, the possibility of vaccine development, and when the cure or vaccine would arrive in Mexico, among other topics:

We talked online, watched videos, and made memes. Although most of the time it was chatting, at the beginning we talked about what we thought was going to happen. I remember... When they told me it would last 40 days, I said: 'No way, 40 days is a lot, and finally it lasted two years' (EMM04).

Other testimonies narrate that the virtual meetings lasted until the wee hours of the morning on weekends. This is corroborated by data from the questionnaire conducted, where 76% of students spent more than 9 hours a day on the internet. Generally, those colleagues who got together were those who had become friends before the pandemic:

At the beginning, we talked a lot by video call, almost daily. Saturdays, and Sundays we talked for about 4 hours, until the wee hours of the morning. All that semester, it was very intense. We were purely women, four of us, from time to time with two other guys, and sometimes we were six girls and two more with the men (EMM04).

During this stage, friendship made at college before the community containment was beneficial to continue with social interaction among peers; however, as it will be observed in the following section, as the social isolation progressed and the hope of returning to "normality" was disappearing; nine months after the community containment began, a change of routine and of coexistence in the social relationships among college students was noticed, in spite of being the same people who formed previous friendships.

Consolidation of massive virtual education

During this period, student voices underscored a notable change in school coexistence compared to the pre-pandemic era. Despite being in their first year of college, 84.3% of respondents reported having already made friends before the pandemic. However, they expressed a sense of disappointment at the reality of college life during the pandemic: "I imagined that the college would be the most fun time, more social, and it ended up being the opposite." (EAA02).

As time went by and college students began to perceive and realize that the return to school seemed somewhat distant and that the COVID-19 theme was beginning to end, their way of relating to each other took a turn. Young people continued to meet, but with a change in their socializing, which shifted towards fashionable video games, as it shows this narrative:

We played Xbox, Fortnite, and Among Us; it was the excuse to talk among ourselves (EAA02); Among Us was great for socializing (EFS03). We played Among Us every Friday; my group was 6 or 7 people. It was like the games brought us together outside of school (EGM11).

Young people refer to *Among Us* as the most used video game, and, on average, they played between 5 and 6 hours a day, usually at night, with their friends. Students indicated participating in online multiplayer games as a form of socializing with their college peers. 47.2% of the respondents used to play *Among Us* and 14.1% *Fortnite*². *Among Us* is a video game that went viral in 2020 (although it was created in 2018), whose objective is to sabotage a ship; by means of one or two impostors, who are among the players on board (hence the name of the video game), who must assassinate the crew members. Among its features are that it is multiplayer, free to download, and has a free -to- play format. In November 2020, *Among Us* reached a maximum of 500 million active users (Gamersrd, 2020). This phenomenon may have some explanation in the following testimony:

Once the whole call system was assimilated and normalized, even though it was fun to talk to our buddies and we missed them, one was no longer interested in reconnecting to chat and was attached to a screen, watching virtual sessions and distracting one's mind on other things (ESS01).

The turn to video games can be understood by the tiredness and monotony of virtual or non-face-to-face classes, as well as by the many months of community containment and social isolation. Contrary to what happened at the beginning of the pandemic, not feeling alone or not missing the person-to-person link, little by little began to change, and, in some cases, community containment, family disputes, and school routines reduced the general state of health of the students.

Table 2 presents the most frequent activities undertaken among college students during the community containment. Virtual communication, particularly talking in video call gatherings, stands out; followed by academic work; and gaming in third place. Data suggests that college students adapted well to the virtual world and leveraged ICT to maintain connections with peers.

² The company *Epic Games*, which by July 2018 had the world record with 3.4 million people playing at the same time and about 45 million total users (BBC News, 2018), launched the game *Fortnite* in July 2017.

