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Unplugging for Student Success: Examining the Benefits of Disconnecting from Technology during COVID-19 Education for Emergency Planning

Samira Hosseini *, Claudia Camacho, Katia Donjuan, Luis Pego and Jose Escamilla

Tecnologico de Monterrey, Monterrey 64849, Mexico
* Correspondence: samira.hosseini@tec.mx

Abstract: The COVID-19 outbreak revealed the fragility not only of our species but also of society, which has demonstrated its ability to adapt to challenging conditions and to learn from disasters. One of the most pressing issues during the pandemic was the delivery of education during lockdowns. Education in emergency was established using various communication media, hastening the digitalization of education. However, this also highlighted the impact on the mental health of students, who were already experiencing overuse of the internet and electronic devices prior to the pandemic. In response, Tecnologico de Monterrey, a private Mexican university that also offers high school programs, launched the "Unplugged Day" initiative, which encouraged students to disconnect from electronic devices and participate in physical, cultural, creative, or reflective activities. This study applied a voluntary survey to 1850 students from March to May 2021 on a weekly basis, with the aim of analyzing symptoms of insomnia, emotions, perceptions of online education, sources of stress, and the need for professional support to manage their emotions in relation to their participation in Unplugged Day activities. Our results, obtained through a quantitative methodology, confirmed the impact of the emergency, lockdown, and forced remote education on the mental health of students. Furthermore, the results revealed that the Unplugged Day initiative is a strategy that promoted students' well-being during online education. The respondents also suggested strategies for promoting mental health and well-being of learners, whether in an emergency or not. These findings provide valuable information for governments and educational institutions to implement policies and strategies for planning education in emergency situations and for addressing the ongoing global problems of stress and mental health, which are related to the increasing use of electronic devices and the volatility, uncertainty, complexity, and ambiguity of global society. It is our responsibility to improve education so that it can play its role in preserving cultural heritage, overcoming adversity, rebuilding after catastrophes, and shaping a better future for generations to come.

Keywords: emotional well-being; educational innovation; stress; education in emergency; insomnia; higher education

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1. Introduction

As educational institutions strive to be a driving force for social improvement in the future, it is crucial that we equip students with the skills necessary to navigate the challenges of a rapidly changing world characterized by volatility, uncertainty, complexity, and ambiguity. The current global landscape, marked by economic instability, poverty, pandemics, and social inequality, requires future citizens and workers to be resilient and adaptable. In recognition of this, the European Commission [1] has emphasized the importance of teaching students and workers about physical and mental health, risk exposure, as well as mechanisms and resources for healing and support in case of mental illness.

In addition, the ability to recognize and respond to threats to personal and community well-being is an essential skill, especially in light of potential future social or financial crises

and natural disasters exacerbated by climate change. Being able to identify, assess, and mitigate risks to mental and physical health and well-being, as well as to the community and environment, is a vital component of resilience and adaptability in an ever-changing world. Education not only plays a vital role in social improvement, but it is also crucial for protecting and preserving our culture and for recovering from catastrophe.

Given the increasing reliance on online education, it is essential that we implement policies and practices to promote the care and awareness of the mental health and well-being of our students. The COVID-19 pandemic has highlighted the need for such efforts and served as a catalyst for progress in this area.

The mental and emotional welfare of individuals was affected by the COVID-19 lockdown [2–4]. Young students are among the most susceptible groups in society that can be negatively impacted by the isolation and lockdown imposed by the pandemic [5–7]. Although adolescents were not initially considered to be at high risk for contracting COVID-19, research has shown that they are vulnerable to experience stress and depression and can be negatively affected by other psychological repercussions of the current pandemic [4,6,7]. As of 31 July 2020, a total of 31,453,440 students at all levels of education worldwide had undergone school closures due to COVID-19 contingency measures. The situation was particularly dire for students in the Americas (South, Central, and North) given that most countries within the continent did not open schools for more than 41 weeks [8].

Quarantine is a strong public health initiative to prevent the transmission of contagious illnesses [9], but it may also leave significant psychological impacts on those who experience it [10]. The longer the quarantine period is, the more severe its effects on the adolescents' social networks and behavior will be [5]. Another issue that requires the attention of stakeholders and decision-makers within the educational system is the fact that the negative consequences of COVID-19 lockdowns may not entirely disappear once the pandemic is over. Research-based evidence suggests that negative psychological and psychosocial impacts caused by isolation can be long-lasting and persist beyond the current pandemic [10–12], with the most adverse effects on the young population [4]. Therefore, it is a concern for education institutions to monitor the emotional well-being of students and provide support throughout the emotional fluctuations they may experience during the pandemic [13].

The transition to online classes has increased screen media usage for communication and access to educational materials [14]. We must acknowledge it as a relevant factor for increased anxiety and heightened stress, among other psychological challenges [15]. In fact, excessive evening smartphone use is associated with a higher risk of poor sleep and insomnia symptoms [11]. In conjunction with the threat of the pandemic, students have naturally faced academic stress [7], which has sharpened due to the cognitive overload and additional stressors caused by the transition to online learning [16,17]. This raises the question of the extent to which schools can play a role in the well-being of students, as there is a pressing need for educational institutions to carefully monitor students' emotions and mitigate the adverse consequences of quarantine [18].

Another contributing factor is the limitation of physical activities when aiming to alleviate students' mental health and energy level [5]. In that regard, Chen et al. (2020) suggested a multi-stepped intervention strategy to diminish psychological problems imposed by lockdown. The first three steps involve (i) delivery of positive epidemic-related information; (ii) reducing opportunities for negative reactions/behavior; (iii) stress management; these are ideal for large-scale interventions and could be delivered through online platforms. Other researchers have recommended that academic institutions deliver clear and informative messages to students, develop online networking events and activities, and prioritize call centers and student support services to mitigate the adverse effects of the lockdown [13,18].

Tackling the emotional challenges that come with the prolonged pandemic is a collective effort, and the immediate measures taken as part of quarantine planning evidently contributed to reducing the overall global mental health burden [17]. Public policies must

be implemented to raise public awareness on mental health, including healthy sleep habits and limited use of electronic devices [19], as well as promoting strategies in educational institutions to ensure the well-being of adolescents.

Tecnologico de Monterrey, a leading university in Mexico and Latin America, announced a day without the use of smart devices and internet for its students under the heading of Unplugged Day. The purpose of this initiative was to dedicate students' time and energy to activities that may help in elevating their energy level and promoting their emotional health and well-being. Unplugged Day was recommended for undergraduate students and mandatory for every high school student across the 34 campuses around the country. Amid the COVID-19 quarantine, high school students revealed a heightened level of stress and anxiety [13]. Therefore, Unplugged Day was established as a means for taking a break from regular online lessons to engage students in physical activities, such as cooking, running, yoga, and cycling, among others that do not require the use of internet or smart electronic devices. We tracked students through online weekly surveys from 1 March 2021 and for 11 subsequent weeks. The Unplugged Day activity took place once every month during this period, which allowed us to analyze variables including insomnia, stress, anxiety, general and academic emotions, and energy level of the students.

In this study, we hypothesized that through the implementation of the Unplugged Day initiative, the youngest members of our educational community who disconnected from the virtually driven world that they became deeply immersed in during the COVID-19 lockdown would experience improved levels of mental well-being and sleep quality. Additionally, we sought to gain insight into the most frequent stressors experienced by our students during remote learning. From this experience, we might learn how to ensure the mental health and wellbeing of our students, a relevant issue in online remote learning and in education during an emergency.

2. Background

2.1. Stress: A Global Health Problem

Stress is a natural part of human experience, but when it exceeds certain limits, it can have adverse effects on health and well-being. A beneficial or healthy response to stress is known as eustress, which can lead to high performance in sports and work [20]. Stress not only supports our survivor instincts, but also helps effectiveness and efficiency [21]. Even so, beyond a certain threshold, stress is only detrimental to an individual's health, mood, productivity, relationships, and long-term quality of life [22].

Humankind is currently facing an array of challenges, including wars, economic instability, poverty, pandemics, and social inequality, all of which can contribute to chronic stress and other mental disorders. Individuals who have limited access to resources or experience any form of inequality or segregation may experience heightened levels of stress and have fewer resources for coping with it [23,24]. Even in developed countries, the rapid pace of technological change and the demands of fast-paced and demanding schedules in modern life can also contribute to chronic stress. The competing demands of work, family, and social obligations can make it challenging for individuals to find adequate time for relaxation and stress management, thereby threatening individuals' well-being.

Stress is considered a public health problem due to its impact on people's physical and mental health and on society as a whole [23,25]. Chronic stress can contribute to a variety of health problems, including heart disease, diabetes, obesity, anxiety disorders and depression. Additionally, stress can also affect academic and work performance and can have a negative impact on interpersonal relationships and overall well-being. The World Health Organization (WHO) has recognized stress as a global public health problem and has launched various initiatives to address this issue [23]. WHO recommends a holistic approach to addressing stress, which includes preventative and treatment measures, as well as promoting healthy lifestyles and supporting people affected by stress. According to the National Institute of Mental Health (NIMH), stress disorders are common in the United States [26], and the Centers for Disease Control and Prevention (CDC) states that chronic

stress puts your health at risk. Recently, the WHO has launched a campaign on mental health and stress (2020), recognizing the importance of addressing stress as part of mental health.

2.2. Adolescents and Academic Stressors

Adolescents are often vulnerable to stress due to the individual and social transitions they experience. Adolescence has earned the nickname of the "storm and stress" [27], given the psychosocial and physiological changes a person goes through while an individual is yet to resolve their response to stressors [28].

Academic stressors comprise a large portion of what the younger members of academic family have to deal with [29]; in fact, it is the primary source of stress among adolescents [29,30] and represents a significant concern for secondary and tertiary education [31]. Exams, homework, and additional school-related work outside the classroom are some of the main sources of academic stress in addition to giving presentations, competing with classmates, meeting deadlines, and experiencing academic overload [13,32,33]. The Organization for Economic Cooperation and Development (OECD), as part of its Program for International Student Assessment (PISA), surveyed approximately 540,000 15-year-old students about their academic feelings in 2015. The results were alarming, as 66% of the students reported feeling worried about poor grades, 59% declared feeling concerned about tests, and 55% stated feeling anxious about exams even when they were well prepared [34]. More recently, a study on 150 adolescents reflected that no student was free from stress, and a considerable number (50.7%) were facing mild academic pressure [35].

Ongoing academic stress hinders students' learning capacity, academic performance, sleep quality and quantity, and physical and mental health, while increasing the possibility of substance abuse and developing other destructive behaviors [31,36]. Students greatly rely on their executive functioning skills, such as paying attention, focusing on tasks until completion, and understanding different points of view, among others. However, these executive functions cannot be fully used under high stress levels [37]. In addition, the body's natural response to elevated rates of stress is anxiety [38], which in turn may precede the onset of depressive disorders as they are highly comorbid [39,40]. The scientific community recognizes that stress is currently affecting students' academic performance and overall well-being; however, together with anxiety, they threaten intellectual activity. Anxiety and stress decrease the working memory's capacity and efficiency as a result of a degraded cognitive function in tasks involving the working memory [41]. Enduring stress in high school is a key factor in higher education continuity, as it inhibits engagement and increases the risk of dropout [31]. In 2014, 72% of first-year Australian college students considered deferring or withdrawing from school due to poor emotional health caused by stress [42].

2.3. Consequences of Chronic Stress in Adolescents

Studies have shown a correlation between stress in adolescents and sleep disorders, which exacerbated as a result of the COVID-19 lockdown. Isolation caused by the pandemic may impair sleep at all age levels [43,44]. However, the impacts on sleep and mental health were more pronounced in adolescents, who reported more severe insomnia symptoms, poor sleep quality, a delayed bedtime, longer sleep latency, higher daytime dysfunction, and a more prevalent disruption of sleep habits [43,45]. A national study conducted by Gualano et al. during the last two weeks of the first Italian lockdown from 19 April to 3 May 2020 found that depression (24.7%), anxiety (23.2%), and sleep disturbances (42.2%) were prevalent in the Italian population [46]. Particularly, insomnia and tiredness were found to negatively impact cognitive, learning, and emotional regulation skills [47]. Furthermore, the COVID-19 pandemic has led to a high prevalence of sleep problems among adolescents and young adults [43,48]. A survey of 4314 Italian children and adolescents conducted between 7 May and 15 June 2020 found a significant and homogeneous delay in sleep/wake schedules [49]. Additionally, a study of 122 American tenth graders conducted by Becker

et al. (2021) revealed concerning delays in sleep and wake times, as well as difficulties initiating and maintaining sleep during lockdown [50].

