

# Social Media and Disinformation in a Chilean School Context During the Pandemic of COVID-19: A Case Study

**Mariana Rodríguez**  
University of Chile  
Santiago, Chile  
marianrodriguez@uc  
hile.cl

**Lidiiia Shepelytska**  
University of Chile  
Santiago, Chile  
lidiiia.shepelytska@  
ug.uchile.cl

**Priscila Cabrera**  
University of  
Barcelona  
Santiago, Chile  
prcabreh79@alumne  
s.ub.edu

**José Manuel Medina**  
University of Chile  
Santiago, Chile  
j.medina.chile@gm  
ail.com

**Jaime Sánchez**  
University of Chile  
Santiago, Chile  
jaimehsanchezi@g  
mail.com

## ABSTRACT

The virtual dependence that schools experienced during the Covid-19 pandemic made it difficult to discriminate between true or false information. Thus, the objective of this mixed method study is to analyze the use of social networks around information/disinformation in the context of a pandemic from the perception of teachers and students of a school in Santiago de Chile. Participants, students, and teachers at the school, took part through a Google Forms survey and a focus group. The results indicate that both teachers and students are aware of the existence of disinformation and believe that they have the strategies to discern it. In turn, source verification and source background checks are emphasized to distinguish false information. Finally, it was revealed that some of the aspects that increase the credibility of the information are the type of visual material used and the prestige of the institution from which it comes.

**Author Keywords:** social media, disinformation, Covid-19 pandemic, secondary education, Chilean education

## ACM Classification Keywords

•Applied computing~Law, social and behavioral sciences~Psychology•Information systems~World Wide Web~Web applications~Social networks

## INTRODUCTION

Mass media is diverse and impacts people differently due to its characteristics since it is not the same to inform through television, radio, or internet as through social media that project a greater emotional impact on people [28]. During the COVID-19 pandemic declared on March 11, 2020, mass media increased its presence in digital media. In this regard, WHO mentioned that the social media use has increased by 13% worldwide compared to the year 2019 [35].

In mid-2020, digital sources became the only source of information to know and deal with aspects of the pandemic and/or any other type of information [44]. In this sense, social media were at the forefront of attention, as they

allowed users to be consumers and producers of content in short time periods [7].

Another aspect that contributed to the growing number of users in social media during the pandemic, according to [15] cited by [44], was the opportunity to decide on what channels they want to create and to share their content. Therefore, it is possible to observe multiplicity of contents with different representations, such as videos, with unreliable information that is disseminated by different social media, causing disinformation. Disinformation is understood as false content that aims to influence peoples' behavior through social media [13].

In the school context during the pandemic, many students did not have the opportunity to have the basic tools and access necessary to study together with their peers, as well as teachers who had to pass at least minimal content of curriculum. [21] points out that many children in the world have become more unequal when it comes to learning in the COVID-19 pandemic that caused school closures. Consequently, it resulted in the lack of opportunities, materials, and access to the Internet to keep learning on an equal footing.

It is established that there has been a global dependence on technology and the virtual world to ensure the continuity and student trajectory in schools. It became difficult to discriminate information, identify sources, content, and to self-educate during the pandemic, and that affected both teachers and students [6]. Meanwhile, we can say that disinformation has been a phenomenon that has affected the entire educational community in a transversal way.

Disinformation and false information or "fake news" was observed to be increasing at the beginning of the pandemic, [6] claims that it is a product of hyperinformation existing worldwide with both credible and false sources, generated from the endless cycle of information production. The World Health Organization is alarmed and declares it as an infodemia. The purpose of the infodemia statement was to alert countries to the

widespread spread of false information in virtual spaces, including social media.

In relation to the increase of disinformation, it can be observed that social media have increased 53% of the number of users during the pandemic [35]. According to the report Cadem [11], people between 13 and 23 years prefer Instagram, 86% use it three or more times a week and 73% every day. In addition to Instagram, young people are found on digital platforms such as YouTube and Tik Tok. [8] Indicate that social media unites people with common interests, especially the youth, where they establish connections through social contact, which often become personal referents and social support. Eventually, it favors the spread of false information and disinformation. As a result, the dissemination of this content impacts the mental health of individuals generating psychological issues, fatigue, depression, panic, and fear [34].

