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Sleep and well-being during the Covid-19 pandemic: Remote and in-person learning for college students with and without disabilities

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Key words: Covid-19, sleep, well-being, remote and in-person learning, students with disabilities, chronotype

Abstract

We investigated chronotype, sleep and well-being among junior/community college students with and without disabilities during the remote (online) and in-person learning periods. Overall, we found no significant differences between students with and without disabilities either in chronotype or in sleep quality. Morningness and intermediate chronotypes were related to better sleep quality during both the remote and in-person periods. We also found that sleep quality was better during the remote period than during the in-person period. This finding was robust, as we found this both in quantitative and qualitative results. We also found that, surprisingly, students had little concern with the possibility of catching the Covid-19 virus. Findings on well-being during the remote and in-person periods were mixed, although we found mainly negative experiences during the in-person periods. The findings make it clear that return to “in-person” is NOT “return to normal”.

Introduction

With the announcement of the Covid-19 pandemic in the Spring 2020 semester, there was an immediate transition from in-person to remote teaching and learning in many Canadian colleges and universities. Faculty had to pivot to online teaching – something with which they were not familiar - and students had to transition to remote learning with which they, too, were unfamiliar. During this time there were many changes that affected post-secondary students’ sleep and well-being.

Understanding the impact of chronotype and disability on sleep in the context of the remote learning period of the Covid-19 pandemic and its aftermath in the return to in-person learning is vital to fill a knowledge gap in sleep and well-being research and to improve academic policies and planning.

Sleep and Well-Being During the Remote and the Return to In-Person Periods

The Covid-19 pandemic officially began in Canada in March 2020. It sent much of the country, including post-secondary students, home. With the exception of essential

services, many jobs, including post-secondary teaching, pivoted to remote learning platforms (Perreux, 2020). The Covid-19 related quarantine and the transition from normal life to suddenly living with the danger of an unknown virus caused much disruption of daily lives. The pandemic affected Canadians' sleep quality and their well-being (e.g., Osiogo et al., 2021) in the form of increased stress and anxiety. Greater social isolation due to the physical distancing policies (Nwachukwu et al., 2020; Smith & Lim, 2020) also took its toll.

In Québec, Canada's second largest province, the pivot to remote learning in the province's 49 junior/community colleges took place during a two-week period in March of 2020. Return to face-to-face learning did not occur until the Fall 2021 semester (Lowrie, 2022). A review of the literature shows that both the remote period (i.e., March 2020-August 2021) and the subsequent return to exclusively in-person learning a year and a half later brought their own stresses.

Remote period. During the remote period the literature shows that poor sleep was prevalent in most countries and across all ages (e.g., Saguem et al., 2022). Like others, post-secondary students experienced problems with sleep, such as insomnia (Al Miskry et al., 2021; Kayaba et al., 2023; Marelli et al., 2020). They also had difficulties with well-being such as decreased physical activity, bad mood, the experience of stress and worry, poor quality of life, difficulty socializing, changes in eating patterns and concerns about their own health and that of loved ones (Al Miskry et al., 2021; Gibbs et al., 2021; Gogoi et al., 2022; Hyun et al., 2021; Massar et al., 2021; Slack & Priestley, 2023; Son et al., 2020; Thiria et al., 2022). However, some positive changes were also reported including decreased sleep debt and less daytime sleepiness (Kayaba et al., 2023).

The remote period also led to reduced interactions during the day. With the Covid-19 virus limiting social encounters during leisure time, well-being was affected negatively for many (Gibbs et al., 2021). Barbieri et al. (2021) reported that the social encounters in their study population decreased by 50%. Furthermore, decreased mobility due to the Covid-19 restrictions as well as the use of online platforms for courses resulted in a marked decrease in physical activity for many, with subsequent adverse effect on sleep and well-being (Massar et al., 2021). For post-secondary students, there was increased anxiety and sedentary time and decreased physical activity (Thiria et al., 2022).

Return to in-person. Across different countries and regions, Covid-19 infection rates increased and diminished at different times and there were differences in vaccine availability and policy. Once Covid-19 cases diminished and research provided a better understanding of the virus, vaccines became available to protect the population. In Quebec, Canada's second largest province, all junior/community colleges returned to in-person education in September, 2022 (Lowrie, 2022). With the Covid-19 virus still circulating at that time, it was mandatory that masks be worn in class and that social distancing requirements be obeyed (Labbé, 2021), even though the population had a high rate of access to and acceptance of vaccination.