Unplugging refers to reducing the use of technology and digital devices and limiting exposure to social media and other digital content [51]. By unplugging, students aim to increase focus and productivity reducing academic stress and avoid developing or exacerbating psychological concerns, such as stress, anxiety, and depression. To break this cycle and reduce digital technology use, it is important to promote self-control, the willingness to increase overall performance, improve well-being, and maintain real-life relationships [52].

2.4. Communication and Information Technologies and Their Impact on Mental Health

While online learning leveraged technological advancements to benefit the students in various ways, including the emergency delivery of education amid COVID-19 lockdown, communication and information technologies have been threatening students' learning process and emotional health worldwide [13,33].

Throughout the COVID-19 pandemic, social media emerged as the primary means of communication [53,54]. In addition to connecting individuals with others, social networks have also served as a coping mechanism for dealing with the isolation caused by lockdowns [55]. However, social media also became an ideal platform to spread fear and anxiety related to the pandemic through the phenomenon of "infodemics", negatively impacting individuals' mental health [56].

A study involving 1018 senior high school students revealed that 56.9% believed that the effectiveness of emergency remote education was poorer than in-person modalities [7]. Social isolation can lead to increased anxiety, stress, low mood, fear, frustration, and boredom [25,57,58]. Furthermore, online learning and difficulties in completing schoolwork can further contribute to the onset or progression of psychological effects such as stress [59]. A survey conducted on 270 participants by Aguilera-Hermida (2020) revealed that the virtual setting constituted a major challenge for students, arguing that staring at the screen for extended periods caused fatigue which made bearing the class further difficult. On the one hand, educators may feel that they have lost control over the class dynamic, leading to an increase in homework and assignments to ensure the learning outcomes [59,60]. On the other hand, stress due to increased workload is a common issue in study-at-home programs, which can be a burden for students [59,61,62]. Another issue to be taken into consideration is the strict measures exercised by teachers and professors to prevent academic dishonesty in tests and exams, such as increasing their complexity and shortening exam times. It is noteworthy that academic stress is a concerning matter as it may lead to low self-esteem [32,63], which has been found to be correlated with suicidal ideation [63]. Studies have found that academic stress was present in 14% of youth suicide cases [64].

Amid COVID-19 lockdowns, several studies analyzed the response of the students to the sudden shift from in-person to online or virtual education. The identified effects range from decreased course completion for lower-performing and less-experienced students to declines in initial enrollment [65] and threats to the mental health and emotional well-being of the students. Wilczewski, Gorbaniuk and Giuri reported an increase in levels of loneliness among self-isolating students in online learning despite the positive influence of peers and family support [66]. A study conducted in Wuhan, China from 4 February to 9 March 2020, found that out of 286 high school students, most maintained good mental well-being levels [67]. However, the study also recognized that schools should train students to positively regulate their emotions and design counseling courses for psychological trauma, as developing post-traumatic stress symptoms (PTSS) became a possibility for many students [68]. Another study conducted in Iran from 14 to 31 March 2020 surveyed approximately 20,200 students from first to twelfth grade and found that despite the school closures, students reported an enthusiasm towards learning and school activities [69]. In contrast, a study conducted in Mexico with 1473 high school students found that they were not so enthusiastic about the stay-at-home education setup; meanwhile, the number

of weeks under quarantine played a critical role in students' mental health as well [13]. An online questionnaire applied from 13 March to 8 May 2020 showed that students suffered from negative feelings and low energy levels due to the lockdown and subsequent disruption of their social lives [13]. Another study performed on 8079 Chinese junior and senior high school students from 8 to 15 March 2020 demonstrated that there was a high incidence of depression (43.7%) and anxiety symptoms (37.4%), and a combination of both (31.3%), among the respondents [70]. A couple of months later, between 1 and 7 May 2020, researchers also detected an alarming frequency of depressive (52.4%) and anxiety symptomatology (31.4%), and a combination of both (26.8%), among 1,018 high school students from the Shandong province of China. These results are similar to those of the earlier study, highlighting the need for ongoing psychological support and attention for students during the COVID-19 pandemic [7].

The excessive and uncontrolled use of smart devices has been shown to have a negative impact on psychological well-being as it increases anxiety, depression, and stress symptoms, even prior to the COVID-19 outbreak [71]. In an effort to examine the correlation between the lockdown and internet usage, Duan et al. found that 22.28% of 3613 surveyed students reported experiencing depressive symptoms, while 29.58% declared to have spent more than five hours per day online [72]. Salfi, et al. demonstrated a direct relationship between the evening use of electronic devices and the development and exacerbation of sleep disturbances during home confinement due to the COVID-19 pandemic, independent of other psychological and circadian dimensions [19].

While the transition to virtual classes has resulted in reduced motivation, self-efficacy, and cognitive engagement [59], some used social media as a means of recovering academic effort. This can be beneficial if performed in moderation and outside of class time; however, inside the classroom, it can be a counterproductive distraction that may cause deviated attention and reduced student outcomes [73,74]. Locked inside their homes, where students have all types of smart devices at hand, social media usage represents a harmful obstruction to learning and well-being. Research shows that problematic smartphone and social media usage was correlated to reduced mental health during the pandemic [75]. Internet addiction can adversely affect cognitive processes, including decision making and creativity, and in some cases, users may develop an inability to be away from technology even for short intervals [76]. As such, there is an urgent need to promote digital detox among students [77].

In this study, we report on the implementation and outcomes of an initiative called "Unplugged Day" at a Mexican educational institution during COVID-19 pandemic. The primary goal of this initiative was to promote well-being and mental health among students forced to online education. The results might provide valuable insight on how to foster the development of self-awareness, a future skill, and a relevant topic in emergency education.

3. Methodology

The purpose of this study is to gain a deeper understanding of the emotional and well-being implications of full-time online education on adolescents and the impact of dedicated mental health and well-being interventions. This research took place amid COVID-19 lockdown and aims to address the following research question:

What is the impact of Unplugged Day as a dedicated mental health and well-being intervention on the emotional experiences and overall well-being of adolescents in full-time online education?

The findings of this study will contribute to the existing literature on the emotional and well-being experiences of adolescents in full-time online education and inform the development of interventions and policies to support the mental health and well-being of adolescents in the context of increasing online education. By providing answers to these research questions, this study aims to shed light on the emotional and well-being implications of education in emergencies as well as the effectiveness of dedicated mental health and well-being interventions in online remote education. At the same time, it

can inform the development of effective support for adolescents in emergencies or crisis situations, such as natural disasters, armed conflicts, or pandemics.

4. Unplugged Day Activity

The Unplugged Day initiative, implemented by Tecnologico de Monterrey (TEC), was designed to promote physical and mental well-being among students during the COVID-19 quarantine period. As part of the forced emergency remote education, this activity was designed for undergraduate students and high school students (HSS). The initiative aimed to encourage participants to disconnect from technology and engage in activities that promote physical and mental well-being, such as exercise, hobbies, and self-reflection.

To facilitate this, TEC organized various optional 30–60 min activities which were guided through webinars or streaming and recommended individual self-paced activities, such as crafting, table games, brain gym, and physical and mindfulness activities.

TEC implemented Unplugged Day during the spring semester of 2021 in 34 high schools and 26 campuses across Mexico. It was held on three non-consecutive days throughout the semester, on 25 February, 19 March, and 16 April 2021. Although participation in the initiative was optional for undergraduates, it was mandatory for HSS, and a percentage of their tutoring class grade was contingent upon their participation. TEC informed the parents of HSS about the Unplugged Day via email prior to the start of the semester. Furthermore, the institution reminded students and tutors about the event four days prior to each Unplugged Day.

5. Data Collection Procedures

We used an online survey powered by Qualtrics to collect data weekly from 1 March to 17 May 2021. According to the school calendar, the survey took place from the seventh to the seventeenth week of classes—identified as W1 to W11. A total of 6500 high school students (HSS) were selected to respond to the survey on a weekly basis and were randomly assigned numbers matching the institutional student identification to avoid duplicated responses. The invited students belonged to the 34 TEC high schools across Mexico.

It is noteworthy that while the Unplugged Day held a value in students' grade for tutoring class, participation in the survey was entirely voluntarily, with an approximate participation rate of 2–4% in relation to the total number of invitations sent. These sample sizes provide confidence intervals between 6% and 9% at a 95% confidence level. Table 1 shows the number of HSS respondents per week.

Table 1. Mexican high school students that responded to the survey by week (week 1 corresponds to 1 March to 17 March 2021, while week 11 corresponds to 11 May to 17 May 2021).

Week	Number of Respondents
W1	176
W2	193
W3	166
W4	152
W5	113
W6	160
W7	245
W8	125
W9	198
W10	177
W11	140
Total	1845

The personal information collected, stored, and analyzed from students was confidential. The students provided informed consents prior to the initiation of this project. The research project received approval from the Institutional Research and Ethics Review Committee within the Office of the Vice President for Research and Technology Transfer of

Tecnologico de Monterrey. We also adhered to the Declaration of Helsinki for research on human subjects. A total of 1850 HSS voluntarily answered the survey over 11 subsequent weeks. We removed five incomplete records from the database. Table 1 displays the number of Mexican high school students who answered the survey per week, while Table 2 displays their participation, grade (1st or Freshman, 2nd or Sophomore, and 3rd or Senior), and gender.

Table 2. Mexican high school students in relation to participation in the Unplugged Day initiative during mandatory online distance education implemented during COVID-19 lockdown.

		Gender		
Unplugged Day Participation	**Year in High School**	**Female**	**Male**	**Sum**
Partially unplugged from electronic devices	1	390	183	573
	2	177	86	263
	3	194	92	286
Entirely unplugged from electronic devices	1	106	66	172
	2	63	39	102
	3	45	36	81
No participation	1	99	73	172
	2	58	39	97
	3	51	48	99
	Sum	1183	662	1845

6. Survey

TEC proposed Unplugged Day to promote improved mental health and well-being among HSS during forced online education due to the COVID-19 lockdown. Studies had shown that students were experiencing symptoms such as tiredness, insomnia, anxiety, and stress as a result of the lockdown and online education [13,78]. Educators and educational institutions were seeking strategies to promote their mental health and well-being. We aimed to investigate the impact of Unplugged Day on HSS's emotional well-being and to identify potential ways of alleviating stressors associated with the forced online modality.

To gather information on students' perception of their well-being, we designed a survey in Spanish inspired by their most relevant emotions associated with confinement [13], school-related or academic emotions [79], sleeping quality [70], and academic stress [80]. Due to the pressing situation, we applied a preliminary version of the survey to 207 HSS from 22 February to 26 February 2021. From these preliminary results, we designed the final Spanish version of the survey in a timely and efficient manner (Table 3).

Table 3. The survey that was distributed among high school students of different campuses across Mexico under forced online lessons due to COVID-19 lockdown.

#	Question	Options
Q1	What was your energy level this week?	Very low, low, neutral, high, very high
Q2	Which of the following phrases do you identify with the most? This week I felt ...	Very stressed, stressed, neither stressed nor relaxed, relaxed, very relaxed
Q2.1	Which of the following situations made you feel stressed during the week?	Homework and assignments, grades, confinement, virtual classes, infection of relatives, familiar finances, familiar relationships, my relationship, personal appearance, death of a relative, my health, other

Table 3. *Cont.*

#	Question	Options
Q2.2	What do you think Tec de Monterrey could do to reduce your stress? Please select those options that best apply for you.	Dynamic teaching, better class explanations, less collaborative work, less homework, flexibility in deadlines, class activities focused on relaxation, empathetic teachers, planned activities, fewer mid-term exams, fewer quizzes, more unplugging, hybrid classes, face-to-face classes, is not a university problem, other
Q3	Which of the following phrases do you identify with the most? This week I felt . . .	Very tired, tired, neither tired nor rested, rested, very rested
Q4	Based on the following list of emotions, which of them did you experience most frequently this week?	Tranquil, happy, upset, sad, scared, surprised, angry, other
Q5	Based on the emotion you experienced during the week, do you think you need any help to manage it? (only for those respondents who experienced negative emotions)	Yes, No
Q6	Have you experienced insomnia in the last week (issues to fall asleep)?	Yes, all weekdays; yes, almost all weekdays (5–6 days); Yes, some days during the week (3–4 days); yes just a few days during the week (1–2 days); no, I have not experienced insomnia during the week
Q7	Had you experienced insomnia before the COVID-19 pandemic?	Yes, all weekdays; yes, almost all weekdays (5–6 days); Yes, some days during the week (3–4 days); yes just a few days during the week (1–2 days); no, I have not experienced insomnia during the week
Q8	How was your experience with online classes this week?	Very unsatisfactory, unsatisfactory, neutral, satisfactory, very satisfactory
Q9	Thinking about your academic experience during this week, what was the emotion you felt most frequently?	Worry, frustration, nervousness, satisfaction, boredom, joy/, confidence, uncertainty, enthusiasm, fun
Q10	Have you participated in "Unplugged day" activities?	Yes, no
Q11	Did you completely unplug from your electronic devices? (only for those respondents that did participate in "Unplugged day")	Yes, no

7. Data Analysis

The collected data underwent thorough cleaning to eliminate incomplete records, thus ensuring the validity of the results. Quantitative analysis was performed, including both descriptive and inferential statistics. Descriptive statistics were represented using bar and radar charts to showcase the distribution of categorical data, while inferential statistics were calculated using chi-squared tests (with a 95% confidence level and significance levels of 0.05 *, 0.01 **, or 0.001 ***) to examine the relationship between variables and insomnia symptoms and participation in the Unplugged Day activity. This approach ensured the reliability of the results by considering both the significance level and confidence level of the findings.