The use of social media as a means of information is presented as a transversal practice in adults who show similar difficulties to point out and correct false news [18]. On the other hand, according to a study by [42], adolescents are estimated to use social media between seven to eight hours a day. Although research with secondary students is small [29], scientific evidence confirms that this age group also has difficulties in distinguishing between reliable and unreliable information [10] and differentiating between news and sponsored advertising [45]. In addition, they may develop conspiratorial ideas without having substantial proof [23].

For high school students, social media is a frequently used tool, and they are aware of the risks it represents [6], because discourses that are propagated by social media are more exciting emotionally, but they can also become stressful and cause emotional distress among its users [22].

According [12], the problem of disinformation preexists the emergence of digital social media and the Internet, and it is a phenomenon that responds to political, religious, and economic interests, etc., where these belief systems appeal more to people's opinions rather than scientific reasoning, and their purpose would be to deceive and cause behavioral changes that may even lead to increased risk exposure [35]. In this sense, the purpose of shaping public opinion is known as post-truth which is defined as an emotional lie that describes the deliberate distortion of reality [6]. It is produced on websites or profiles on social media, representing existing people or groups (political, religious, etc.) and for several reasons creating and disseminating false news. However, it is complicated to predict the amount of fake news circulating in the media [30]. They generally imitate the discourse of diffusion of science [44], it is easier to imitate scientific articles and their spread in mass media is possible through self-

distribution. On the other hand, the amount of information is so high that people consume it without verifying the sources. Thus, the development of critical thinking to discriminate between reliable and unreliable sources is relevant [6]. For [14], to learn to evaluate the information and to identify the experts who share content in social media is fundamental for providers and social media users.

Schools have a role in developing the skills that enable insight, but teachers are not experts themselves and need training in the matter [29]. For [46], the significance of digital literacy changed after the pandemic emerged. The digital literacy gaps were accentuated due to inequality in education and there is a paradigm shift in how to teach and how children learn. So, from this perspective, it is valid to ask how teachers and students of Miguel de Cervantes School of the municipality of La Cisterna, Chile, use social media and identify information/disinformation in the context of pandemic and what kind of methods they use to select information and share it with others in social media.

Finally, the objective of this study is to analyze the use of social media regarding information/disinformation in the context of pandemic from the perception of teachers and high-school students of the Miguel de Cervantes School of the municipality of La Cisterna.

## **METHODOLOGY**

### **Study Design**

This research is based epistemologically on a non-experimental design with a mixed, transactional approach, oriented from the perspective of case studies [20]. Mainly, case study is chosen to deepen the participants' testimonial experience. Moreover, case study was selected for its coherent methodology with the research objective. Nevertheless, given the exhaustive sanitary protocols, the possibility to access educational centers was reduced, thus, the possibility to reach a greater number of participants was hindered.

### **Case Study**

Case studies have their origins in medicine and psychology research where they are used to make a thorough analysis of an individual process that explains the pathology of a disease [17].

This research adheres to a descriptive case study [47] since it is advantageous when the goal of the research is to describe the incidence or predominance of a phenomenon from a socio-educational perspective, based on the representations and meanings of a given issue (information/ disinformation) from a group of cases (students and teachers) [17].

It should be noted that there are studies that support the advantages of case studies in socio-educational studies

[26];[17], since they are appropriate for a small-scale research, limited-time framework, space, and resources, and they allow deepening a research process through the ongoing analysis during various stages of investigation.

### *Mixed Methods*

#### **Case**

Taking that mixed approach aims to combine and to enrich research from the complementarity between quantitative and qualitative, it is possible to harvest new knowledge for the understanding of the same phenomenon by carrying out this integration of approaches [16].

In mixed studies, a multifaceted inquiry modality for data collection, analysis, interpretation and data report produces more compelling evidence to answer the problem and leaves a small space for the researcher to overlook relevant issues about the phenomenon of interest [20], thus, in this case study, focusing on the investigation of teachers' and students' conceptions about social media and the information/disinformation received during the pandemic and how it may have had implications for decision-making in school context.

Therefore, ascribing this research to the mixed approach of a sequential descriptive nature through a design of equivalent status [43], that is, without predominance of approaches, leads to a balance and complementarity between the quantitative and qualitative.