Salfi et al. (2022) showed that the return to in-person teaching in Italy led to earlier bed times and wake up times as well as decreased sleep time. In a Japanese study Massar et al. (2021) found both an increased rate of physical activity and also of self-reported stress among their participants. Kayaba et al. (2023) also noted advanced wake-up times,

shortened sleep duration, increased sleep debt, worsened insomnia, and increased daytime sleepiness during the return to in-person learning.

Despite the fact that the social interactions of their Italian study population decreased by half during the remote period, it almost fully recovered with the return to in-person activities (Barbieri et al., 2021). Yet, in a report based in the United States, Wolters (2023) reported that relationship anxieties were a top issue among those under age 24 who were accessing a text help line.

Students with Disabilities

It is well known that delayed sleep phase disorder and other sleep difficulties are particularly common among individuals with certain disabilities. For example, research shows increased levels of sleep difficulties among those with attention deficit hyperactivity disorder (Becker, 2020; Gregory et al., 2016; Kwon et al., 2020; Wajszilber et al., 2018) as well as those with pain, chronic health conditions, and physical disabilities (de la Vega et al., 2019). Many individuals who are totally blind are well known for having sleep problems related to circadian regulation (Skene & Arendt, 2007).

Sleep and well-being of students without disabilities in various countries during the remote and in-person periods were affected in similar ways. But what about students with disabilities? The literature typically deals with difficulties students with disabilities experienced during the remote period in accessing online courses, using the new technologies, and with issues related to academic accommodations and challenges both in Canada (Fichten et al., 2022) and the United States (Gin et al., 2021; Madaus et al., 2022). Other topics examine what academic activities and resources should be retained from the remote period once students are back to in-person learning (Faggella-Luby et al., 2023).

As for sleep and well-being, it is well known that some students with disabilities experience problems with sleep (e.g., McLeod et al., 2021). How the remote period and the return to in-person affected them is unknown.

Chronotypes

Students' sleep is typically affected by their chronotype (i.e., preference for sleep and activity at certain times during a 24-hour time frame) (Adan & Natale, 2002). Diurnal preference is usually classified into two groups: eveningness and morningness, with the largest segment of the population being classified as intermediate.

There is a strong age-related aspect to chronotype, with those of post-secondary student age typically being of the eveningness chronotype (Fischer et al., 2017). Bakotic et al. (2017) found that university students with an eveningness chronotype self-reported more sleep debt, and higher levels of daytime sleepiness. Morningness and intermediate chronotypes have been associated with better functioning (Walsh et al., 2022; Zhou et al., 2021). For example, Sun et al. (2019) demonstrated that medical students who are intermediate or morning types tend to have a lower risk of poor sleep quality than students with evening chronotypes.

The only study we found that investigated chronotype and sleep during both the remote and the return to in-person periods was a large investigation that showed that

“younger” and older participants had similar total sleep times during the remote period but that evening type participants had a larger reduction of total sleep time during the return to in-person period (Salfi et al., 2022).

Disability, Chronotype and Sleep Quality

Some disabilities can be linked to certain chronotypes and to a decrease in sleep quality, but it is important to analyze disabilities individually, since their symptomatology varies greatly. For example, in a study by Heikkala et al. (2022), individuals with an eveningness chronotype were found to be more sensitive to the effects of musculoskeletal pain than morning types. Also, people with autism have been shown to have more problematic sleep with poorer sleep quality and longer sleep onset latency at night (Jovevska et al., 2020). Looking at mental health problems, evening chronotype is associated with anxiety and mood disorders as well as with attentional difficulties (Taylor & Hasler, 2018).

We have been unable to find any studies investigating chronotype and sleep or well-being among students with disabilities either during the remote or the return to in-person studies.

Present Study

In a quantitative study we examined sleep quality and chronotype among students with and without disabilities during both the remote and the in-person learning periods. The study population of this mixed-methods cross-sectional study attended a large metropolitan junior/community college. In parallel, we also explored the impact of the remote and in-person periods on students’ sleep and well-being in a qualitative study in order to elicit more emotionally nuanced data to complement the quantitative approach.

H1. We predicted that the sleep quality of students with disabilities will be worse than that of students without disabilities.

