Sociability and Technostress in Online Classes: The Effects on Students' Emotional Exhaustion During the COVID-19 Pandemic

Franziska Stoeckl
University of Innsbruck
franziska.stoeckl@uibk.ac.at

Andreas Eckhardt
University of Innsbruck
andreas.eckhardt@uibk.ac.at

Abstract

The move to online classes due to the COVID-19 pandemic has led students in high schools to experience new issues because of their constant use of information and communication technologies (ICTs). One of the consequences of constant ICT use is emotional exhaustion, which is raised or limited by different factors. The teachers' sociability is one of the factors that might decrease emotional exhaustion in students during online classes, while technostress could further it. Moreover, technostress creators could act as moderators on the effect of sociability on emotional exhaustion. These effects are tested with the help of a study with 592 participants, discovering that the sociability in online classes has an effect on how emotionally exhausted the students are. The antecedent technostress also has an effect on emotional exhaustion, thus furthering it. This paper contributes to the information systems (IS) literature by showing how students are affected by constant ICT use.

Keywords: Emotional exhaustion, sociability, online classes, technostress, COVID

1. Introduction

Imagine the following situation: it is April 2020 and Anna is a high school student, a digital native who despite her knowledge of information and communication technologies (ICTs) is overwhelmed by the online classes that were introduced due to the COVID-19 pandemic. She is experiencing stress due to the constant use of ICTs, which represents itself by facts such as that it takes her more time to do her work online and that she feels she is not good enough at using her computer. Furthermore, she misses how teachers used to incorporate non-educational aspects into classes in order to lighten the mood and to motivate the students to learn. Ever since the online classes were enforced, her teachers only focus on their teaching, are less responsive and do not show many signs of human warmth. This negatively affects Anna and she feels emotionally exhausted.

In today's world, virtually every person in our society is connected to an ICT at some point in time. The usage of ICTs has risen immensely over the past years, especially due to the COVID-19 pandemic and lockdowns that were introduced because of it (Garfin, 2020). Next to the positive effects of technology use, there are also drawbacks that need to be taken into consideration (Laurillard, 2007). Emotional exhaustion, for instance, is a consequence of technology use (Moore, 2000). It is important to deal with this effect that users of ICTs have to cope with in order to find ways to combat it. If this does not happen, with increasing ICT use is going to come higher emotional exhaustion in individuals.

Emotional exhaustion, which is a component of burnout (Maslach & Jackson, 1981), can be caused by increased ICT use and subsequent technostress (Ayyagari et al., 2011). It needs to be limited in order to improve ICT users' lives and to ensure that they do not have to endure negative effects from their ICT use.

One way to reduce emotional exhaustion due to online activities in others could be to portray sociability towards the people an individual works with via ICTs. Sociability makes up the social interactions between people and includes different determinants such as the amount of reciprocity or the trustworthiness between participants in online environments (Preece, 2001).

Portraying positive emotions and thereby showing sociability could limit emotional exhaustion in others, but so far, little research has been conducted on this interplay. There is limited knowledge of this topic to date, and in order to reduce emotional exhaustion in ICT users, more research must be done on this relation.

In order to give an example of ICT use, emotional exhaustion due to it (Debowska et al., 2020) and how sociability could limit it, this research discusses online classes during the COVID-19 pandemic, focusing on teachers' sociability towards students. We are also taking into consideration possible moderators of the

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effect of sociability on emotional exhaustion. The example at the beginning dealing with Anna, the student in online classes, was given in order to introduce the topic and to show how students might have felt at that time.

By conducting a study in high schools, we are concentrating on this research gap and are addressing how students are influenced by constant ICT use. In particular, the high school students used computers or laptops to do their schoolwork, thereby making use of online meeting systems in order to participate in classes. While students also had to interact with each other, the focus was put on the interaction between individual students and teachers. The research question is: *How is students' emotional exhaustion influenced by sociability and technostress in online classes during the COVID-19 pandemic?*

This paper is structured in the following way. As part of the next section, the theoretical background is described in order to develop hypotheses in the section that follows. The methodology of our study is discussed in the fourth section, followed by results and the discussion, which includes the contribution the paper makes as well as implications for research and for practice.