8. Results

From the total number of respondents, 50% belonged to the first year of high school (freshmen), while 25% corresponded to the second year (sophomores,) and the remaining to the third year (seniors).

HSS who responded to the survey were instructed to disconnect from all electronic devices for one day and engage in alternative activities such as cooking, yoga, baking, walking, cycling, and exercising, among others. Despite the value of the activity in students' grades and the purpose of the Unplugged Day being clearly communicated to the students, 20% of them refused to participate. Of the 80% who chose to participate in this initiative, 61% did not fully disconnect and only 19% abstained from all electronic devices for one day (Table 2). Additionally, the data show that among the participants, female students (64%) participated in Unplugged Day more than their male counterparts (35%).

Our analysis of high school students (HSS) in a private institution in Mexico revealed an alarming rise in the level of insomnia among those who reported experiencing this problem 'always' or 'frequently' throughout the course of the pandemic. Figure 1 reports insomnia's incidence in high schoolers pre- and intra- COVID-19 outbreak.

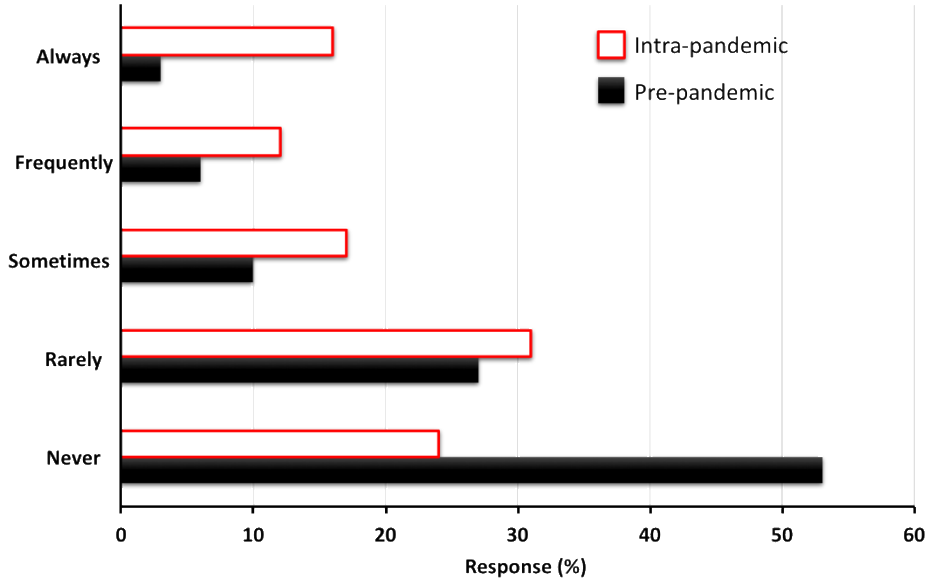


Figure 1. Insomnia incidence reported by Mexican high school students prior to the COVID-19 outbreak and after one year under COVID-19 lockdown (from 1 March to 17 May 2021).

Further study on students' sleep through a chi-squared test revealed a dependency between insomnia and crucial factors, including energy level, tiredness, stress, dominant emotions, and the online component of their education (Table 4). This is of considerable importance, as a number of actions can be designed by not only the students or parents within the household, but also by educational institutions in order to improve the quality and duration of sleep.

Our study found that HSS who participated in the Unplugged Day initiative had higher energy levels and lower levels of stress and tiredness compared to those who did not participate. Thirty-five per cent of non-participants reported low energy levels, while only 27% of participants did. Stress levels were also 7% lower among participants, and they felt more relaxed and less tired compared to non-participants (See Figure 2). This finding is significant since in our past studies [13] we identified stress as one of the most alarming negative emotions that required specific attention from higher education institutions.

Table 4. Statistical test (chi-squared, confidence level 95%, significance level 0.05 *, 0.01 **, or 0.001 ***) for the independence of different variables with insomnia among HSS during COVID-19 lockdown.

Variable	χ^2	p	
Level of energy	330.27	0.0000	***
Tiredness	278.44	0.0000	***
Stress	161.56	0.0000	***
Insomnia before lockdown	535.74	0.0000	***
General dominant emotion	216.12	0.0000	***
Positive/negative emotions with/without the need for professional help	183.69	0.0000	***
School-related emotion	249.08	0.0000	***
Online education experience	128.94	0.0000	***

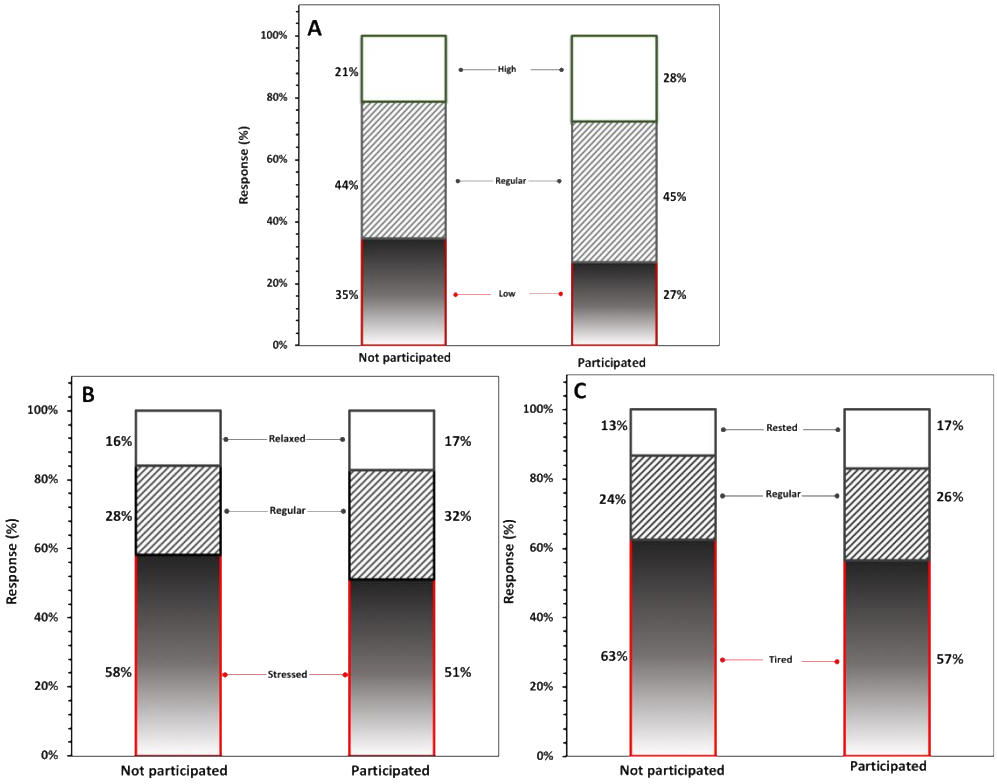


Figure 2. Energy (**A**), stress (**B**), and tiredness (**C**) levels of the high school participants of Unplugged Day versus those who did not take part in this mandatory initiative during online lessons due to COVID-19 lockdown.

High school students (HSS) who participated in the Unplugged Day activity reported more positive general and school-related emotions, as indicated in Figure 3. In comparison to non-participants, a higher percentage of Unplugged Day participants reported feeling "happy" (feliz) and "calm" (tranquilo(a)), while a lower percentage reported feeling "sad" (triste) or "disgusted" (disgustado(a)). Furthermore, a slightly higher percentage of participants reported experiencing "joy" (felicidad), "enthusiasm" (entusiasmo), and "satisfaction" (satisfacción) in relation to their school experience but significantly less "frustration" (frustración) and "boredom" (aburrimiento).

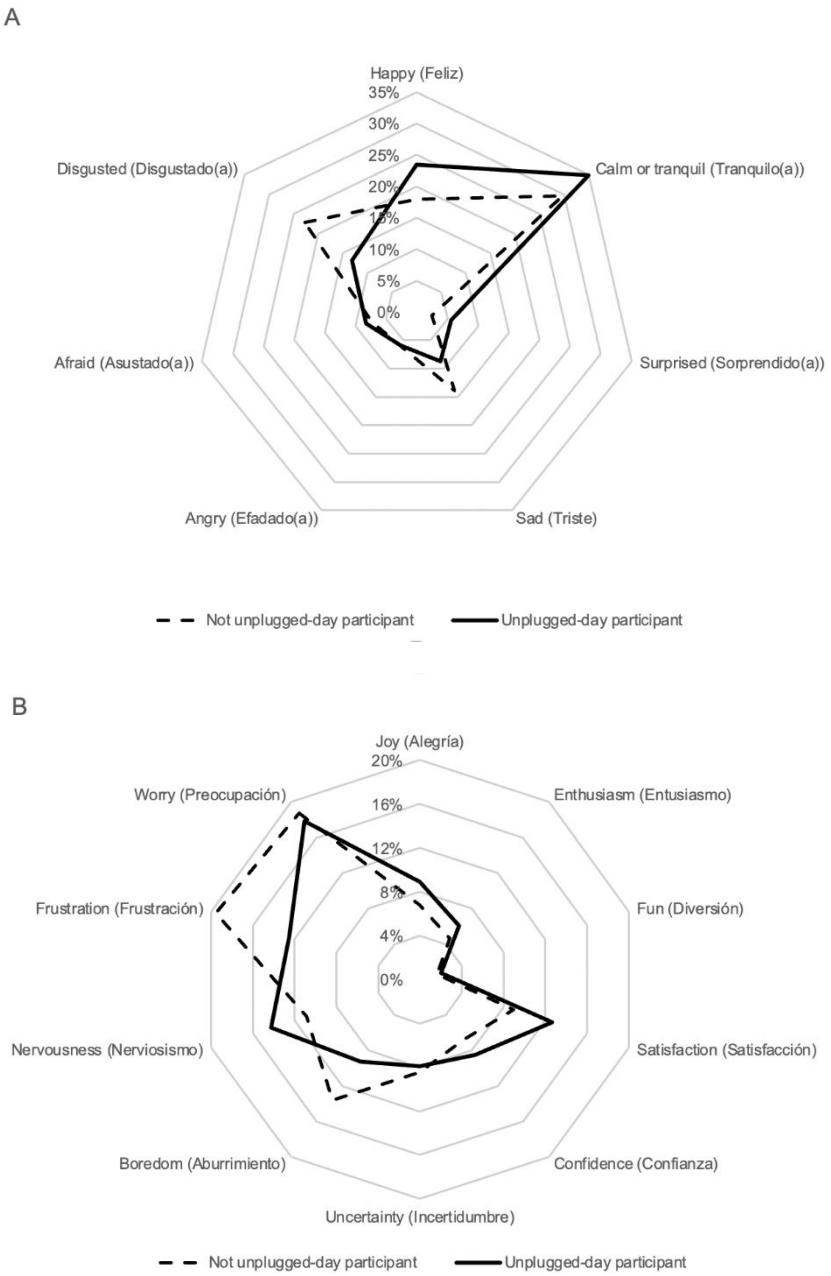


Figure 3. General (**A**) and school-related (**B**) emotions of the Unplugged Day participants and those who did not participate in the mandatory initiative during online lessons due to COVID-19 lockdown (1 March to 17 May 2021).

The HSS who participated in the Unplugged Day reported higher levels of satisfaction with their online education than those who did not participate. Both groups were generally satisfied with their education, but the satisfaction levels were more skewed towards the satisfactory side for those who participated in the Unplugged Day, as shown in Figure 4.