H2. Consistent with the results of Salfi et al. (2022), and Kayaba et al. (2023), we predicted that the remote and in-person periods would affect sleep differently, with better sleep during the in-person than during the remote periods.

H3. We hypothesized that individuals with an eveningness chronotype would have relatively better sleep quality during the remote than during the in-person periods since the remote period better accommodates individuals with an eveningness type. Since research shows that those with a morningness chronotype are better adapted to early waking than those with an eveningness chronotype (Li & Yang, 2023), we also expected that participants with a morningness chronotype would have relatively better sleep quality than those with other chronotypes during the in-person semester.

Method

Participants

Participants included 79 junior/community college students, 55 females, 19 males, and 5 who indicated a non-binary gender. Fifty-two students self-reported a disability; 27 did not. Participants could self-report one or more of the disabilities listed in Table 1, which shows that mental health, attention deficit hyperactivity disorder (ADHD), learning

disability, and autism were the most common disabilities that students self-reported. To the best of our knowledge, none of the students had experienced a Covid-19 infection.

Of those who indicated a disability, 22 indicated a single disability and 28 indicated two or more disabilities. The most common comorbidity was ADHD / Mental health, followed by ADHD / Learning disability, ADHD / Autism, and Learning disability / Mental health. One participant reported Autism / Mental health, one reported Autism / Learning disability and one reported ADHD / Sensory disability.

Although the gender composition of the two groups (Disability / No Disability) was not significantly different, $\chi^2(1, 74) = .35, p = .87$, students with disabilities were significantly older ($M = 20.27, SD = 5.11$) than students without disabilities ($M = 18.26, SD = 1.48$), $t(77) = 2.00, p = .049$.

Measures

Demographic information. We collected information regarding gender, age and the presence or absence of a disability as well as self-report of the type of disability.

Reduced Morningness-Eveningness Questionnaire (rMEQ). Adan and Almirall's (1991) five item adaptation of Horne and Ostberg's (1976) original 19 item Chronotype questionnaire (preference for sleep and activity at certain times) was used. The rMEQ has adequate internal consistency and high test-retest reliability (Randler, 2013). It also accurately categorizes individuals across the Morningness-Eveningness spectrum (Chelminski et al., 2000). Scores range from 4 to 25, with higher numbers indicating more Morningness. We used scores on the rMEQ to group respondents into three categories: eveningness (score between 4 and 11), intermediate type (score between 12 and 17), and morningness chronotype (score 18 and 25).

Sleep Quality. Two 10-point Likert-type questions (1 = very poor, 10 = very good) evaluated sleep quality during the student's last remote learning semester and during their most recent (i.e., Fall 2022 on) in-person learning semester. The measure has good test-retest reliability and predictive validity (Bailes et al., 2023).

Qualitative Sleep and Well-Being Measures. Two open-ended questions asked participants about the positive and negative factors that affected their sleep and well-being during the remote and the in-person periods.

Procedure

During the remote period, all education in Quebec's junior/community colleges was done exclusively online, mainly by Zoom. Starting in Fall 2021 students returned to in-person learning.

Dawson College's Research Ethics Board approved the protocol for this study. Participant recruitment took place in the spring 2023 semester. We recruited students with disabilities by asking the coordinator of the AccessAbility Center to send invitations to all 688 students with disabilities registered for accommodations with the college. To recruit other students we used class presentations in five courses of approximately 40 students in each to recruit other students. We invited students to contact the researchers by e-mail if

they were interested in participating. We sent interested students an information and consent form as well as the email questionnaire, which contained the Demographic Information, Sleep Quality, and the rMEQ measures.

We invited students who indicated that they were present in the college during at least one remote semester to participate in one of two one-hour focus group where they were asked about the impact of the remote and in-person learning periods on their sleep and well-being (Qualitative Sleep and Well-Being Measures). We asked students who were unable to attend either focus group the same questions in an interview.

Two research team members took focus group notes and combined their versions. One team member took notes during the individual interviews. We developed a coding manual to categorize participant responses (Jorgensen et al., 2023). Two team members conducted group thematic coding (c.f. Braun & Clarke, 2006). We categorized the bulleted notes into either a sleep or a well-being category with either a positive or a negative valence (see Exhibit 1). Once we coded all the responses, we analyzed the frequencies of each category for both the remote and in-person periods.