Thus, implementing a mixed-type case study perspective involves an effort to understand the meaning of what others want to say through their words, their silence, their actions, and their immobility via interpretation and dialogue and to understand the aspects common to many people in the process of production and appropriation of the social and cultural realities in which they develop their existence [27].

#### **PARTICIPANTS**

We focused on a pilot exploratory-descriptive research study. It was a study implemented in the context of the pandemic of Covid-19, considering the topic of disinformation scarcely studied in the school context in our region. We predict that disinformation can be a relevant current topic in education. All of this will help us to later design a broader investigation with a greater number of subjects obtained from a probabilistic sampling.

This study considered a non-probabilistic sampling, an intact sample based on an already-formed group. The group of participants was composed of teachers and high school students belonging to the Miguel de Cervantes School of the municipality of La Cisterna, Santiago de Chile.

The sample selection was based on "sequential sampling for mixed methods" [20]. A total of 10 professors were

invited, who were interested in participating in the research, of whom 6 responded to the survey. Out of the group of high school students, six answered the survey and seven participated in the focus group, but one student withdrew, reducing the number to six.

The sample inclusion criteria were:

- In-service secondary education teachers.
- Secondary school students.

As for the qualitative phase, the selection criteria were given for convenience of the researchers. In this way, in the second qualitative phase of the study, a thematic guide was designed to conduct a focus group with the students who were invited to participate in the study.

#### **Analytical Tools and Techniques**

Firstly, prior to the application of instruments, each participant had to sign a document consenting to their willingness to participate in this study. In the case of teachers, they signed an informed consent. In the case of students, informed consents were signed by parents or guardians, and an informed consent was signed by students.

#### **DESCRIPTION OF INSTRUMENTS**

##### *Phase 1: Quantitative Approach*

Survey via Google Forms. A survey was designed using the online tool Google Forms. This survey focused on two central axes: information/disinformation and social media. Prior to implementation, the instrument was subjected to a process of validation of the instrument's relevance by experts.

It should be noted that the instrument through Google Forms allows a rapid construction and distribution by "link code", which was shared with students and teachers via email. This tool also allows the automatic construction of tables with the collected data which facilitates subsequent graphing and analysis.

The survey consists of 31 questions divided into 4 sections. Section 1 deals with demographic information such as age, gender, teaching subjects and work experience (for teachers) and school grade (for students). Section 2 and 3 focus on questions connected to social media exploring most used social media and the reasons for their use. Section 4 focuses on participants' trust in the legitimacy of social media information and the tactics participants use to distinguish between true and false information. The survey was completed by 6 teachers and 6 students.

##### *Phase 2: Qualitative Approach. Focus group.*

A thematic guide was designed as a collection tool. It was validated by experts, who evaluated the items and criteria included in the thematic guide, commenting, and

suggesting changes for its implementation, using the same ones for the quantitative instrument as guiding axis.

According to [25] cited by [1] a focus group can be defined as "a meeting of a group of individuals selected by researchers to discuss and elaborate, from personal experience, a subject or social fact that is the object of investigation" (p. 2). From social research, the focus group is a technique aimed at provoking interaction by talking about a topic or object of study at a given time by means of articulated questions that arise from the researcher, which allows directing a conversation and listening [2].

Within the framework of this investigation, a focus group was carried out with 7 students between 15 and 17 years old, directed with the thematic guide with the purpose of constructing the topic on information/disinformation and social media through the participants' experience.

### Analysis

- Quantitative phase: once the data was obtained through Google Forms and the tables were prepared, they were extracted (downloaded in Excel format). Then, a descriptive statistical analysis was conducted.

- Qualitative phase: grounded theory was applied as a technique of analysis [40], using the Constant Comparative method. This allows to analyze the contents of the students' discourses in three successive phases: line by line, survey of open categories, and the configuration of axial maps.

For this purpose, the Atlas.ti computational software was relevant for the analysis of qualitative information and the rigorous recording of the information provided by the focus group. Then, categories of analysis were raised for the subsequent construction and configuration of semantic relationship maps.

- Complementarity of approaches. At this stage of analysis, the results of both approaches are presented to get information from the perspective of the complementarity of the data derived from the quantitative and qualitative studies. Through this, the phenomenon of information/disinformation and social media can be better understood as an object of study.