Participants in the Unplugged Day initiative reported a lower need for professional assistance in managing negative emotions, as shown in Table 5. This is consistent with the results in Figure 3, which indicate that participants in the Unplugged Day felt calm and content while non-participants reported feeling displeased or even sad. This finding highlights the potential benefits of the Unplugged Day initiative in promoting mental health and well-being among students.

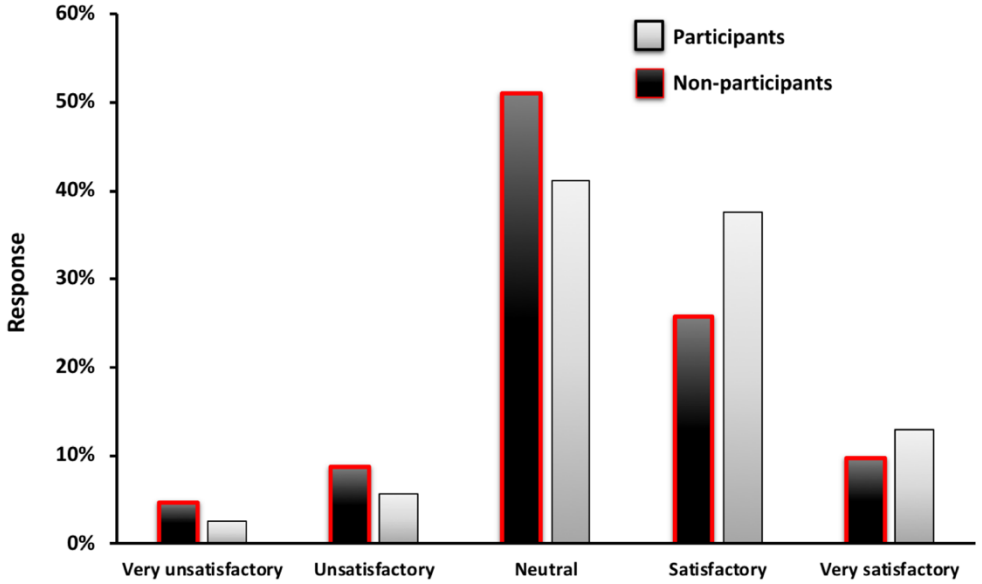


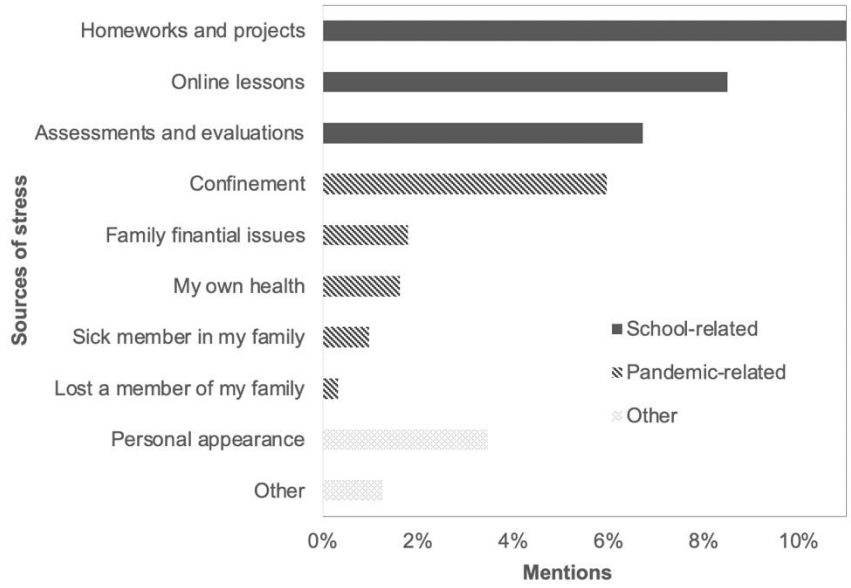
Figure 4. Percentage of Unplugged Day participants (N = 1477) and non-participants (N = 368) according to their satisfaction with online lessons during COVID-19 lockdown (1 March to 17 May 2021).

Table 5. The positive and/or negative emotions of the HSS during COVID-19 lockdown.

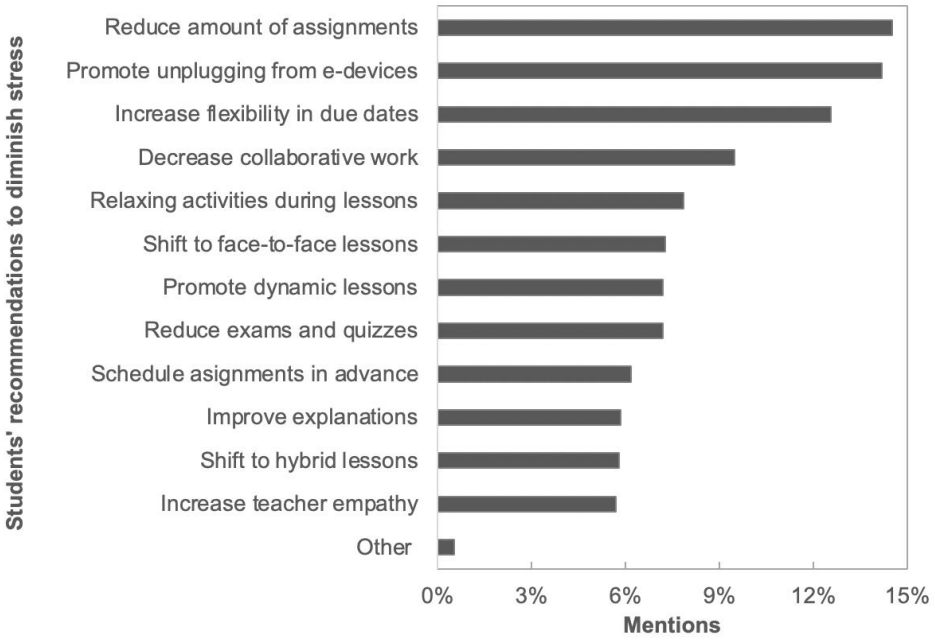
	Non-Unplugged Day Participants	Unplugged Day Participants
Positive emotions	184 (50%)	945 (64%)
No professional help needed to deal with negative emotions	158 (43%)	455 (31%)
Professional help needed to deal with negative emotions	26 (7%)	77 (5%)

Statistical analysis of our results confirms that participation in Unplugged Day is not independent of several descriptors of students' mental health and well-being. Table 6 reports the chi-squared test (confidence level 95%) for the participation in the Unplugged Day and different variables analyzed in this study. The most frequent emotion, psychological help needed, perception of online education, level of energy, tiredness, academic emotion, insomnia during lockdown, anxiety and stress for HSS are not independent from their participation in Unplugged Day. This dependency is also true for gender; female students have committed themselves to the Unplugged Day at a far more significant level than their male counterparts. Concerning the academic year, and therefore the age, the test is not conclusive on whether they depend on each other. Further research is needed to verify its validity for other adolescents, e.g., first-year undergraduates.

Regarding the stressors during the COVID-19 lockdown (Q2.1), high school students (HSS) reported being more stressed by school-related situations than by pandemic-related situations. The results shown in Figure 5A indicate 6% of the HSS identified the confinement as a source of stress; however, almost twice of them mentioned school-related sources of stress. This observation demands the action of educational institutions, since school added stress to the one caused by the emergency itself.



(**A**)



(**B**)

Figure 5. The main stressors of high school students during the COVID-19 lockdown (**A**) and their suggestions to reduce their stress level (**B**). During forced online distance education, the top two suggestions refer to diminishing the use of electronic devices.

HSS have identified reducing screen time and decreasing the number of assignments as the top recommendations to alleviate stress during emergency education. To co-create an optimal learning environment for students, we asked for their input on what considerations would make emergency education less stressful (Q2.2). While most of their suggestions can be applied regardless of whether it is an emergency, only two of them, moving to in-person and hybrid modalities, are related to lockdowns. Figure 5B summarizes their responses, showing that the top two recommendations are fewer assignments and more opportunities to unplug. Both indirectly and directly suggest moderation in the use of electronic devices. These results are important and can guide educational institutions in

implementing initiatives that promote the mental health and well-being of adolescents both during and outside of emergency education.

Table 6. Statistical test (chi-squared, confidence level 95%, significance levels of 0.05 *, 0.01 **, or 0.001 ***) for independence of variables and participation in the Unplugged Day (partially/totally/no participation).

Variable	χ^2	p		Dependency on Participation in Unplugged Day
Most frequent emotion	53.14	0.0000	***	Not independent
Psychological help needed	31.74	0.0000	***	Not independent
Perception of online education	36.98	0.0000	***	Not independent
Gender	18.20	0.0001	***	Not independent
Level of energy	28.79	0.0003	***	Not independent
Tiredness	28.56	0.0004	***	Not independent
Academic emotion	42.19	0.0010	**	Not independent
Insomnia during lockdown	23.47	0.0028	**	Not independent
Anxiety	10.45	0.0107	*	Not independent
Stress	16.89	0.0132	*	Not independent
Academic Year	5.77	0.2166		Inconclusive

9. Discussion

The COVID-19 pandemic has brought attention to the need for preparedness and response to future emergencies. A variety of potential future emergencies that humans may face have been identified, including natural disasters such as earthquakes, volcanic eruptions, hurricanes, tornadoes, and tsunamis, as well as extreme weather events resulting from climate change, such as severe floods, droughts, and storms. Additionally, the emergence and rapid spread of other infectious diseases across the globe is a potential concern. There is also a risk of technological disasters, including accidents or malfunctions in critical infrastructure systems, such as power grids, chemical plants, transportation systems, and financial systems. Furthermore, food and water scarcity may be exacerbated by overpopulation, political instability, and civil unrest, and armed conflicts may lead to humanitarian crises. Preparing for and addressing these potential future emergencies is crucial for mitigating their negative impact on individuals, communities, and society as a whole [81].

The following discussion focuses on the impacts of Unplugged Day as a dedicated mental health and well-being intervention on the emotional experiences and overall well-being of adolescents in full-time online education due to emergencies.

10. Insights on Adolescent Sleep during Quarantine and Implications for Future Crises Management

In agreement with the obtained results from Italy and United States, our study demonstrated an increase in the level of insomnia among the evaluated HSS during COVID-19 quarantine (Figure 1). Adolescents, during their high school years, naturally undergo psychosocial and biological changes that may disturb their sleep [47]. From the biological perspective, changes in the sleep/wake schedule, sleep phase delay, decreased sleep duration, and later endogenous circadian system are associated with adolescence [47,50]. Moreover, the desire to remain active and participate in multitude of experiences in their lives often leads to sacrificing sleep hours to socialize [82], stay connected to social media [46,83,84], or meet academic demands [85,86]. The COVID-19 outbreak, in nature, was a stressful event that imposed elevated levels of daytime stress, anxiety, and depression and contributed to sleep disruption as a natural byproduct [87]. Light exposure during the day plays a significant role in the nighttime melatonin hormone release to induce sleepiness [87]. Social distancing provoked the reduction in exposure to sunlight which

triggered an inconsistent sleep routine [88]. Using the bedroom as a workplace environment was another consequence of emergency remote learning and a threat to good quality sleep. These factors negatively impacted bedtime and sleeping behavior [87]. Confinement also exacerbated the use of technological devices at bedtime and promoted low activity levels, thus negatively affecting sleep, shortening the sleep duration, and lowering the sleep quality of the individual [87,89,90].

HSS who participated in Unplugged Day reported less frequency of insomnia. Interestingly, 16% of those who did not attend the Unplugged Day and remained attached to their devices stated that they slept well (reporting 'never' for insomnia throughout the night) compared to 11% who responded to the call positively and mentioned the same. This did not come as a surprise to us. In 2013, the term 'fear of missing out' (FoMO) was characterized as a "pervasive apprehension that others might be having rewarding experiences from which one is absent" [91]. In short, FoMO, a rapidly spreading term among the population, stands for 'fear of missing out' on experiences that others may have [92,93]. Digital dependency is a serious phenomenon to which the literature points out with several supporting studies; one of these studies indicates that college students faced significantly higher anxiety levels as time went by without having access to their smartphones [94]. Another study asked undergraduate students to leave their mobile phones unattended while performing a cognitive task; participants' heart rate and blood pressure increased as they heard their mobile phones' notification tones [95]. While online education offers its share of stress, using electronic devices as a means for effort recovery can account for an effective communication method to remain connected to the academic and social environments [46,73,78]. The FoMO, in essence, is selecting an option or activity at the expense of others, usually promoting the use of social networks for problematic behavior [74,93]. Therefore, we speculate that those who refused to join the Unplugged Day were victims of anxiety, fatigue, and FoMO.