2. Research background

2.1. Sociability

Simmel and Hughes (1949) were among the first authors to discuss sociability in their papers. Their paper "The sociology of sociability" is one of the major impacts in the study of sociability. They put a focus on the sociological aspect of sociability. Sociability, according to them, "makes up its substance from numerous fundamental forms of serious relationships" (p. 255) and is focused on personalities. They determined that the joy of individuals always depends on the joy of other people (Simmel & Hughes, 1949). Sociability is summarized as "emotion recognition, empathy, perspective taking, and emotional intelligence" (Waytz & Gray, 2018, p. 473).

Sociability in online environments is important to take into consideration. When individuals already interact with each other offline intensively, technology enhances sociability. However, it decreases sociability when there is a replacement of offline activities with superficial online activities, which is often the case in online classes. The third way the use of online technology can influence sociability is to improve sociability when there is a lack of opportunities to create offline interactions with others (Waytz & Gray, 2018).

Sociability is described as "the nature of social interaction in an online community" (Preece, 2001, p. 354), which puts focus on the relevance of interacting with others online. In online environments, the concept of sociability is fundamental and has to be looked at differently than in the real, offline world. There are discussions of whether the internet enhances or diminishes sociability of other people. People in online environments are already more sociable than those who do not engage in online activities. Furthermore, individuals who spend time online tend to be better educated, in a better financial position, and younger, according to findings from Nie (2001).

In today's world, however, it must be said that almost everyone engages in activities on a computer, tablet or smartphone. This is especially true for students in online classes. It was discovered that sociability and trust are higher when there is a mixture of online and offline communication in communities than when communication is purely online (Matzat, 2010). However, a mixture of online and offline communication is often not possible in online education.

In situations like the COVID-19 pandemic, the emotions individuals display online play a major role in how other people perceive their warmth and how high the degree of sociability is in these interactions (Horovitz & Mayer, 2021). For instance, the emotional well-being of a teacher is something that can be recognized by their students and plays a part in how they are feeling emotionally as well. Moreover, students are more motivated when their instructors display positive emotions, while the students are less motivated when they show boredom. Positive emotions shown by teachers also positively affect students' learning (Horovitz & Mayer, 2021).

Besides positive emotions such as joy about the flexibility of online classes, negative emotions are perceived by students as well. For instance, students in online classes reported feeling anxiety and alienation as a result of online learning. They felt the need for connectedness, which they lacked severely in online classes. More negative effects are emotions such as fear about the new technology and stress because they had to cope with more than one role at the same time (Zembylas, 2008). Reasons for the feelings of alienation and loneliness could be related to "asynchronous interactions, technical challenges, and tutors' focus on properly conducting the learning activity" (Ez-zaouia et al., 2020, p. 1).

There exists a research gap regarding sociability in online classes that students perceive from their teachers, and how it affects their emotions. Depending on the ICT used, teachers could portray more or less sociability, which has not been studied yet.

2.2. Emotional exhaustion

People wo are emotionally exhausted are emotionally overstrained and have a reduced amount of emotional resources (Arens & Morin, 2016). Furthermore, emotional exhaustion is part of burnout (Halbesleben & Bowler, 2007). Characteristics of emotional exhaustion are "fatigue, debilitation, loss of energy, and wearing out" (Schwarzer & Hallum, 2008, p. 155). Emotionally exhausted people feel tired from day-to-day duties (Wright et al., 1998). It has an impact on job performance and the overall health of individuals (Ducharme et al., 2007).

2.3. Technostress

ICTs can increase stress in human beings when used excessively, which is called technostress. Even though ICTs have greatly influenced the work people do in a positive way, the productivity gains thanks to ICTs also come with a cost. Factors such as work overload and role ambiguity are influenced by the usability, intrusiveness and dynamism of technology (Ayyagari et al., 2011). Furthermore, technostress negatively affects people's productivity levels and furthers role stress (Tarafdar et al., 2007). There exist different technostress creators, such as techno overload and techno complexity (Tarafdar et al., 2007), which will be elaborated on in the hypotheses development.