Table 2

Primary activities undertaken with college peers during COVID-19

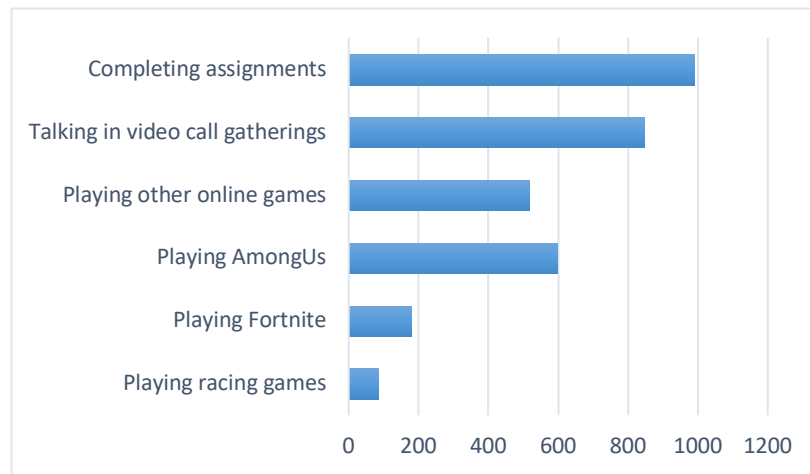


Table 3 shows the type of virtual technology mostly used as a tool of coexistence by college classmates, with variations in platforms, video games, and communication applications depending on the period of time of the pandemic. It is emphasized that in this article, only the first two periods are presented.

Table 3

Type of Virtual Technology Mostly Used as a Coexistence Tool by College Peers During March 2020 to June 2022

The beginnings of massive virtual education	The consolidation of massive virtual education	Towards blended education	Confluence of virtual, blended, and on-site education
Skype Zoom	Zoom Google meet Microsoft Teams Video game consoles: -Xbox -Nintendo Online video games by computer or tablet. Social networks. Smartphone communication applications.	Social networks: -Instagram Smartphone communication applications: -WhatsApp	Social networks: -Instagram Smartphone communication applications: -WhatsApp

Source: Vallejos-Parás (2023).

College-school coexistence

The beginnings of massive virtual education

For higher educational Institutions, the beginning of community containment was complicated, since there was not enough time to prepare for virtual education and, therefore, there were no exclusive educational platforms for teaching classes. Consequently, many of the teachers decided to use the *Zoom* platform.

During this time, students highlight some interesting points for reflection. Regarding the issue of teaching versus disruption in class, students report that a considerable number of teachers did not have the necessary computer skills to teach (the so-called digital gap), so they were constantly subjected to ridicule, memes, and hurtful comments from the students, as the two following testimonies point out:

There was a teacher that we could only see with her eyes; she was very close to the camera; we could not hear her; she did not know how to turn up the volume; she did not know how to put the presentation on the screen either; and the teacher would get in a very bad mood; she was very hysterical; she would get very angry with us because we did not listen to her; well, then she would say, I am going to give the class by sight (ECM05).

There was a teacher who did not put wallpaper on his lap, and we could see his house. Many people would pass by, and talk to him, and sometimes he wouldn't mute, so we could listen to family arguments. It was not fun because sometimes he was angry with us about some family problems (EIM12).

Regarding *student behavior versus disruption in class*, students pointed out that among the most frequent interruptions were those in which their peers scratched the classroom screen, "which was quite annoying because they constantly interrupted the class and the teachers tended to get angry." (ERH10) 20.8% of students remembered an episode or time where the teacher couldn't teach because of a disruption in class.

At the beginning, there were people who went overboard, for example; there were people who would scratch the screen when the professor was exposing. I personally did not do it, but I saw that many classmates did it. As if the option to write during the class remained tight, when the professor started to give the class in PowerPoint, for example, they would arrive and scratch. The teacher would notice (EIM12).