11. The Impact of COVID-19 Quarantine and Unplugged Day on Energy Level, Stress, and Tiredness

The COVID-19 pandemic represented a unique threat that confronted us with unprecedented fragility and the efforts to contain it ushered in imminent mental and behavioral challenges [96]. Several countries worldwide adopted quarantine, which refers to strict isolation, as a step to mitigate the spread of COVID-19 [9]. Its purpose was to safeguard physical public health; however, undoubtedly it left an adverse psychological burden on individuals [97,98]. The COVID-19 lockdown obstructed humans' fundamental need for social connection [99]. This lockdown, as any other in case of disaster or crises, elevated loneliness levels and depression [25,57]. Under such circumstances, digital technologies became the greatest allies to bridge social distance, reach out to other fellow human beings, and ensure the continuation of social communication, work, and education [87,96,100]. Internet usage and social media exposure arose during lockdown [46,59]; they are positively correlated to an elevated incidence of mental health challenges as well [46,75,101]. It was the young population of students who faced the greatest difficulties since they excessively use electronic devices while their school duties remained the same if not increased [14]. Ironically, when the digital natives needed a break from the technological environment more than ever, they were demanded to stay connected.

Figure 3 reveals that participation of students in the Unplugged Day activity resulted in a reduced level of stress and tiredness. Our observations are in line with other studies conducted on college and university students during July 2020, which revealed that factors affecting psychological well-being, such as poor sleep, anxiety, and depression, were positively correlated with problematic smartphone and social media usage [75].

Today's adolescents have a tight connection with the internet, as Generation Z has had widespread access to technology throughout their upbringing [102]. While the internet has facilitated learning for individuals across age demographics, problematic internet and social media usage has a profound effect on young students' mental health and lifestyle [103,104].

Excessive use of electronic media and high screen exposure time is associated with adverse effects on sleep [105], tiredness [106], depression [105,107], and anxiety [108]. In addition, short-term consequences of such afflictions are poor academic performance, compromised physical, emotional, cognitive, and psychosocial health, in addition to risk-taking behavior [109,110]. The COVID-19 confinement further led to an overwhelming rise in the use of social media, streaming services, and gaming in adolescents [89,111,112]. Such activities, to a certain degree, served as a coping mechanism to alleviate stress and negative emotions [113]. Despite the short-term beneficial effects that the use of electronic devices provides, the long-term results can be devastating. Gaming addiction, compulsive internet usage, and high social media usage during the COVID-19 outbreak were found to be correlated with increased loneliness, poor sleep quality, and pandemic-related anxiety [89]. Therefore, governments and educational institutions must be aware of the impact of virtual social networking and device-based activities and the psychological complications they may impose on adolescents under confinement in emergencies.

12. The Impact of COVID-19 Quarantine and Unplugged Day on Adolescents' Emotions

The COVID-19 pandemic, as any other potential emergency, constituted a collective continuous traumatic stressor [114]; individuals faced uncertainty and preoccupation about the situation and its duration while experiencing stress and health-related concerns with their frequent and sudden changes in their routines [87]. Particularly, students were extensively exposed to the psychological burden imposed by COVID-19 lockdown [5–7]. The causes include school closures, online classes, and reduced physical activities [70], which resulted in a loss of stimulation and social support provided by their friends and social network, thus missing out on some fundamental necessities for optimal mental health [115]. The unprecedented uncertainty and stress [116], in addition to the unforeseen circumstances, bestowed them with anger [13], anxiety [2,3,6,7,13,78,115,117], boredom [13], depression [2,3,6,7,13,115], fear [5], frustration [13], sleep disorders [48,50,78], stress [2,3,6,13,78], tiredness [13], and overall poor mental health [115]. Research demonstrates a correlation between the isolation policy and the emergence or exacerbation of more severe psychological symptoms, such as obsessive-compulsive disorder, hypochondria, neurasthenia, and post-traumatic stress syndrome [5,96]. Our findings indicate that one out of six HSS who experienced negative emotions expressed the need for specialized support to manage their negative emotions.

13. The Urgent Need to Address Student Stress in the Online Learning Environments

According to our survey, students identified homework, assignments, grades, confinement, and the very nature of virtual classes as significant sources of stress. The effectiveness of web-based learning is known to be highly related to the user's degree of acceptance [118]. For that reason, it was expected that the students who were suddenly forced to switch from in-person to remote lessons would experience decreased motivation, self-efficacy, and cognitive engagement [59]. Students perceived the online learning environment as a major challenge that caused low study efficiency and negatively impacted their emotional well-being [7,59,78]. A study conducted on 358 students on 15 September 2020, revealed that online education was also causing stress and affecting the students' sleep due to excessive screen time (74.6%) [78]. Stress and sleep disturbances were proven to be associated with poor academic performance [31,119], thus leading to additional stress. Research suggests that academic workload also had a negative effect on students' health [62], which was alarming given the trend among educators to increase homework and assignments within the study-at-home learning scheme [59,61,62]. This prompted a call for sustained attention from every educational stakeholder to take these observations into careful consideration during decision making and to implement new practices that eliminate or minimize such stressors.

14. Strategies for Safeguarding the Mental Well-Being of Young Students

The literature has agreed on the need for intervention of the emotional and psychological ravages caused by crisis and emergencies such as pandemics; it proposed several alternatives to safeguard the mental well-being of young students during this and other emergencies. Chen et al. (2020) suggested a six-step large-scale strategy to address mental health during pandemics that can be extended to other emergencies; it consisted of (1) delivering positive emergency-related information; (2) reducing chances for negative behavior; (3) stress management; (4) improving family relationships; (5) cultivating positive behavioral habits; (6) adjusting academic expectations [5]. Aguilera-Hermida (2020), on the other hand, emphasized the role of educators in bringing aid to their students, promoting a positive attitude, encouraging motivation, supporting students to comprehend the importance of coping approaches, and promoting autonomous self-regulated learning that considered the learning methods and needs of each student [59,120]. A study conducted on 1975 HSS in New Zealand amid the COVID-19 pandemic demonstrated that supportive pedagogies implemented by educators were key to enhancing students' academic progress and well-being [121].

The psychological impact of emergencies, such as pandemics, crises, and war, on young students, cannot be ignored. In the past, it was noted that support for students during these times is crucial for their mental well-being [13]. To address this, it is important to provide validated, adequate, and timely information regarding the emergency [25]; improve communication with students and their parents; provide psychological assistance [25]; implement engaging methods to reduce boredom; and promote positivity and optimism. Moreover, the opinions of students should be taken into consideration in order to refine current strategies and inform future decision-making processes in educational institutions of all levels. This highlights the significance and relevance of addressing the emotional and psychological needs of students during emergencies for the betterment of society.

The results of our study indicate that participation in the Unplugged Day initiative implemented by Tecnologico de Monterrey during online remote education had a significant impact on the mental health and well-being of students. Our statistical analysis confirmed that participation in Unplugged Day was related to several positive aspects including higher energy levels, lower stress and tiredness levels, and more positive emotions compared to those who did not participate. Our study also found that female students participated in the Unplugged Day at a higher rate than male students and that further research is needed to verify the validity of the results for students of different ages. Even more, the top recommendations from students for reducing stress in remote learning were less homework and more unplugging initiatives. These findings emphasize the crucial role of student well-being in the design of educational environments, especially in emergency situations, and suggest incorporating such considerations into online remote education which will become increasingly prevalent in the future.

Modern life poses a significant threat to mental health and well-being, even in normal or secure conditions. Studies have shown that factors including social isolation, job insecurity, and technology overload can contribute to mental health issues such as depression, anxiety, and stress [122]. For example, a study published in the *American Journal of Epidemiology* found that social isolation increases the risk of premature death from all causes, including mental and physical health [123]. Additionally, research has shown that job insecurity is associated with increased mental health problems such as depression and anxiety [124,125]. Furthermore, technology overload, or the excessive use of technology, has been linked to negative effects on mental well-being, such as sleep disorders and decreased ability to focus, as previously discussed.

It is important to note that these negative effects are not limited to individuals in vulnerable or precarious situations but can also affect those in normal or secure conditions. For example, a study stated that the relationship between mental health and income for people living in high-income countries is not clear and has produced somewhat conflicting results [126]. This highlights the need for a comprehensive approach to addressing the

mental health impacts of modern life, including addressing social and economic factors that contribute to mental health problems and promoting healthy coping mechanisms and self-care practices.

Stress, depression, and anxiety are considered public health problems due to their impact on individuals' physical and mental health and on society as a whole [25]. For example, chronic stress can contribute to a variety of health problems, such as heart disease, diabetes, obesity, anxiety disorders, and depression. It can also affect academic and work performance and overall well-being. Therefore, it is important to take measures to address mental health issues and promote healthy lifestyles in order to improve the health and well-being of individuals and society as a whole.

Universities, as leaders of social change, should include policies and actions to promote self-care, health, and well-being among their students and graduates. These actions can include specific courses and programs in the curriculum designed to address the specific needs and challenges of university students and should be easily accessible to all.

15. Limitations and Future Directions

The present investigation into the academic practices of Mexican secondary and tertiary educational institutions aimed to promote the mental health and well-being of students during the COVID-19 lockdown was, to the best of our knowledge, the first of its kind. However, we must acknowledge that a primary limitation of our study was that the sample consisted of only those who voluntarily responded to the survey. This voluntary nature of the study may have introduced bias in the information obtained from students, since mood has been shown to affect the participation and information processing [127,128]. Additionally, the study was performed within a private university, where 54% of the students benefit from scholarships and financial support programs. Hence, this study does not consider the socioeconomic context of the students, despite the known direct link between socioeconomic inequity and poor mental health [129].

This was neither conducted as a longitudinal study nor as an experimental design. We hope that the catastrophic conditions will not be replicated under any circumstances. However, the appropriateness, pertinence, and timing of the research enabled us to gain insights from the COVID-19 pandemic emergency. The results are highly valuable and will assist us in preparing for and delivering education during quarantine, emergency, or catastrophic circumstances.

It is important to further explore initiatives aimed at promoting mental health and well-being. Self-awareness, which involves recognizing and understanding one's own emotions, thoughts, personality, and health needs, is a critical skill required for many future job prospects. However, as noted by Rasheed, Younas, and Sundus in their study [130], there is a lack of educational and personal strategies for enhancing self-awareness.

With the increased use of technology and online education, it is essential to ensure the mental health of students and enhance self-awareness. The effectiveness of initiatives such as Unplugged Day, which promote disconnection from technology and involvement in physical and reflective activities, should continue to be studied. As online education becomes more prevalent, it is crucial to ensure that mental health and self-awareness are prioritized and addressed not only to meet future job prospects but to ensure the mental health and well-being of future generations.

16. Conclusions

Education plays a crucial role in driving societal change, especially during times of crisis. It is the key to preserving our cultural heritage, overcoming adversity, rebuilding, and improving our future. In response to the COVID-19 pandemic, governments and educational institutions quickly developed and implemented emergency plans to ensure that education could continue even during lockdowns.

Amid COVID-19 lockdown, Tecnologico de Monterrey, a private Mexican university also offering high school programs, transitioned to online remote education and imple-

mented various strategies to support the mental health and well-being of its students. One of these strategies was the "Unplugged Day" initiative, which encouraged students to disconnect from electronic devices once a month and participate in physical, cultural, creative, or reflective activities.

We conducted this research to analyze the perceptions of students on their sleep quality, emotions, sources of stress, and need for professional support from 1 March to 17 May 2021, across 34 campuses nationwide where Unplugged Day was implemented. The analysis included descriptive and inferential statistics on data collected from a voluntary survey applied to 1845 Mexican high school students.

Respondents showed an increased incidence of insomnia, in line with previous research conducted globally. This is a cause for concern for educational institutions, as the study results showed that insomnia is interdependent with important indicators of well-being, including school-related emotions and the online education experience.

The Unplugged Day initiative had a positive impact on the emotional experiences and overall well-being of adolescents enrolled in full-time online education during the COVID-19 crisis. Despite its value in students' grades, only 19% of students fully participated; 61% partially participated; and 20% did not participate at all. Female students were found to engage more in the Unplugged Day initiative than male students. Students who participated in the Unplugged Day reported higher levels of positive general and school-related emotions, higher levels of satisfaction with online education, and a lower need for professional assistance in managing negative emotions.