The literature talks about how "techno eustress" (Tarafdar et al., 2019) can also positively affect people in work settings. However, most of the literature is focused on the negative aspects of technostress. For instance, when there is pressure to continuously gain new technical skills to keep up with the latest technologies, technostress develops, adversely affecting employees (Wang et al., 2008).

Technostress affects individuals in office settings, for instance, but also impacts other types of professionals, such as teachers. Primary and secondary school teachers have found themselves increasingly using technology in their work. Educators are thus experiencing further stress correlated with these technologies. Teachers show techno fatigue as well as techno anxiety (Estrada-Muñoz et al., 2020). The better teachers are at integrating ICTs in their lessons, the less technostress they perceive (Joo et al., 2016). In general, male teachers are more likely to show signs of technostress than female teachers. This result is interesting to note since, usually, more pressure is put on women in workplace settings (Estrada-Muñoz et al., 2020).

In addition to teachers, students can also portray signs of technostress due to the increased use of ICT in schools and universities. Even though there are positive effects to using ICTs in education (such as a boost in performance), the negative impact of technostress should not be forgotten (Qi, 2019). Up to this point, there has been a focus on technostress in online classes in universities instead of on students under the age of 18. In students, females are more likely to suffer from burnout due to technostress than males, which also harms their performance (Wang et al., 2020).

2.4 Research background overview

Table 1 summarizes the most important aspects of sociability, emotional exhaustion and technostress in order to give an overview of the research background.

Table 1

Research background overview

Concept	Description	Causalities	Context
Sociability	"emotion recognition, empathy, perspective taking, and emotional intelligence" (Waytz & Gray, 2018, p. 473)	the emotions individuals display online play a major role in how high the sociability is (Horovitz & Mayer, 2021)	can be portrayed online or offline
Emotional exhaustion	"fatigue, debilitation, loss of energy, and wearing out" (Schwarzer & Hallum, 2008, p. 155)	caused by increased demands in professional or private environments (Wright et al., 1998)	caused by online or offline activities
Techno-stress	"caused by an inability to adapt or cope with new ICTs in a healthy manner" (Tarafdar et al., 2007, p. 302)	technostress creators such as techno overload and techno complexity further technostress (Tarafdar et al., 2007)	only caused by online activities

3. Hypotheses development

Sociability is a dominant factor in how students perceive teachers in online classes compared to in-person classes, the pre-pandemic norm. Human warmth, which is portrayed through sociability, is essential for interpersonal relationships and for how students perceive their teachers, which also has an effect on how well they learn new information. Happy emotions portrayed by teachers make students' performance better and improve learning outcomes (Horovitz & Mayer, 2021).

Online learning can lead both to positive and negative emotions in students. Among the positive emotions are that students are excited about the flexibility, while the negative emotions are mostly connected to isolation and the need for a connection to other people, i.e. the lack of sociability and human warmth (Zembylas, 2008). Learning processes and outcomes are majorly impacted by interpersonal relationships, which are difficult to develop in online environments. Online, the focus is solely put on the learning aspects instead of human interactions, which may lead students to get emotionally exhausted from online learning without sociability (Ez-zaouia et al., 2020). This would mean that a rise in sociability would lead to a decrease in emotional exhaustion in students.

The influence of sociability on emotional exhaustion is addressed in the following hypothesis:

> H1: The higher the sociability, the lower the emotional exhaustion in online classes.

Techno overload is a technostress creator and it entails that people have to perform their work faster and for a longer time (Tarafdar et al., 2007). Techno overload has increased due to the COVID-19 pandemic (Molino et al., 2020). It is a demand that has arisen in the past years next to an individual's workload (Ingusci et al., 2021). It has a big impact on individuals working with ICTs, affecting how much they work and how fast they work (Tarafdar et al., 2007). As employees are heavily affected by techno overload due to the COVID-19 pandemic (Molino et al., 2020), it is likely that the same happens to students during these times. Therefore, we hypothesize that more techno overload leads to more emotional exhaustion in students:

> H2: The higher the techno overload during the COVID-19 pandemic, the higher the emotional exhaustion in online classes.