## RESULTS

### Quantitative

#### Demographics

In Table 1, the data associated with the occupation and gender of the teachers and students participating in the study is presented.

Gender Participants	Masculine	Feminine	Total
	Students	2	4
Teachers	3	3	6
<b>Total</b>	<b>5</b>	<b>7</b>	<b>12</b>

**Table 1. Participants' demographics**

It is noted that 58% of the participants are women and 42% are men.

### Techniques.

Table 2 shows the use of social media in relation to the daily hours.

Daily hours	Occupation		Gender	
	Students	Teachers	M	F
<b>less than 1</b>	0	1	1	0
<b>1 – 2</b>	1	3	2	2
<b>3 – 5</b>	3	1	2	2
<b>6 – 7</b>	2	1	0	3
<b>Total</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>

**Table 2. The daily time spent in social media by participants**

The average use of social media among students is between 3 and 5 hours per day and among teachers between 1 and 2 hours. In terms of gender, most women use between 6 and 7 hours a day on social media; men are divided between 1 and 2, 3 and 5 hours a day.

### Data

Speaking of the most popular social platforms, Instagram and WhatsApp are mentioned with a frequency of 29% for students. Instagram is mostly used by women, while WhatsApp has a balanced use between genders (teachers and students). It is noted that the social network Tik Tok is relevant for students, with a frequency of 24% among the answers, and its use by teachers is not reflected. Finally, it

should be mentioned that women use a greater variety of social media applications than men.

Table 3 shows the factors that increase the credibility of information on social media.

Factors	Occupation		Gender	
	Students	Teachers	M	F
Visual material	3	-	-	3
Mentioning of a prestigious institution	1	3	3	1
Recommendation of an expert or a specialist in a subject.	1	1	1	1
URL source	-	1	1	-
Recommendation of close people	-	1	-	1
Public person	1	-	-	1
References	-	1	1	-

**Table 3. Credibility factors concerning information in social media for participants**

Among the factors, the visual material is more relevant for students and women. In turn, the mention of a prestigious institution is mostly used by teachers and men. It is also noted that the recommendation of an expert or specialist in a subject is considered equally among teachers, students and both genders.

Regarding the participants' ability to discriminate between true or false information on a scale from 1 to 5, where 1 is never and 5 is always. The option "3" was chosen by 1 student participant, "4" - by 2 students, and "5" - by 3 students. Among teachers, the scales "1, 4, 5" were chosen.

The "1" was selected by 1 teacher, "4" - by 4 teachers, "5" - by 1 teacher. Participants generally believe that they can discriminate against true or false information. 33% of participants are confident that they can always distinguish and only 8 percent of participants, which is women, believe that they can never do so.

As for the belief that the participants came to share false news in their social media, it was revealed that 5 students and 5 teachers (5 women and 5 men) believe that they have not shared any false news. Also, 1 student and 1 teacher (both female) have admitted to sharing fake news without knowing that it was false. Thus, 83% of students and teachers say they have not shared false information on their social media. It should be noted that 29% of women report sharing false information without knowing it compared to 0% of men.

In relation to the most credible social media, teachers' points favor the following platforms: LinkedIn with 3 points; YouTube, WhatsApp, Twitter, and Instagram with 2 points each; Facebook and Telegram with 1 point each. TikTok received 0 points and the participants chose "None" 2 times. For students, the most reliable social media are YouTube and Facebook with 3 points. Next are WhatsApp, Twitter, and Instagram with 2 points, and TikTok with one point. LinkedIn and Telegram were not chosen and the option "None" was selected once.

According to the gender, men opted for WhatsApp as the most reliable social network with 3 points. It was followed by Twitter, Instagram, and LinkedIn with 2 points each. YouTube and Facebook were chosen once, TikTok and Telegram received 0 points. The option "None" was selected once. Likewise, female participants found YouTube as the most credible social network with 4 points, followed by Facebook with 3 points, Twitter and Instagram with 2 points each. TikTok, WhatsApp, LinkedIn and Telegram were chosen once each and the option "None" was selected twice.

The social media that are considered most reliable are: YouTube, Facebook, WhatsApp, Twitter and Instagram. YouTube and Facebook are the most chosen among the students. Likewise, LinkedIn is the most reliable for teachers. Regarding gender differences, men choose WhatsApp as the most reliable social network, and women choose YouTube.