The study also found that high school students reported being more stressed by school-related situations than by pandemic-related situations during the COVID-19 lockdown. This highlights the relevant and pertinent actions of Tecnologico de Monterrey addressing mental health and well-being of its community towards avoiding increasing the natural stress caused by the health crisis. The students recommended reducing screen time and the number of assignments as the top ways to alleviate stress during emergency education, suggesting moderation in the use of electronic devices. While most of the recommendations can be applied regardless of the emergency, only two of them, i.e., transitioning to in-person or hybrid modalities, were related specifically to lockdowns.

Despite the limitations of current research and the need for further research, the findings provide valuable insights into education during emergencies and can guide educational institutions in implementing initiatives that promote the mental health and well-being of adolescents both during and outside emergency education. This will help to build a better future for our learners by fostering their self-awareness and developing skills that are increasingly important in future job prospects.

The COVID-19 pandemic has been a catastrophe for humankind, but it has also brought about new gains: healthcare, technology and digitalization, global cooperation and solidarity, and the environment. Educational institutions must not be left behind; they must identify and leverage these gains to provide quality emergency education and enhance future skills in our learners. This will ensure that education keeps playing its role in building a better future for all.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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References

1. Commission, E. *Skills for Industry Curriculum Guidelines 4.0: Future-Proof Education and Training for Manufacturing in Europe: Final Report*; EU Publications: Maastricht, The Netherlands, 2020. [CrossRef]
2. Khan, A.H.; Sultana, M.S.; Hossain, S.; Hasan, M.T.; Ahmed, H.U.; Sikder, M.T. The Impact of COVID-19 Pandemic on Mental Health & Wellbeing among Home-Quarantined Bangladeshi Students: A Cross-Sectional Pilot Study. *J. Affect. Disord.* **2020**, *277*, 128. [CrossRef]
3. Odriozola-Gonzáles, P.; Planchuelo-Gómez, Á.; Jesús Irurtia, M.; de Luis-García, R. Psychological Effects of the COVID-19 Outbreak and Lockdown among Students and Workers of a Spanish University. *Psychiatry Res.* **2020**, *290*, 113108. [CrossRef]
4. Singh, S.; Roy, D.; Sinha, K.; Parveen, S.; Sharma, G.; Joshi, G. Impact of COVID-19 and Lockdown on Mental Health of Children and Adolescents: A Narrative Review with Recommendations. *Psychiatry Res.* **2020**, *293*, 113429. [CrossRef]
5. Chen, B.; Sun, J.; Feng, Y. How Have COVID-19 Isolation Policies Affected Young People's Mental Health?—Evidence From Chinese College Students. *Front. Psychol.* **2020**, *11*, 1529. [CrossRef] [PubMed]
6. Sun, S.; Goldberg, S.B.; Lin, D.; Qiao, S.; Operario, D. Psychiatric Symptoms, Risk, and Protective Factors among University Students in Quarantine during the COVID-19 Pandemic in China. *Glob. Health* **2021**, *17*, 1–14. [CrossRef]
7. Zhang, Z.; Zhai, A.; Yang, M.; Zhang, J.; Zhou, H.; Yang, C.; Duan, S.; Zhou, C. Prevalence of Depression and Anxiety Symptoms of High School Students in Shandong Province During the COVID-19 Epidemic. *Front. Psychiatry* **2020**, *11*, 570096. [CrossRef] [PubMed]
8. UNESCO. Education: From Disruption to Recovery. Available online: https://www.unesco.org/en/COVID-19/education-disruption-recovery (accessed on 9 January 2023).
9. Kaur, A.; Mittal, N.; Khosla, P.K.; Mittal, M. Machine Learning Tools to Predict the Impact of Quarantine. In *Predictive and Preventive Measures for COVID-19 Pandemic. Algorithms for Intelligent Systems*; Khosla, P.K., Mittal, M., Sharma, D., Goyal, L.M., Eds.; Springer: Singapore, 2021; pp. 307–323. [CrossRef]
10. Brooks, S.K.; Webster, R.K.; Smith, L.E.; Woodland, L.; Wessely, S.; Greenberg, N.; Rubin, G.J. The Psychological Impact of Quarantine and How to Reduce It: Rapid Review of the Evidence. *Lancet* **2020**, *395*, 912–920. [CrossRef]
11. Salfi, F.; D'Atri, A.; Tempesta, D.; Ferrara, M. Sleeping under the Waves: A Longitudinal Study across the Contagion Peaks of the COVID-19 Pandemic in Italy. *J. Sleep Res.* **2021**, *30*, e13313. [CrossRef] [PubMed]
12. Sun, S.; Lin, D.; Operario, D. Need for a Population Health Approach to Understand and Address Psychosocial Consequences of COVID-19. *Trauma Theory Res. Pract. Policy* **2020**, *12*, 25–27. [CrossRef]
13. Camacho-Zuñiga, C.; Pego, L.; Escamilla, J.; Hosseini, S. The Impact of the COVID-19 Pandemic on Students' Feelings at High School, Undergraduate, and Postgraduate Levels. *Heliyon* **2021**, *7*, e06465. [CrossRef]
14. Wiederhold, B.K. Children's Screen Time During the COVID-19 Pandemic: Boundaries and Etiquette. *Cyberpsychol. Behav. Soc. Netw.* **2020**, *23*, 359–360. [CrossRef]
15. Garfin, D.R.; Silver, R.C.; Holman, E.A. The Novel Coronavirus (COVID-2019) Outbreak: Amplification of Public Health Consequences by Media Exposure. *Health Psychol.* **2020**, *39*, 355–357. [CrossRef]
16. Bower, M. Technology-Mediated Learning Theory. *Br. J. Educ. Technol.* **2019**, *50*, 1035–1048. [CrossRef]
17. Grubic, N.; Badovinac, S.; Johri, A.M. Student Mental Health in the Midst of the COVID-19 Pandemic: A Call for Further Research and Immediate Solutions. *Int. J. Soc. Psychiatry* **2020**, *66*, 517–518. [CrossRef] [PubMed]
18. Lederer, A.M.; Hoban, M.T.; Lipson, S.K.; Zhou, S.; Eisenberg, D. More Than Inconvenienced: The Unique Needs of U.S. College Students During the COVID-19 Pandemic. *Health Educ. Behav.* **2020**, *48*, 14–19. [CrossRef] [PubMed]
19. Salfi, F.; Amicucci, G.; Corigliano, D.; D'Atri, A.; Viselli, L.; Tempesta, D.; Ferrara, M. Changes of Evening Exposure to Electronic Devices during the COVID-19 Lockdown Affect the Time Course of Sleep Disturbances. *Sleep* **2021**, *44*, 1–9. [CrossRef]
20. Rudland, J.R.; Golding, C.; Wilkinson, T.J. The Stress Paradox: How Stress Can Be Good for Learning. *Med. Educ.* **2020**, *54*, 40–45. [CrossRef]
21. Li, C.T.; Cao, J.; Li, T.M.H. Eustress or Distress: An Empirical Study of Perceived Stress in Everyday College Life. In Proceedings of the UbiComp 2016 Adjun: 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing, Heidelberg, Germany, 12–16 September 2016; pp. 1209–1217. [CrossRef]
22. Dubey, C.K.; Chaturvedi, S.; Chaturvedi, S. A Review on the Effectiveness of Current Approaches to Stress Management. *Asian J. Pharm. Res. Dev.* **2018**, *6*, 60–65. [CrossRef]

23. WHO. *World Health Organization Mental Health Action Plan 2013–2020, WHO Librar.*; World Health Organization: Geneva, Switzerland, 2013.
24. Deighton, J.; Lereya, S.T.; Casey, P.; Patalay, P.; Humphrey, N.; Wolpert, M. Prevalence of Mental Health Problems in Schools: Poverty and Other Risk Factors among 28000 Adolescents in England. *Br. J. Psychiatry* **2019**, *215*, 565–567. [CrossRef]
25. Torales, J.; O'Higgins, M.; Castaldelli-Maia, J.M.; Ventriglio, A. The Outbreak of COVID-19 Coronavirus and Its Impact on Global Mental Health. *Int. J. Soc. Psychiatry* **2020**, *66*, 317–320. [CrossRef]
26. Simmons, J.M.; Winsky, L.; Zehr, J.L.; Gordon, J.A. Priorities in Stress Research: A View from the U.S. National Institute of Mental Health. *Stress* **2020**, *24*, 123–129. [CrossRef]
27. Buchanan, C.; Hughes, J.L. Storm and Stress. In *Encyclopedia of Adolescence*; Levesque, R.J.R., Ed.; Springer: New York, NY, USA, 2011; pp. 2877–2885. [CrossRef]
28. Romeo, R.D. The Teenage Brain: The Stress Response and the Adolescent Brain. *Curr. Dir. Psychol. Sci.* **2013**, *22*, 140–145. [CrossRef] [PubMed]
29. Reddy, J.K.; Menon, K.; Thattil, A. Understanding Academic Stress among Adolescents. *Artha-J. Soc. Sci.* **2017**, *16*, 39–52. [CrossRef]
30. Ghatol, S.D. Academic Stress among Higher Secondary School Students: A Review. *Int. J. Adv. Res. Educ. Technol.* **2017**, *4*, 38–41.
31. Pascoe, M.C.; Hetrick, S.E.; Parker, A.G. The Impact of Stress on Students in Secondary School and Higher Education. *Int. J. Adolesc. Youth* **2019**, *25*, 104–112. [CrossRef]
32. Acosta-Gómez, M.G.; De la Roca-Chiapas, J.M.; Zavala-Bervena, A.; Rivera Cisneros, A.E.; Reyes Pérez, V.; Da Silva Rodrigues, C.; Novack, K. Stress in High School Students: A Descriptive Study. *J. Cogn. Behav. Ther.* **2018**, *1*, 1–10.
33. Styck, K.M.; Malecki, C.K.; Ogg, J.; Demaray, M.K. Measuring COVID-19-Related Stress Among 4th Through 12th Grade Students. *Sch. Psychol. Rev.* **2021**, *50*, 530–545. [CrossRef]
34. OECD. *PISA 2015 Results (Volume III) Students' Well-Being*; OECD: Paris, France, 2017. [CrossRef]
35. Poonam, K.D. A Study to Assess the Academic Stress and Coping Strategies among Adolescent Students: A Descriptive Study. *Indian J. Appl. Res.* **2019**, *9*, 28–29.
36. Subramani, C.; Kadhiravan, S. Academic Stress And Mental Health among High School Students. *Indian J. Appl. Res.* **2017**, *7*, 404–406. [CrossRef]
37. Ramli, N.H.H.; Alavi, M.; Mehrinezhad, S.A.; Ahmadi, A. Academic Stress and Self-Regulation among University Students in Malaysia: Mediator Role of Mindfulness. *Behav. Sci.* **2018**, *8*, 12. [CrossRef] [PubMed]
38. Rehman, U.; Shahnawaz, M.G.; Khan, N.H.; Kharshiing, K.D.; Khursheed, M.; Gupta, K.; Kashyap, D.; Uniyal, R. Depression, Anxiety and Stress Among Indians in Times of COVID-19 Lockdown. *Community Ment. Health J.* **2020**, *57*, 42–48. [CrossRef]
39. Kalin, N.H. The Critical Relationship Between Anxiety and Depression. *Am. J. Psychiatry* **2020**, *177*, 365–367. [CrossRef]
40. Wittchen, H.-U.; Hoyer, J.; Friis, R. Generalized Anxiety Disorder—A Risk Factor for Depression? *Int. J. Methods Psychiatr. Res.* **2001**, *10*, 52–57. [CrossRef]
41. Akhlaghi Jami, L.; Hassani-Abharian, P.; Ahadi, H.; Kakavand, A. Efficacy of Cognitive Rehabilitation Therapy on Stress and Anxiety of the High School Second Level Female Students. *Adv. Cogn. Sci.* **2020**, *22*, 111–119. [CrossRef]
42. Baik, C.; Naylor, R.; Arkoudis, S. *The First Year Experience in Australian Universities: Findings from Two Decades, 1994–2014*; University of Melbourne, Centre for the Study of Higher Education: Melbourne, Australia, 2015.
43. Amicucci, G.; Salfi, F.; D'atri, A.; Viselli, L.; Ferrara, M. The Differential Impact of COVID-19 Lockdown on Sleep Quality, Insomnia, Depression, Stress, and Anxiety among Late Adolescents and Elderly in Italy. *Brain Sci.* **2021**, *11*, 1336. [CrossRef]
44. Pinto, J.; van Zeller, M.; Amorim, P.; Pimentel, A.; Dantas, P.; Eusébio, E.; Neves, A.; Pipa, J.; Santa Clara, E.; Santiago, T.; et al. Sleep Quality in Times of COVID-19 Pandemic. *Sleep Med.* **2020**, *74*, 81–85. [CrossRef]
45. Viselli, L.; Salfi, F.; D'atri, A.; Amicucci, G.; Ferrara, M. Sleep Quality, Insomnia Symptoms, and Depressive Symptomatology among Italian University Students before and during the COVID-19 Lockdown. *Int. J. Environ. Res. Public Health* **2021**, *18*, 13346. [CrossRef] [PubMed]
46. Gualano, M.R.; Lo Moro, G.; Voglino, G.; Bert, F.; Siliquini, R. Effects of COVID-19 Lockdown on Mental Health and Sleep Disturbances in Italy. *Int. J. Environ. Res. Public Health* **2020**, *17*, 4779. [CrossRef] [PubMed]
47. Galván, A. The Need for Sleep in the Adolescent Brain. *Trends Cogn. Sci.* **2020**, *24*, 79–89. [CrossRef]
48. Zhou, S.-J.; Wang, L.-L.; Yang, R.; Yang, X.-J.; Zhang, L.-G.; Guo, Z.-C.; Chen, J.-C.; Wang, J.-Q.; Chen, J.-X. Sleep Problems among Chinese Adolescents and Young Adults during the Coronavirus-2019 Pandemic. *Sleep Med.* **2020**, *74*, 47. [CrossRef] [PubMed]
49. Bruni, O.; Malorgio, E.; Doria, M.; Finotti, E.; Spruyt, K.; Melegari, M.G.; Villa, M.P.; Ferri, R. Changes in Sleep Patterns and Disturbances in Children and Adolescents in Italy during the COVID-19 Outbreak. *Sleep Med.* **2021**, *91*, 166–174. [CrossRef]
50. Becker, S.P.; Dvorsky, M.R.; Breaux, R.; Cusick, C.N.; Taylor, K.P.; Langberg, J.M. Prospective Examination of Adolescent Sleep Patterns and Behaviors before and during COVID-19. *Sleep* **2021**, *44*, zsab054. [CrossRef] [PubMed]
51. Chawla, N.; MacGowan, R.L.; Gabriel, A.S.; Podsakoff, N.P. Unplugging or Staying Connected? Examining the Nature, Antecedents, and Consequences of Profiles of Daily Recovery Experiences. *J. Appl. Psychol.* **2020**, *105*, 19–39. [CrossRef]
52. Miksch, L.; Schulz, C. Disconnect to Reconnect: The Phenomenon of Digital Detox as a Reaction to Technology Overload. Lund University, 2018. Available online: http://lup.lub.lu.se/student-papers/record/8944615 (accessed on 22 July 2021).