If students are heavily affected by techno overload and are stressed due to it, there is a possibility that the sociability portrayed by teachers has less of a positive impact on how emotionally exhausted the students are. Techno overload stresses students and this could make a difference in how positively they perceive their teachers' warmth in online classes. If the students have to work longer and faster than they would in in-class lessons (Tarafdar et al., 2007), they are less capable to take in the sociability shown by their teachers. Thus, we hypothesize the following:

> H3: The higher the techno overload during the COVID-19 pandemic, the lower the effect of sociability on students' emotional exhaustion.

The second technostress creator is techno complexity, which entails people having problems with the complexity of different ICTs, and it makes them invest energy and time into understanding these ICTs better (Tarafdar et al., 2007). Thus, they take a longer time to perform their tasks in order to understand what they are doing. In online classes, students also have to deal with new, complex systems and thus, it is likely that they experience techno complexity, which in turn could lead to emotional exhaustion since they need more time to perform their tasks.

> H4: The higher the techno complexity during the COVID-19 pandemic, the higher the emotional exhaustion in online classes.

When students are experiencing techno complexity and they are influenced by it, it might happen that the sociability that is shown in online classes has less of an effect on students' emotional exhaustion. Experiencing techno complexity and thus being stressed because of how difficult it is to work with ICTs (Tarafdar et al., 2007) could make students focus on the ICTs more than on their teachers' portrayed human warmth. This would mean that even if the teachers are portraying sociability, the students do not realize it as well as they would if they were not experiencing techno complexity. We hypothesize that there is a moderating effect of techno complexity on the sociability's impact on emotional exhaustion:

> H5: The higher the techno complexity during the COVID-19 pandemic, the lower the effect of sociability on students' emotional exhaustion.

4. Methodology

A survey was created in order to measure the effects of different factors and their moderators on emotional exhaustion in students. Constructs which include at least three items each were created. The items were either adapted from the literature (Ayyagari et al., 2011; Tarafdar et al., 2007) or self-developed based on scale development and q-sorting procedures. In Appendix A, one can see the survey

items and their factor loadings, all of which are larger than 0.5, which is the limit suggested by Hair et al. (2019).

804 questionnaires were filled out by high school students in Austria and Germany, out of which 592 were returned in full. The survey was carried out in the spring of 2021. During this period, high school took place in a hybrid setting, with half of the class being taught in person and half of the class being taught online. All school subjects were taught this way, using different platforms to carry out online classes. Previously to the hybrid setting in the spring of 2021, all classes were alternated between being online, offline and hybrid starting in March of 2020.

The students who filled out the survey were between 14 and 21 years old, with an average age of 16.38 years. 82% of the survey respondents were women. This is due to the fact that a large proportion (46%) of the respondents frequents a secondary school for economic professions, which is a type of school that has a large percentage of female students. The other respondents either attended a regular high school (32%) or a secondary school for technical professions (22%).

5. Results

In order to test the hypotheses, the questionnaires were analyzed using structural equation modeling. The software SmartPLS (Ringle et al., 2015) was applied and the research model and the results are discussed in the following subsections.

5.1. Research model

To test our hypotheses, we created a model which also contains the control variables age and gender. Figure 1 shows the research model, including the effects of sociability, techno overload and techno complexity on emotional exhaustion with the moderating effects of the technostress creators.