Another example was to deliberately remove a teacher or a classmate, mute or silence them when they were talking, or remove the screen when they were sharing information (this was corroborated through the questionnaire, in which 35.5% claimed to be intentionally expelled or removed from the virtual classroom). In this regard, a voice says: "You could also expel people; there were many problems regarding that because they would remove teachers and classmates." (ESS01)

Other students report that during class, in order not to get bored, there were private messages between classmates. They sent private messages to each other about the way a classmate was dressed, the place where they were taking class, or about some activity that someone was doing, such as eating, lying down, among other things. Comments such as: "Luis has dirty clothes in the background," "Sofia's house is always messy," "Miguel always eats in class," and "Lucia never makes her bed," were very frequent. In this regard, 35.5% of the students claimed to have read some aggressive or mocking comment about a peer through a personal message.

CONCLUSIONS

The participants' narratives offer valuable insights into the dynamics of student coexistence amidst the challenges posed by COVID-19 within college settings. Additionally, they shed light on the prevailing climate, interpersonal dynamics, educational encounters, and instances of conflict in both virtual and hybrid learning environments across Mexican higher education institutions. Complementing the qualitative accounts, quantitative data serves to reinforce the experiences shared by college students.

While the insights presented here offer only a glimpse into this research, they provide an initial groundwork for understanding the social dynamics experienced by college students during the COVID-19 pandemic. Initially, students adapted their modes of interaction to the virtual realm during community containment.

Due to COVID-19, college students changed their forms of coexistence during community containment towards new virtual forms. The gaming platforms provided opportunities for virtual social interaction and a sense of community among students, particularly during virtual education. Fraser's study shows that college students displayed a significant increase in TV and video game use during this period, as compared with a year previous (2021).

However, as the social isolation was prolonged, gradually, students began to lose interest in meeting virtually, and, instead, they began to miss the forms of face-to-face coexistence.

Regarding the prevalence of harassment and aggression within the college peers, existing literature converges in highlighting how ICTs have facilitated the manifestation of such behaviors in subtle and indirect manners. These include acts of intimidation, discrimination, harassment, impersonation, and aggression perpetrated through electronic communication channels (Schilling & Wang, 2023).

In contrast to the overtly physical or verbal manifestations of violence commonly observed in traditional face-to-face interactions—whether between individuals or groups—the conditions imposed by the COVID-19 pandemic necessitated adaptations within the educational system. As a result, such forms of aggression predominantly surfaced in written communication.

Regarding the fragmentation or disintegration of groups or classrooms during the period of social distancing and the transition back to face-to-face attendance, one significant factor contributing to this phenomenon is the prevalence of written interactions and aggressive communication among college students via group chats.

Studies on the forms of coexistence and emotional and mental care in virtual environments become more relevant after the community containment and isolation experienced in the years 2020 and 2021. This is because students went through social and personal crises that affected their health and their interactions with others. ICT not only facilitated young people's social relationships but also became a crucial part of their daily lives. In this regard, the study by Cao and colleagues' highlights: "Methods of guiding students to effectively and appropriately regulate their emotions during public health emergencies and avoid losses caused by crisis events have become an urgent problem for colleges and universities" (2020, p.2). Similarly, Kee et al. (2022) stated that the Internet, social media and other forms of visual entertainment helped individuals cope with the lockdown.

Violence between peers continued as before COVID-19 pandemic, but it wasn't physical violence, since they could not be face-to-face. It tended to be more written, (visible) and symbolic.

The narratives analyzed and the data collected suggest that college students are more inclined towards in-person interactions than virtual ones, contrary to the allure of social networks. This prompts reflection on the potential of the virtual world for fostering school coexistence in the future.

While each narrative contributes uniquely to the discourse, collectively they underscore important themes and invite further exploration. The global health crisis compelled educators to reassess virtual learning and community containment strategies. Despite the challenges posed by isolation and illness, coexistence among students should be a central issue in the educational agenda of any institution.

Lastly, understanding the dynamics of students' coexistence during COVID-19 pandemic remains significant in 2024 as most schools have returned to face-to-face learning. Analyzing data from 2021 allows educators, policymakers and researchers to recognize how virtual learning reshaped socialization patterns and peer relationships in ways that continue to impact student interactions today

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