As compensation for participation, we gave all participants who were not enrolled during a remote semester, but who completed the emailed questionnaires a \$10 Amazon gift card. We sent those students who completed the full study protocol a \$30 Amazon gift card as a token of our appreciation.

Exhibit 1			
<i>Sleep and well-being coding categories with examples of positive and negative responses from participants.</i>			
Sleep or well-being, remote and in-person	Category includes	Positive examples	Negative examples
Anxiety & stress	Covid-related concerns to-do with the virus	"Less Covid stress so slept better"	"Would think about Covid at night and would be really stressed"
Commute	Commuting/travel to and from college	"Relief of not having to travel to school"	"Had to wake up an hour earlier to get to class"
School	Course and school related activities	"Loved remote learning - left more time for other things"	"The stress of going online affected my sleep"
General	Relevant responses that did not fit into the other categories	"Slept well during Covid"	"I developed bad sleep habits during Covid"

Results

Sleep Quality

Test results and Table 1 show no significant difference between the Sleep Quality of students with and without disabilities during the in-person period, $t(77) = .76, p = .449$

Disability, sleep quality in person semesters and chronobiology						
Disability	n	Sleep quality in person ¹		Chronotype total score ²		Chronotype category
		mean	sd	mean	sd	
No disability	27	4.87	1.63	12.32	3.98	Intermediate
All with a disability	52	5.18	1.63	13.03	4.03	Intermediate
Specific disabilities						
Mental health	29	4.91	1.76	11.72	4.26	Eveningness
Attention deficit hyperactivity disorder (ADHD)	26	4.67	1.77	12.19	4.52	Intermediate
Learning disability (Specific learning disorder)	16	4.22	1.96	11.73	4.59	Eveningness
Autism	11	5.64	2.16	11.86	4.74	Eveningness
Sensory	6	4.50	2.07	12.00	6.54	Intermediate
Prefer not to say	3	7.00	2.65	15.33	3.21	Intermediate
Chronic health	2	5.50	2.12	7.75	0.35	Eveningness
Mobility	1	5.00		15.00		Intermediate

Note. The 52 students with disabilities indicated

¹Sleep quality: higher score is better.

²Chronotype score: <12=eveningness, 12-17=intermediate, >17=morningness.

A 2-way mixed design analysis of variance (ANOVA) (2 Group (Disability / No Disability) x 2 Period (Remote / In Person)) and Table 2 show that Sleep Quality during the Remote period was significantly better than during the In-Person period, $F(1,26)=4.93$, $p = .035$, partial eta squared (η_p^2) = .159. Neither the group effect nor the interaction was significant.

Disability and Sleep Quality during the remote and in-person periods				
Group	Remote period		In-person period	
	Mean	SD	Mean	SD
With a disability	6.02	2.80	5.64	1.93
No disability	6.86	1.22	4.21	2.20

Chronotype

Table 1 shows no significant difference in Chronotype total score between students With and Without Disabilities, $t(77)=.83$, $p=.412$. Mean Chronotype scores in Table 1 show that most students, both with and without disabilities, fell into the intermediate category, with several in the Eveningness category.

To explore the relationship between Chronotype and Sleep Quality we carried out a series of Pearson correlations. These show that for students With Disabilities younger Age is significantly related to Total Chronotype score $r(50)=.357$, $p=.009$, and that Total Chronotype score is related to Sleep Quality, during both the In-Person $r(50)=.453$, $p = .001$, and remote semesters, $r(19)=.409$, $p = .070$. We obtained the same results when we added nondisabled students to the analysis. This suggests that older students have more

Morningness Chronotypes and that those with more Eveningness Chronotype have poorer Sleep Quality.

We also expected that participants with a Morningness Chronotype would have relatively better sleep quality during the In-Person semester than those with an Eveningness Chronotype and that the Sleep Quality of those with an Eveningness Chronotype would be relatively better during the Remote period. ANOVA test results and means in Table 3 show, again, that Sleep Quality during Remote learning is significantly better than Sleep Quality during In-Person learning, $F(1,25)=4.25$, $p = .049$, and that Chronotype significantly affects Sleep Quality, $F(1,25) = 4.79$, $p = .017$. The interaction was not significant. Post hoc tests show that Sleep Quality of Eveningness individuals is significantly worse than that of Morningness individuals ($p = .026$), with the Sleep Quality of Morningness and Intermediate participants not being significantly different ($p=.066$).