Figure 1

Research model

Direct effect
Moderating effect
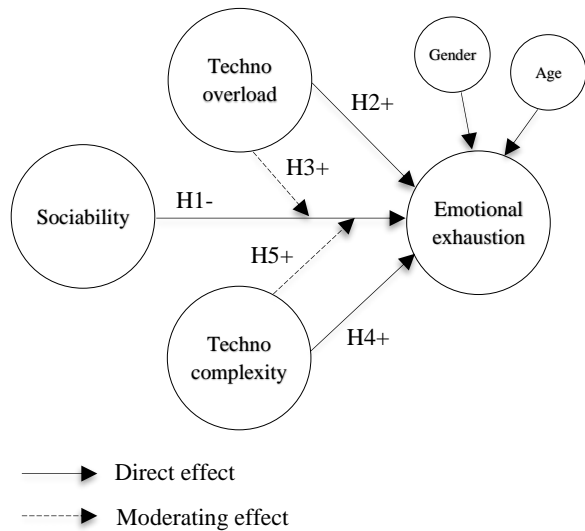
5.2. Measurement model

To check for the reliability of our constructs, we checked for Composite Reliability, Cronbach's Alpha and Average Variance Extracted (AVE) in our research model (Chin, 1998).

The threshold for AVE is 0.5 and the threshold for Cronbach's Alpha and Composite Reliability is 0.7 (Chin, 1998). As can be seen in Table 1, the thresholds are all met in regard to the model except for Cronbach's Alpha for techno overload, which is 0.602.

Table 2

AVE, Cronbach's Alpha and Composite Reliability for the research model

	AVE	Cronbach's Alpha	Composite Reliability
Emotional exhaustion	0.790	0.911	0.938
Sociability	0.688	0.778	0.869
Techno complexity	0.647	0.820	0.880
Techno overload	0.552	0.602	0.785

Regarding discriminant validity, view Table 3. It shows the Heterotrait-Monotrait ratios, including the original sample (O), the sample mean (M), standard deviation (STDEV), T statistics (|O/STDEV|) and P values. Values below 0.85 or 0.9 are significant, depending on the source cited (Henseler et al., 2015). The factors emotional exhaustion (EE), sociability (S), techno overload (TO), techno complexity (TC), role overload (RO), moderating effect 1 (M1) and moderating effect 2 (M2) are considered.

Table 3

Heterotrait-Monotrait ratios for the research model

|	O	M	ST DEV	|O/ST DEV|	P Values
M1 → EE	0,102	0,104	0,043	2,352	0,019
M2 →EE	0,150	0,151	0,041	3,617	0,000
M2 → M1	0,505	0,507	0,059	8,482	0,000
S → EE	0,454	0,457	0,040	11,352	0,000
S → M1	0,016	0,062	0,040	0,406	0,685
S → M2	0,050	0,072	0,043	1,177	0,240
TC → EE	0,586	0,589	0,035	16,793	0,000
TC → M1	0,039	0,066	0,028	1,387	0,166
TC → M2	0,066	0,088	0,031	2,160	0,031
TC → S	0,419	0,421	0,053	7,950	0,000
TO → EE	0,693	0,693	0,044	15,685	0,000
TO → M1	0,105	0,119	0,058	1,798	0,073
TO → M2	0,066	0,088	0,031	2,111	0,035
TO → S	0,413	0,415	0,058	7,162	0,000
TO → TC	0,738	0,739	0,044	16,809	0,000

5.3. Structural model

The R^2 value of the dependent variable emotional exhaustion is 0.419; thus, the model explains 41,9% of the emotional exhaustion variation. As shown in Figure 2, the path coefficient between sociability and emotional exhaustion is significant. Therefore, the first hypothesis is supported. This means that the higher the sociability due to online lessons, the lower the emotional exhaustion.

The relation between techno overload and emotional exhaustion is significant as well. Thus, Hypothesis 2 is supported: the higher the techno overload, the higher the emotional exhaustion. However, the moderating effect of techno overload on the impact of sociability on emotional exhaustion is not significant, meaning that Hypothesis 3 is not supported.

Furthermore, Hypothesis 4 is supported since the relation between techno complexity and emotional exhaustion is significant. Hypothesis 5 is also significant: the higher the techno complexity, the lower the effect of sociability on emotional exhaustion. Moreover, the control variable age has a significant effect on emotional exhaustion in students, while gender does not. All the relevant information regarding the structural model can be seen in Figure 2.