53. Lisitsa, E.; Benjamin, K.S.; Chun, S.K.; Skalisky, J.; Hammond, L.E.; Mezulis, A.H. Loneliness Among Young Adults During COVID-19 Pandemic: The Mediational Roles of Social Media Use and Social Support Seeking. *J. Soc. Clin. Psychol.* **2020**, *39*, 708–726. [CrossRef]
54. Wong, A.; Ho, S.; Olusanya, O.; Antonini, M.V.; Lyness, D. The Use of Social Media and Online Communications in Times of Pandemic COVID-19. *J. Intensive Care Soc.* **2020**, *22*, 255–260. [CrossRef] [PubMed]
55. Valdez, D.; ten Thij, M.; Bathina, K.; Rutter, L.A.; Bollen, J. Social Media Insights Into US Mental Health During the COVID-19 Pandemic: Longitudinal Analysis of Twitter Data. *J. Med. Internet Res.* **2020**, *22*, e21418. [CrossRef]
56. Ahmad, A.R.; Murad, H.M. The Impact of Social Media on Panic During the COVID-19 Pandemic in Iraqi Kurdistan: Online Questionnaire Study. *J. Med. Internet Res.* **2020**, *22*, e19556. [CrossRef] [PubMed]
57. Killgore, W.D.S.; Cloonan, S.A.; Taylor, E.C.; Dailey, N.S. Loneliness: A Signature Mental Health Concern in the Era of COVID-19. *Psychiatry Res.* **2020**, *290*, 113117. [CrossRef]
58. Williams, M.L.; Morse, B.L.; DeGraffenried, W.; McAuliffe, D.L. Addressing Stress in High School Students During the COVID-19 Pandemic. *NASN Sch. Nurse* **2021**, *36*, 226–232. [CrossRef]
59. Aguilera-Hermida, A.P. College Students' Use and Acceptance of Emergency Online Learning Due to COVID-19. *Int. J. Educ. Res. Open* **2020**, *1*, 100011. [CrossRef]
60. Trust, T.; Whalen, J. Should Teachers Be Trained in Emergency Remote Teaching? Lessons Learned from the COVID-19 Pandemic. *J. Technol. Teach. Educ.* **2020**, *28*, 189–199.
61. Pajarianto, H.; Kadir, A.; Galugu, N.; Sari, P.; Februanti, S. Study from Home in the Middle of the COVID-19 Pandemic: Analysis of Religiosity, Teacher, and Parents Support Against Academic Stress. *J. Talent Dev. Excell.* **2020**, *12*, 1791–1807.
62. Yang, C.; Chen, A.; Chen, Y. College Students' Stress and Health in the COVID-19 Pandemic: The Role of Academic Workload, Separation from School, and Fears of Contagion. *PLoS ONE* **2021**, *16*, e0246676. [CrossRef] [PubMed]
63. Nguyen, D.T.; Wright, E.P.; Dedding, C.; Pham, T.T.; Bunders, J. Low Self-Esteem and Its Association With Anxiety, Depression, and Suicidal Ideation in Vietnamese Secondary School Students: A Cross-Sectional Study. *Front. Psychiatry* **2019**, *10*, 698. [CrossRef] [PubMed]
64. Bilsen, J. Suicide and Youth: Risk Factors. *Front. Psychiatry* **2018**, *9*, 540. [CrossRef]
65. Bird, K.A.; Castleman, B.L.; Lohner, G. Negative Impacts From the Shift to Online Learning During the COVID-19 Crisis: Evidence From a Statewide Community College System. *AERA Open* **2022**, 8. [CrossRef]
66. Wilczewski, M.; Gorbaniuk, O.; Giuri, P. The Psychological and Academic Effects of Studying From the Home and Host Country During the COVID-19 Pandemic. *Front. Psychol.* **2021**, *12*, 718. [CrossRef]
67. Yang, D.; Swekwi, U.; Tu, C.C.; Dai, X. Psychological Effects of the COVID-19 Pandemic on Wuhan's High School Students. *Child. Youth Serv. Rev.* **2020**, *119*, 105634. [CrossRef]
68. Liu, N.; Zhang, F.; Wei, C.; Jia, Y.; Shang, Z.; Sun, L.; Wu, L.; Sun, Z.; Zhou, Y.; Wang, Y.; et al. Prevalence and Predictors of PTSS during COVID-19 Outbreak in China Hardest-Hit Areas: Gender Differences Matter. *Psychiatry Res.* **2020**, *287*, 112921. [CrossRef]
69. Mirahmadizadeh, A.; Ranjbar, K.; Shahriarirad, R.; Erfani, A.; Ghaem, H.; Jafari, K.; Rahimi, T. Evaluation of Students' Attitude and Emotions towards the Sudden Closure of Schools during the COVID-19 Pandemic: A Cross-Sectional Study. *BMC Psychol.* **2020**, *8*, 1–7. [CrossRef]
70. Zhou, S.-J.; Zhang, L.-G.; Wang, L.-L.; Guo, Z.-C.; Wang, J.-Q.; Chen, J.-C.; Liu, M.; Chen, X.; Chen, J.-X. Prevalence and Socio-Demographic Correlates of Psychological Health Problems in Chinese Adolescents during the Outbreak of COVID-19. *Eur. Child Adolesc. Psychiatry* **2020**, *29*, 749–758. [CrossRef] [PubMed]
71. Kiran, S.; Sanjana, J.; Reddy, N. Mobile Phone Addiction: Symptoms, Impacts and Causes—A Review. In Proceedings of the International Conference on Trends in Industrial & Value Engineering, Business and Social Innovation, Karnataka, India, 28–30 March 2019; pp. 81–86.
72. Duan, L.; Shao, X.; Wang, Y.; Huang, Y.; Miao, J.; Yang, X.; Zhu, G. An Investigation of Mental Health Status of Children and Adolescents in China during the Outbreak of COVID-19. *J. Affect. Disord.* **2020**, *275*, 112–118. [CrossRef] [PubMed]
73. Wu, J.; Mei, W.; Ugrin, J.C. Student Cyberloafing In and Out of the Classroom in China and the Relationship with Student Performance. *Cyberpsychol. Behav. Soc. Netw.* **2018**, *21*, 199–204. [CrossRef]
74. Zimmer, J.C. Problematic Social Network Use: Its Antecedents and Impact upon Classroom Performance. *Comput. Educ.* **2022**, *177*, 104368. [CrossRef]
75. Islam, M.S.; Sujan, M.S.H.; Tasnim, R.; Mohona, R.A.; Ferdous, M.Z.; Kamruzzaman, S.; Toma, T.Y.; Sakib, M.N.; Pinky, K.N.; Islam, M.R.; et al. Problematic Smartphone and Social Media Use Among Bangladeshi College and University Students Amid COVID-19: The Role of Psychological Well-Being and Pandemic Related Factors. *Front. Psychiatry* **2021**, *12*, 647386. [CrossRef]
76. Scott, D.A.; Valley, B.; Simecka, B.A. Mental Health Concerns in the Digital Age. *Int. J. Ment. Health Addict.* **2017**, *15*, 604–613. [CrossRef]
77. Handa, M.; Ahuja, P. Disconnect to Detox: A Study of Smartphone Addiction among Young Adults in India. *Young Consum.* **2020**, *21*, 273–287. [CrossRef]
78. Chakraborty, P.; Mittal, P.; Gupta, M.S.; Yadav, S.; Arora, A. Opinion of Students on Online Education during the COVID-19 Pandemic. *Hum. Behav. Emerg. Technol.* **2021**, *3*, 357–365. [CrossRef]
79. Ochoa de Alda, J.A.G.; Marcos-Merino, J.M.; Méndez Gómez, F.J.; Mellado Jiménez, V.; Esteban, M.R. Emociones Académicas y Aprendizaje de Biología, Una Asociación Duradera. *Enseñanza Cienc.* **2019**, *37*, 43–61. [CrossRef]