It is observed that both students and teachers have found false information in social media. In the case of students, 83% reported that false information was detected and 17% did not. Unlike teachers where 67% claim that they have detected false information and 33% are not sure. It should be noted that 80% of male participants are sure to detect false information, while 20% are not sure in their abilities to do so. Among female participants, 71% are capable of

detecting false information, 14% are not sure, and 14% specify that they cannot discriminate between false and true information.

Question: What do you do to differentiate true and false information?	Frequency			
	Always	Often	Some times	Never
Verify the source of the information	7	1	4	0
Source background check	7	3	1	1
Read about author of the medium of which I am informed	5	2	3	2
Check the URL	3	3	3	3
Verify the veracity of the information issued by social media	5	4	1	2
Check the references	6	5		1
Corroborate statistics	4	4	2	2
Analyze the date of publication	6	2	4	

**Table 4. Frequency of actions that participants do to discriminate false information**

There are two actions with the highest number of answers among students and teachers that point to the frequency "always": verify the information to discriminate false information and source background check. Altogether 7 responses correspond to 58.3% of the participants. 3 students and 4 teachers chose "verify the information to discriminate false information", of which 4 individuals are

women and 3 men. Regarding the action "source background check", it was chosen by 3 students and 4 teachers of which 4 individuals are women and 2 are men.

Then, it is observed that 50% of the participants who choose the frequency "always" allude to the action "verify the references used" and "analyze the publication date". 2 students and 4 teachers chose "verify the references used" and those are 4 women and 2 men. For the latter action "analyze publication dates", 3 students and 3 teachers opted for it.

In contrast, it is evident that 25% of responders choose "never" to point out that they do not examine the URL of the information read. Of the 25% mentioned, 2 are students and 1 is a teacher; of these, 3 are female. Finally, 17% "never" read about the author and "never" corroborate statistics. The action "read about the author" was chosen by 1 teacher and 1 student, both women. Regarding the action "confirms the information of the social media", 2 teachers opted for it, a man, and a woman. Finally, the action "corroborates the statistics" is selected by 1 student and 1 teacher, both women.

Regarding the information of how participants start following a page or a person on social media, 66% of participants are interested in the content that is proposed (among which 50% of students and 83% teachers). 8% of the participants are motivated by algorithm suggestions. 16% of teachers do not follow any page or any person on social media. Speaking of gender, women are mostly interested in content and algorithm suggestions (86% and 14% of responses respectively), while men are encouraged by interest (40%) or a recommendation from a friend (20%). 20% of men do not follow anyone on social media and another 20% are not motivated by anything of the above.

One of the questions addresses the reasons for using social media. According to the results, the options of "Inform", "Study", "Entertain" and "Maintain the relationship with loved ones or close ones" are the most chosen (n = 9 for each one).

In particular, 100% of students use them to educate and entertain themselves; 83% of students use social media to stay informed; 66% to maintain relationships, kill time, and to make purchases; 33% to work; 17% to socialize with new people, making new social relationships, investigating unknown people. The results are partially linked with the ideas of [8].



**Figure 1. Teachers' and students' keywords describing the concept of disinformation**

Among teachers 100% use social media to work; 83% - to maintain links; 66% - to inform themselves; 50% - to entertain and educate themselves; 33% - to buy; 17% - to socialize with new people and research unknown people.

Comparing genders, men indicated that they use social media mainly to stay informed - 80%; to work - 80%, to study - 80%, maintain the relationships - 80%; make purchases - 60%, to be entertained - 40%, socialize with new people - 40%, establish new social relationships - 20%, investigate unknown people - 20%, "kill time" - 20%.

On the other hand, women use social media to stay informed, entertain themselves, educate themselves and maintain the relationship with loved or close ones - 71%; "kill time" and to make purchases - 43%; work - 29%; investigate unknown people - 14%. The "Get followers" option was chosen 0 times.

The most used source of information for participants is Google or another search engine (83.3%). The non-scientific journals and LinkedIn pages were not chosen by any of the participants. National and international reports along with YouTube videos were chosen by more than half of participants (50% and 58.3% respectively). While 100% of students use Google and other search engines, only 66%

of teachers use it.