Figure 2

Structural model

*** p < 0.001, ** p < 0.01, * p < 0.05
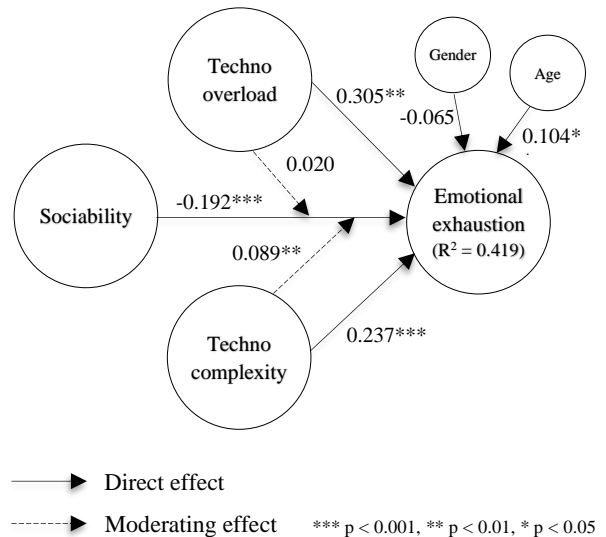
6. Discussion

6.1. Contributions

The goal of this study was to discover the effect of two technostress creators and sociability on students in online classes and how it impacts their emotional exhaustion. The measurement model as well as the structural model show that all hypotheses but one are supported; thus, sociability, techno overload and techno complexity have a significant effect on students' emotional exhaustion, with a significant moderating effect of techno complexity on the impact of sociability on emotional exhaustion. While other studies (e.g. Vladova et al., 2021) have shown that university students have accepted online classes and were able to cope well, we have proven that high school students struggled with this type of learning in a significant way.

There is a negative effect of sociability in online classes on emotional exhaustion. The higher the sociability, meaning the higher the personal interaction between teachers and students and if the interactions are not superficial (Waytz & Gray, 2018), the lower the emotional exhaustion. When students experience human warmth from their teachers in online classes, this decreases emotional exhaustion. It is thus vital to recognize this correlation and make sure that students experience this warmth so that they can be sure not to be emotionally exhausted from their online learning activities. This research contributes to the literature dealing with sociability in online environments, which is becoming increasingly important in today's world.

The techno stressor techno overload furthers emotional exhaustion, as proven by Hypothesis 2. Therefore, the faster students have to work in online classes to manage to get their work done and the longer they have to do the work (Tarafdar et al., 2007), the more emotionally exhausted they get. Thus, techno overload is not only a condition that furthers technostress (Tarafdar et al., 2007), but it also promotes emotional exhaustion.

Moreover, techno complexity also promotes emotional exhaustion. This was proven by Hypothesis 4 and it shows that a complex, new way of being taught in online classes exhausts students emotionally and that they do not know how to cope with the complexity of ICTs. If students do not know how to handle ICTs (Tarafdar et al., 2007), they become exhausted. This is certainly an issue needed to be addressed since teachers might be able to help students in need.

Techno complexity works as a moderator on the effect of sociability on emotional exhaustion. This means that the more techno complexity students experience, the smaller the effect of the joy other people (Simmel & Hughes, 1949) on their emotional exhaustion. Hypothesis 5 proves this. This shows that it is vital to decrease the fear of working with complex systems in students (Tarafdar et al., 2007) even more, since this moderating effect has a negative impact on students' emotional exhaustion.

To summarize and to answer the research question, it is important to emphasize that emotional exhaustion rises when technostress increases, while it diminishes when sociability increases in online classes. Thereby, this research contributes to the literature on digital learning in the sense that it shows how different factors in online classes decrease or increase emotional exhaustion. Focus is put on the factor sociability, which has not been studied extensively so far even though it has a great impact on students, equipping them with human warmth from teachers.

6.2. Implications for research

COVID-19 and its effects are some of the most vital subjects to talk about and to research in the year 2022 and beyond, which is why researchers should focus on it and its implications for every age group and gender. The ramifications of the crisis are becoming increasingly visible in everyday life, so it is key to further research this topic in the future. Researching this subject more thoroughly would be significant because of its meaning for society. Especially students and the effects of online classes on them should be further studied since the current students are going to be the leaders of tomorrow, thus it is important to properly educate them and raise them in a way that is sustainable and proper.