80. Lin, Y.M.; Chen, F.S. Academic Stress Inventory of Students at Universities and Colleges of Technology. *World Trans. Eng. Technol. Educ.* **2009**, *7*, 157–162.
81. Burde, D.; Kapit, A.; Wahl, R.L.; Guven, O.; Skarpeteig, M.I. Education in Emergencies: A Review of Theory and Research. *Rev. Educ. Res.* **2016**, *87*, 619–658. [CrossRef]
82. Adams, S.K.; Williford, D.N.; Vaccaro, A.; Kisler, T.S.; Francis, A.; Newman, B. The Young and the Restless: Socializing Trumps Sleep, Fear of Missing out, and Technological Distractions in First-Year College Students. *Int. J. Adolesc. Youth* **2016**, *22*, 337–348. [CrossRef]
83. Liu, S.; Wing, Y.K.; Hao, Y.; Li, W.; Zhang, J.; Zhang, B. The Associations of Long-Time Mobile Phone Use with Sleep Disturbances and Mental Distress in Technical College Students: A Prospective Cohort Study. *Sleep* **2019**, *42*, 1–10. [CrossRef] [PubMed]
84. Sümen, A.; Evgin, D. Social Media Addiction in High School Students: A Cross-Sectional Study Examining Its Relationship with Sleep Quality and Psychological Problems. *Child Indic. Res.* **2021**, *14*, 2265–2283. [CrossRef]
85. Gaarde, J.; Hoyt, L.T.; Ozer, E.J.; Maslowsky, J.; Deardorff, J.; Kyauk, C.K. So Much to Do Before I Sleep: Investigating Adolescent-Perceived Barriers and Facilitators to Sleep. *Youth Soc.* **2018**, *52*, 592–617. [CrossRef]
86. Gillen-O'Neel, C.; Huynh, V.W.; Fuligni, A.J. To Study or to Sleep? The Academic Costs of Extra Studying at the Expense of Sleep. *Child Dev.* **2013**, *84*, 133–142. [CrossRef] [PubMed]
87. Altena, E.; Baglioni, C.; Espie, C.A.; Ellis, J.; Gavriloff, D.; Holzinger, B.; Schlarb, A.; Frase, L.; Jernelöv, S.; Riemann, D. Dealing with Sleep Problems during Home Confinement Due to the COVID-19 Outbreak: Practical Recommendations from a Task Force of the European CBT-I Academy. *J. Sleep Res.* **2020**, *29*, e13052. [CrossRef]
88. Becker, S.P.; Gregory, A.M. Editorial Perspective: Perils and Promise for Child and Adolescent Sleep and Associated Psychopathology during the COVID-19 Pandemic. *J. Child Psychol. Psychiatry* **2020**, *61*, 757–759. [CrossRef]
89. Fernandes, B.; Nanda Biswas, U.; Tan Mansukhani, R.; Vallejo Casarín, A.; Essau, C.A. The Impact of COVID-19 Lockdown on Internet Use and Escapism in Adolescents. *Rev. Psicol. Clínica Niños Adolesc.* **2020**, *7*, 59–65. [CrossRef]
90. Thomée, S. Mobile Phone Use and Mental Health. A Review of the Research That Takes a Psychological Perspective on Exposure. *Int. J. Environ. Res. Public Health* **2018**, *15*, 2692. [CrossRef]
91. Przybylski, A.K.; Murayama, K.; Dehaan, C.R.; Gladwell, V. Motivational, Emotional, and Behavioral Correlates of Fear of Missing Out. *Comput. Hum. Behav.* **2013**, *29*, 1841–1848. [CrossRef]
92. Dogan, V. Why Do People Experience the Fear of Missing Out (FoMO)? Exposing the Link Between the Self and the FoMO Through Self-Construal. *J. Cross. Cult. Psychol.* **2019**, *50*, 524–538. [CrossRef]
93. Milyavskaya, M.; Saffran, M.; Hope, N.; Koestner, R. Fear of Missing out: Prevalence, Dynamics, and Consequences of Experiencing FOMO. *Motiv. Emot.* **2018**, *42*, 725–737. [CrossRef]
94. Cheever, N.A.; Rosen, L.D.; Carrier, L.M.; Chavez, A. Out of Sight Is Not out of Mind: The Impact of Restricting Wireless Mobile Device Use on Anxiety Levels among Low, Moderate and High Users. *Comput. Hum. Behav.* **2014**, *37*, 290–297. [CrossRef]
95. Clayton, R.B.; Leshner, G.; Almond, A. The Extended ISelf: The Impact of IPhone Separation on Cognition, Emotion, and Physiology. *J. Comput. Commun.* **2015**, *20*, 119–135. [CrossRef]
96. Galea, S.; Merchant, R.M.; Lurie, N. The Mental Health Consequences of COVID-19 and Physical Distancing: The Need for Prevention and Early Intervention. *JAMA Intern. Med.* **2020**, *180*, 817–818. [CrossRef]
97. Li, X.; Fu, P.; Fan, C.; Zhu, M.; Li, M. COVID-19 Stress and Mental Health of Students in Locked-Down Colleges. *Int. J. Environ. Res. Public Health* **2021**, *18*, 771. [CrossRef]
98. Tommasi, M.; Toro, F.; Arnò, S.; Carrieri, A.; Conte, M.M.; Devastato, M.D.; Picconi, L.; Sergi, M.R.; Saggino, A. Physical and Psychological Impact of the Phase One Lockdown for COVID-19 on Italians. *Front. Psychol.* **2020**, *11*, 563722. [CrossRef]
99. Pietromonaco, P.R.; Collins, N.L. Interpersonal Mechanisms Linking Close Relationships to Health. *Am. Psychol.* **2017**, *72*, 531. [CrossRef]
100. Tang, Y.M.; Chen, P.C.; Law, K.M.Y.; Wu, C.H.; Lau, Y.-Y.; Guan, J.; He, D.; Ho, G.T.S. Comparative Analysis of Student's Live Online Learning Readiness during the Coronavirus (COVID-19) Pandemic in the Higher Education Sector. *Comput. Educ.* **2021**, *168*, 104211. [CrossRef]
101. Gao, J.; Zheng, P.; Jia, Y.; Chen, H.; Mao, Y.; Chen, S.; Wang, Y.; Fu, H.; Dai, J. Mental Health Problems and Social Media Exposure during COVID-19 Outbreak. *PLoS ONE* **2020**, *15*, e0231924. [CrossRef]
102. Lahti, H.; Lyyra, N.; Hietajärvi, L.; Villberg, J.; Paakkari, L. Profiles of Internet Use and Health in Adolescence: A Person-Oriented Approach. *Int. J. Environ. Res. Public Health* **2021**, *18*, 6972. [CrossRef] [PubMed]
103. Durak, H.Y. Modeling of Variables Related to Problematic Internet Usage and Problematic Social Media Usage in Adolescents. *Curr. Psychol.* **2018**, *39*, 1375–1387. [CrossRef]
104. Khaleel, M. Technology Addiction Among Students. *Psychol. Educ. J.* **2021**, *58*, 3646–3655. [CrossRef]
105. Ng, K.C.; Wu, L.H.; Lam, H.Y.; Lam, L.K.; Nip, P.Y.; Ng, C.M.; Leung, K.C.; Leung, S.F. The Relationships between Mobile Phone Use and Depressive Symptoms, Bodily Pain, and Daytime Sleepiness in Hong Kong Secondary School Students. *Addict. Behav.* **2020**, *101*, 105975. [CrossRef]
106. Van den Bulck, J. Television Viewing, Computer Game Playing, and Internet Use and Self-Reported Time to Bed and Time out of Bed in Secondary-School Children. *Sleep* **2004**, *27*, 101–104. [CrossRef]
107. Liu, X.; Luo, Y.; Liu, Z.-Z.; Yang, Y.; Liu, J.; Jia, C.-X. Prolonged Mobile Phone Use Is Associated with Poor Academic Performance in Adolescents. *Cyberpsychol. Behav. Soc. Netw.* **2020**, *23*, 303–311. [CrossRef]

108. Wu, X.; Tao, S.; Zhang, S.; Zhang, Y.; Chen, K.; Yang, Y.; Hao, J.; Tao, F. Impact of Screen Time on Mental Health Problems Progression in Youth: A 1-Year Follow-up Study. *BMJ Open* **2016**, *6*, e011533. [CrossRef]
109. Medic, G.; Wille, M.; Hemels, M.E. Short- and Long-Term Health Consequences of Sleep Disruption. *Nat. Sci. Sleep* **2017**, *9*, 151–161. [CrossRef]
110. Surat, S.; Govindaraj, Y.D.; Ramli, S.; Yusop, Y.M.; Surat, S.; Govindaraj, Y.D.; Ramli, S.; Yusop, Y.M. An Educational Study on Gadget Addiction and Mental Health among Gen Z. *Creat. Educ.* **2021**, *12*, 1469–1484. [CrossRef]
111. Kaya, T. The Changes in the Effects of Social Media Use of Cypriots Due to COVID-19 Pandemic. *Technol. Soc.* **2020**, *63*, 101380. [CrossRef] [PubMed]
112. King, D.L.; Delfabbro, P.H.; Billieux, J.; Potenza, M.N. Problematic Online Gaming and the COVID-19 Pandemic. *J. Behav. Addict.* **2020**, *9*, 184–186. [CrossRef] [PubMed]
113. Di Blasi, M.; Giardina, A.; Giordano, C.; Coco, G.L.; Tosto, C.; Billieux, J.; Schimmenti, A. Problematic Video Game Use as an Emotional Coping Strategy: Evidence from a Sample of MMORPG Gamers. *J. Behav. Addict.* **2019**, *8*, 25–34. [CrossRef]
114. Estes, K.D.; Thompson, R.R. Preparing for the Aftermath of COVID-19: Shifting Risk and Downstream Health Consequences. *Psychol. Trauma Theory Res. Pract. Policy* **2020**, *12*, S31–S32. [CrossRef]
115. Faisal, R.A.; Jobe, M.C.; Ahmed, O.; Sharker, T. Mental Health Status, Anxiety, and Depression Levels of Bangladeshi University Students During the COVID-19 Pandemic. *Int. J. Ment. Health Addict.* **2021**, *20*, 1500–1515. [CrossRef] [PubMed]
116. Wu, D.; Yang, T.; Hall, D.L.; Jiao, G.; Huang, L.; Jiao, C. COVID-19 Uncertainty and Sleep: The Roles of Perceived Stress and Intolerance of Uncertainty during the Early Stage of the COVID-19 Outbreak. *BMC Psychiatry* **2021**, *21*, 306. [CrossRef]
117. Cao, W.; Fang, Z.; Hou, G.; Han, M.; Xu, X.; Dong, J.; Zheng, J. The Psychological Impact of the COVID-19 Epidemic on College Students in China. *Psychiatry Res.* **2020**, *287*, 112934. [CrossRef]
118. Tarhini, A.; Hone, K.; Liu, X.; Tarhini, T. Examining the Moderating Effect of Individual-Level Cultural Values on Users' Acceptance of E-Learning in Developing Countries: A Structural Equation Modeling of an Extended Technology Acceptance Model. *Interact. Learn. Environ.* **2016**, *25*, 306–328. [CrossRef]
119. Frazier, P.; Gabriel, A.; Merians, A.; Lust, K. Understanding Stress as an Impediment to Academic Performance. *J. Am. Coll. Health* **2018**, *67*, 562–570. [CrossRef]
120. Gaeta, M.L.; Gaeta, L.; Rodriguez, M.d.S. The Impact of COVID-19 Home Confinement on Mexican University Students: Emotions, Coping Strategies, and Self-Regulated Learning. *Front. Psychol.* **2021**, *12*, 642823. [CrossRef]
121. Yates, A.; Starkey, L.; Egerton, B.; Flueggen, F. High School Students' Experience of Online Learning during COVID-19: The Influence of Technology and Pedagogy. *Technol. Pedagog. Educ.* **2021**, *30*, 59–73. [CrossRef]
122. Walsh, R. Lifestyle and Mental Health. *Am. Psychol.* **2011**, *66*, 579–592. [CrossRef] [PubMed]
123. Alcaraz, K.I.; Eddens, K.S.; Blase, J.L.; Diver, W.R.; Patel, A.V.; Teras, L.R.; Stevens, V.L.; Jacobs, E.J.; Gapstur, S.M. Social Isolation and Mortality in US Black and White Men and Women. *Am. J. Epidemiol.* **2019**, *188*, 102–109. [CrossRef]
124. Llosa, J.A.; Menéndez-Espina, S.; Agulló-Tomás, E.; Rodríguez-Suárez, J. Job Insecurity and Mental Health: A Meta-Analytical Review of the Consequences of Precarious Work in Clinical Disorders. *An. Psicol.* **2018**, *34*, 211–223.
125. Menéndez-Espina, S.; Llosa, J.A.; Agulló-Tomás, E.; Rodríguez-Suárez, J.; Sáiz-Villar, R.; Lahseras-Díez, H.F. Job Insecurity and Mental Health: The Moderating Role of Coping Strategies from a Gender Perspective. *Front. Psychol.* **2019**, *10*, 286. [CrossRef]
126. Cooper, S.; Lund, C.; Kakuma, R. The Measurement of Poverty in Psychiatric Epidemiology in LMICs: Critical Review and Recommendations. *Soc. Psychiatry Psychiatr. Epidemiol.* **2012**, *47*, 1499–1516. [CrossRef] [PubMed]
127. Das, E.; Vonkeman, C.; Hartmann, T. Mood as a Resource in Dealing with Health Recommendations: How Mood Affects Information Processing and Acceptance of Quit-Smoking Messages. *Psychol. Health* **2011**, *27*, 116–127. [CrossRef] [PubMed]
128. Dubad, M.; Winsper, C.; Meyer, C.; Livanou, M.; Marwaha, S. A Systematic Review of the Psychometric Properties, Usability and Clinical Impacts of Mobile Mood-Monitoring Applications in Young People. *Psychol. Med.* **2018**, *48*, 208–228. [CrossRef]
129. Macintyre, A.; Ferris, D.; Gonçalves, B.; Quinn, N. What Has Economics Got to Do with It? The Impact of Socioeconomic Factors on Mental Health and the Case for Collective Action. *Palgrave Commun.* **2018**, *4*, 10. [CrossRef]
130. Rasheed, S.P.; Younas, A.; Sundus, A. Self-Awareness in Nursing: A Scoping Review. *J. Clin. Nurs.* **2019**, *28*, 762–774. [CrossRef]

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