Chronotype category	Sleep Quality			
	Remote		In-person	
	Mean	SD	Mean	SD
Eveningness	5.11	2.37	4.22	1.79
Intermediate	6.34	2.36	5.81	2.05
Morningness	9.00	1.73	5.67	2.31

Qualitative Sleep and Well-Being Measures

Figure 1 presents the numbers of participants out of the 28 (21 with a disability and seven without a disability) who were present during the remote period and who made open-ended comments concerning the negative and positive impact of the Remote and In-Person periods on Sleep (Figure 1 a) and Well-Being (Figure 1 b). This shows that, generally, there were relatively more negative and fewer positive impacts on Sleep during the In-Person period in the various sleep categories. Interestingly, there were relatively few negative comments about the impact of the Covid-19 virus on participants' Sleep or related Anxiety. An outlier is the positive impact on Sleep related aspects of Lifestyle during the return to In-Person.

With respect to Well-Being, there seems to be slightly more negative than positive comments; this reflects the significant number of negative comments related to commute during the In-Person period. Notably, there are no comments at all about the impact of Covid-19 on one's own well-being and the related Anxiety either during either the In-Person or Remote semester. Of course, there are almost exclusively negative comments about the impact of Commuting on both Sleep and Well-Being during the In-Person period.

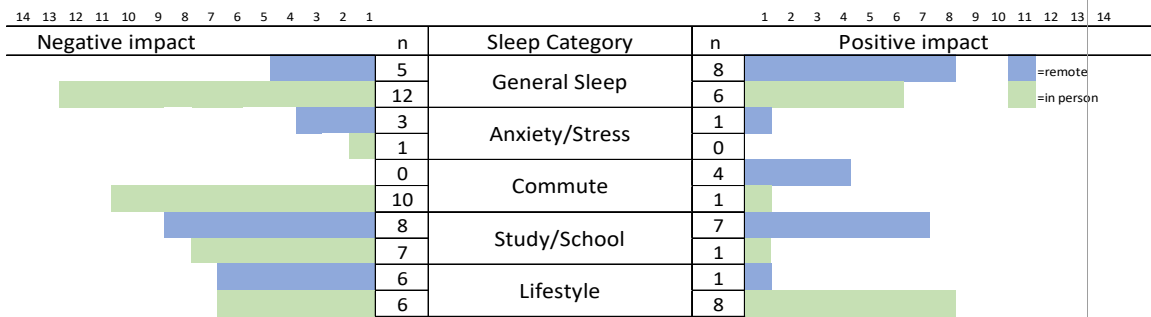


Figure 1 a. Sleep. n refers to the number of students who made a response in this category.

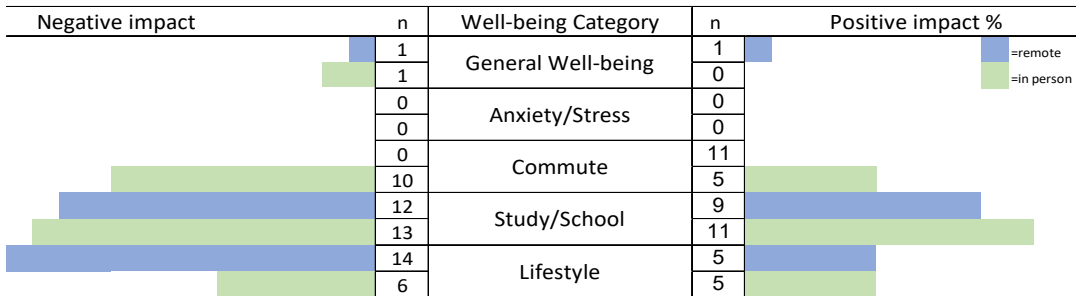


Figure 1 b. Well-being. n refers to the number of students who made a response in this category.

Figure 1. Positive and negative impacts of the Remote and In-Person semesters on Sleep 1a and Well-Being 1b categories.

To obtain a better overall view of the positive and negative impact of the Remote and In-Person semesters on Sleep we combined the category scores. We did the same for Well-Being. Figure 2 suggests that students had relatively worse sleep experiences during the In-Person period than the Remote period. The results for Well-Being are harder to interpret.