Categorizing by gender, men stated that they collect information from Google or another search engine 4 times; reports, YouTube videos - 3 times, scientific articles - 2 times; Telegram, TikTok videos, Instagram pages, Facebook pages, Twitter, WhatsApp, specialized books, scientific journals, newspapers/journals, blogs - 1 time each.

To contrast, women listed the following sources of collecting information: Google or another search engine - 6 times; YouTube videos - 4 times, national or international reports - 3 times; podcasts, scientific articles, Instagram pages, Facebook pages, newspapers / newspapers - 2 times; scientific magazines, TikTok videos, blogs, Twitter - 1 time each.

According to the words that the participants associate with the concept of disinformation (Fig. 1), the most recurrent word expresses the idea of ignorance or not knowing if something is true, followed by the idea of presenting incomplete or baseless information and words associated with lies or falsehood. There is also the irresponsibility or disinterest in the information that is shared, and finally words associated with a consequence that is detrimental or



**Figure 2. Teachers' keywords describing the concept of disinformation**

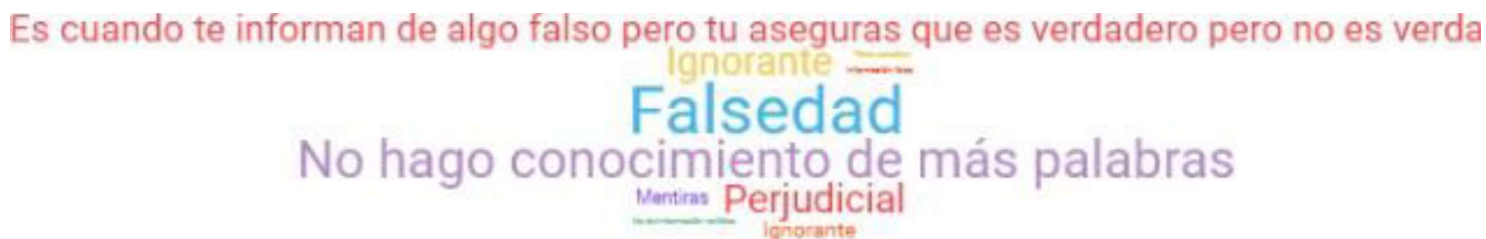


Figure 3. Students' keywords describing the concept of disinformation

involves a risk. In isolation, fear, desire, and delay are suggested, which coincides with previous studies [6];[13];[34].

Within the group of teachers (Fig. 2), emphasis is placed on the ideas associated with irresponsibility, in addition to including words that relate to risks and lack of questioning.

Speaking of students (Fig. 3), they repeatedly used words that describe disinformation as the spread of false information.

**Qualitative**

**Data**

As mentioned in the section on qualitative information analysis, Atlas.ti software was used for this procedure to respond to a "line-by-line" analysis, for the subsequent survey of categories (groups of codes), sub-categories (codes) and, in this way, develop graphical forms of presentation for the interpretation and analysis of the information collected.

In Table 5 there are the codes, description of codes, and their categories.

Code groups (Categories)	Codes (Sub-categories)	Description of Codes
<b>(InfPer)</b>  <b>Personal Information</b>	<ul style="list-style-type: none"> <li> Acsr</li> <li> Cmn</li> <li> Cnx</li> <li> DtsPer</li> <li> ImPer</li> <li> Vp&amp;Vv</li> </ul> <p>6 Código(s)</p>	<ol style="list-style-type: none"> <li>1. Harassment</li> <li>2. Communication</li> <li>3. Connection</li> <li>4. Personal data</li> <li>5. Personal image</li> <li>6. Personal &amp; virtual life.</li> </ol>