In particular, when looking at the individual factors that impact emotional exhaustion, it is first essential to recognize the effect of sociability on emotional exhaustion. This is important to know since researchers can suggest actions to improve sociability in online learning environments to mitigate emotional exhaustion in online classes.

Techno overload also has an impact on emotional exhaustion. In this study, the effect was ubiquitous for students between the ages of 14 and 21; it is of great value to know that techno overload has such an effect. However, simply knowing about it is not enough; researchers have to find a way to decrease techno overload, not only in students, but in all age groups. This is an important implication for research as well.

Furthermore, online classes also create techno complexity, which in turn furthers emotional exhaustion, which is critical to recognize in research since it is not possible to completely stay away from

computers and other ways have to be discovered to do so by researchers.

6.3. Implications for practice

Schools and in particular teachers have the power to shape their students' experience and how they feel during classes, no matter if they are online or in person. Even without online classes, digitalization is going to further the use of ICTs in classes and therefore, teachers have to be prepared to do what they can in order to raise sociability and decrease techno overload and techno complexity.

A way to increase sociability in classes could be to always include personal questions, anecdotes and stories into the classes in order to portray human warmth. Even when this does not have anything to do with the subject, it is important in order to increase sociability in students. This would be crucial to inform teachers about so they can also portray sociability, in online classes as well as in person.

Furthermore, in order to decrease techno overload, teachers could encourage students to take breaks between using their ICTs in order not to get stressed and to clear their mind from their online experience. Since techno overload entails working quicker and longer (Tarafdar et al., 2007), it would be important to incorporate breaks, therefore stopping the work for a while and thinking of something else.

Techno complexity needs to be limited in students in order to decrease emotional exhaustion. Teachers could help students by limiting their worries and their fear of making mistakes in online classes by repeatedly ensuring them that in fact, they are not doing much different than in classes in person. Even though the online environment is a change of scenery, the learning material and the exercises remain the same.

6.4 Limitations and future research

The first limitation that should be discussed is the fact that this study was conducted in two highly developed countries, concluding in that the results could look different in countries that are not as digitally equipped. Different cultures and upbringings could change the results of this study.

Furthermore, a fact that needs to be taken into consideration is that high school students are not the only students that have been affected by online classes, which is important to note. Younger children, such as elementary and middle school students, were also impacted by online classes, but they were not included in the survey.

Based on these limitations, future research could include comparisons of online classes in different countries as well as studies with younger students. Both of these aspects would be valuable contributions to research since different nationalities and different age groups experience the world and online classes differently, thus possibly being subject to different effects.

Furthermore, when looking at the effect of sociability, it would be interesting to find out more about it and what it impacts in online environments. It is vital to discuss how sociability online affects people of all age groups since it is such an important factor of interpersonal communication. Antecedents of sociability in online classes, for example, would be interesting to research due to its importance for society.

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Appendix A: Survey items and respective factor loadings

Sociability - self-developed:	
I feel that there is human warmth in online classes.	0.821
I feel that teachers pay more attention to students in online classes.	0.849
I feel that teachers are more responsive to students in online classes.	0.819
Emotional exhaustion – adapted based on Ayyagari et al. (2011):	
I feel drained from online class activities.	0.882
I feel tired from my work in online classes.	0.877
Working the whole school day in online classes is a burden for me.	0.880
I feel burned out from my work in online classes.	0.917
Techno overload – adapted based on Tarafdar et al. (2007):	
Online classes force me to work with a tight schedule.	0.800
I am forced to change my habits related to school in order to adapt to online classes.	0.788
I have more work to do at school due to greater difficulty in online classes.	0.629
Techno complexity – adapted based on Tarafdar et al. (2007):	
I do not know enough about online classes in order to fulfill my tasks to my teachers' satisfaction.	0.705
It takes me a lot of time to understand online classes.	0.842
I do not have enough time to improve my skills in online classes.	0.813
I often find it difficult to understand everything in online classes and to implement it.	0.851