<p><b>(Com)</b>  <b>Communication</b></p> <ul style="list-style-type: none"> <li> Cmn</li> <li> Cnx</li> <li> DtsPer</li> <li> Info +</li> <li> Info -</li> <li> Soc +</li> <li> Soc -</li> <li> Vp&amp;Vv</li> </ul> <p>8 Código(s)</p>	<ol style="list-style-type: none"> <li>1. Communication</li> <li>2. Connection</li> <li>3. Personal data</li> <li>4. Valuable and real information for learning or other purposes</li> <li>5. False information or information of little value for learning or other purposes</li> <li>6. Positive socialization with people from different parts.</li> <li>7. Negative socialization with people from different parts.</li> <li>8. Personal Life vs. Virtual Life</li> </ol>
<p><b>(Inf+/Inf-)</b>  <b>Information /Disinformation</b></p> <ul style="list-style-type: none"> <li> BfiAl</li> <li> Cmn</li> <li> Cnx</li> <li> DtsPer</li> <li> Info +</li> <li> Info -</li> <li> TrmUs/Pol</li> </ul> <p>7 Código(s)</p>	<ol style="list-style-type: none"> <li>1. Search Information sources and online learning</li> <li>2. Communication</li> <li>3. Connection</li> <li>4. Valuable and real information for learning or other purposes</li> <li>5. False information or information of little value for learning or other purposes</li> <li>6. Terms of Use/Policies</li> </ol>

Table 5. Semantic map specifications table.



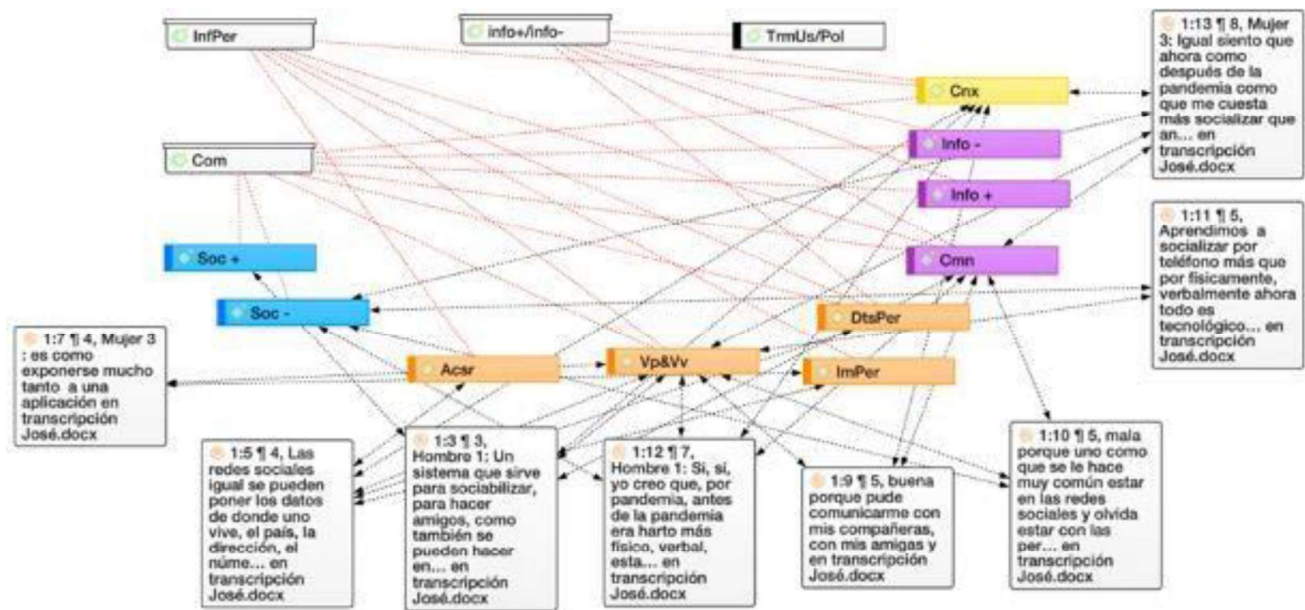


Figure 2. Semantic Map (focus group)

The names of the codes as well as the family code were liberally chosen by the investigators taking into account its theoretical character (theoretical categorization).

#### Qualitative analysis

The semantic map in Figure 4 shows how students express their opinion regarding social media and what implications they make about their personal information, communication and how such communication is altered – true or false information that informs or misinforms through social media. It can be observed how code groups intersect in codes that overlap in the same themes.

In this regard, students talk about their personal data and how social media requests such information, which would represent a primary form of communication and connection, either for learning or social purposes. Thus, according to the students, personal life is "coupled" to their "virtual life" and "personal image" in social media, which would affect communication and socialization in both positive and negative ways. A concept associated with "harassment" emerges here, since, from the students' perspective, "the exposure within an application" could negatively affect the interest in socialization. It reaffirms the ideas of [2] that students are aware of the risks posed by social media.

However, a large majority of the students claim that social media is beneficial when it comes to connecting with other people, creating friendships, and maintaining relationships. At the same time, another group of participants points out that, although social media helps to maintain contact with known people or "new friends", there is also a negative aspect associated with "forgetting to be with other people". Some add that now, after the most critical stage of the

Covid-19 pandemic, they feel " (... ) that now, like, after the pandemic, like, it costs more to socialize than before."

Finally, an important element that arises from the students' opinion is "the terms of use and policies" of social media as a form of ignorance (and lack of knowledge). The participants often do not read them, while the terms contain the knowledge about how users' personal data is used by social media, what the options and terms are that allow for searching for information or communicating.

#### Discussion

Within the framework of the present study, the aim was to analyze the use of social media regarding information/disinformation in the context of Covid-19 pandemic, from the perception of teachers and high school students of the Miguel de Cervantes School of the municipality of La Cisterna, Santiago de Chile. It is important to mention that social media has a high implication in various areas of teachers' and students' lives. Students' personal life is intertwined with their virtual image, affecting communication and socialization. As a result of our study, teachers use social media less hours a day than students, who tend to use social media daily according to Cadem [11]. This is also corroborated with previous studies of [6]. In turn, our study shows that women use social media more often than men.

Meanwhile, it is important to note that our study reveals that teachers most often use WhatsApp, while Instagram, WhatsApp and Tik Tok are mostly used by students, which reaffirms the Cadem [11]. Also, it is essential to mention that for both genders, WhatsApp is used with the same frequency, considering that during the Covid-19 pandemic,

the use of social media increased by 53% [35], but women in general tend to use social media more frequently.

Regarding the factors that increase the credibility of information on social media, it is highlighted that our study shows that students and women rely on visual material more than men and teachers, while the latter rely mainly on the mentioning that come from a prestigious institution. This can be confirmed by the study of [9] who mention that visual material tends to be more persuasive than any other forms of communication. On the other hand, the new technology makes it difficult to determine the difference between a fake and real video [24]. In addition, teens often struggle to determine the credibility of images and videos when they are presented in a misleading manner [31];[32]. Thus, our study and these other studies reveal that there is a need to create analysis and evaluation techniques to distinguish true or false information. Moreover, it is important to establish relevant criteria for today's technological world and hyper information [6], considering that there are many imitations and copies of scientific articles that are propagated through self-distribution [44].

Besides, students claim to have greater confidence to verify false information than teachers, which is also reflected in the words they use to define disinformation in social media. As the words that teachers mention about this concept are associated with negative emotions or experiences, students limit themselves to define the concept of disinformation literally. In general, both groups agree on associating disinformation with false content that is propagated through social media, which is in coherence with the definition of [13].

Consistency is observed when both students and teachers have a high ability to verify false information since when asked about their ability to discriminate against untrue information, most respond that they can do it. However, there are some answers that refer to not being able to discriminate information, which are reported by women. This coincides with what [6] said when he mentioned that it became difficult to discriminate between false and true information from different sources and content through social media to learn. From the above, it can be inferred that women project a space of doubt about their information sources.

An idea emerges among the participants that they are exposed to risks related to socialization from the social media use which have an impact on an emotional state that for [22] is related to the emotional stimuli that social media produces.

#### **Limitations and Future Research**

The main limitations are connected to the fact that this is a pilot study with an intact sample and a small number of participants (teachers and students), which restricts the projection and generalization of the study to other

educational realities and contexts. Also, the analysis should be deepened by conducting additional data collection stages that could be done through interviews as well as some inconsistent answers should be discarded in a larger study.

Finally, future work can be done in using a probabilistic sample and expanding the sample size, carrying out an analysis by cluster and exploring the influence of perception of disinformation from a gender perspective. Moreover, during the focus group participants mentioned that disinformation is spread through advertising, so it will be appropriate to investigate the presence of disinformation in various types of data. In addition, it will be relevant to continue exploring whether the participants' perception to discriminate between true or false information continues to be considered as a developed skill as well as it is relevant to compare this developed skill between different genders. In addition, the effect of disinformation on social media should be investigated more fully to find out if it increases or reduces participation on social media and the psychological effects on people.

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