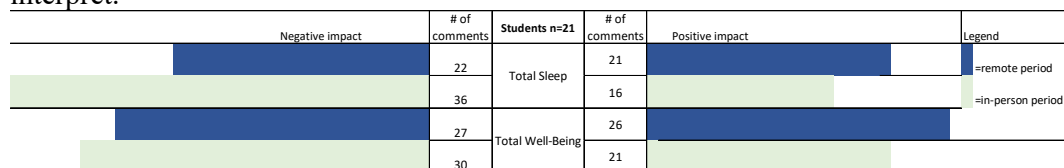


Figure 2. Numbers reflect the sum of the number of different responses in the 5 positive and the 5 negative coding categories. Maximum = 5 categories 28 participants=140.

To enable statistical analyses that reflect both positive and negative experiences we converted the Figure 2 frequency scores to States of Mind (SOM) ratios (Amsel & Fichten, 1990). This involves dividing the number of positive codes by the sum of positive and negative codes, with a correction of 1 in case either the negative or the positive frequency is 0. The larger the number, the more favorable the experience.

Table 5 shows the results of a series of paired t-tests on Sleep and Well-Being during the Remote and In-Person periods, with the results showing that students had significantly worse overall Sleep during the In-Person period, $t(17) = 2.14, p = .047$. Although the direction of the findings is in the same direction, the Well-Being SOM ratio

was not significant.

Sleep and Well-Being States of Mind ratios during the remote and in person periods				
States of Mind (SOM) ratio	Remote period		In-person period	
	Mean	SD	Mean	SD
Sleep SOM ratio	0.490	0.166	0.391	0.095
Wellness SOM ratio	0.506	0.148	0.439	0.125

Note. The higher the value, the more favorable the experience.

Discussion

Summary

We found no significant differences between students with and without disabilities either in chronotype or in sleep quality. Morningness and intermediate chronotypes were related to better sleep quality during both the remote and in-person periods. We also found that sleep quality was better during the remote period than during the in-person period, and again we found no differences between students with and without disabilities. We also found that students had little concern with the possibility of contracting Covid-19.

Sleep

Although first and second year students have been shown to prefer in-person learning (Photopoulos et al., 2023), and although many investigations found poor sleep during the remote period (Al Miskry et al., 2021; Kayaba et al., 2023; Marelli et al., 2021), students in our study slept better during the remote learning period than the in-person period. This was a robust finding, evident using both quantitative and qualitative techniques. Once students returned to in-person learning, they reported poorer sleep quality, likely related in part to the need to wake up earlier to get to school. Thus, our results are contrary to Hypothesis 2. The only category where students reported more favorable comments related to the impact of return to in-person learning was lifestyle.

Even though students with disabilities experienced more academic difficulties than their nondisabled peers during the remote period (Fichten, et al., 2022; Madaus et al., 2022), we found no differences in the sleep of students with and without disabilities. Although we predicted (Hypothesis 1) that the sleep of students with disabilities would be worse than that of students without disabilities, this was not the case.

Well-Being

Figures 1b and 2 show open-ended responses of students to the question about how the remote and the in-person periods affected their well-being. We let participants define what they meant by well-being.

We should note that there were more well-being than sleep related comments. It was not surprising that with the exception of the need to commute, most well-being comments were negative for both the in-person and the remote periods. It was surprising

that, unlike results reported by Massar et al. (2021), there was minimal anxiety related to the possibility of contracting the Covid-19 virus during either the remote or the in-person periods. Comments listed below provide a picture of students' well-being.

Sample Comments

Remote period – sample negative comments.

- I didn't go out and my routine was disrupted
- I have no schedule or structure
- I really dislike being constantly at home
- The days blended together – I wouldn't remember what day it was
- I would go for a day or two without showering
- I was procrastinating and not engaged with school
- I woke up, turned on the Zoom and went back to sleep
- Not as motivated during the class
- Not really ready for class because I woke up so close to the start time
- I rolled out of bed still hung over and had to go to class
- Someone would forget that I'm doing a class and they would come into my room at a bad time
- It is harder to interact on Zoom
- I got up a minute before classes started – this created an unhealthy routine
- I was really anxious because of having to talk to people on Zoom
- Eyes would get tired looking at the screen all the time
- Online I didn't want to be in school – I couldn't care less – I just wanted to get it over with

Remote period sample positive comments.

- Isolation made me feel comfortable
- I went to the gym regularly
- I could take it easy when I needed to and I could move around when I wanted to
- I don't have hours of time lost getting ready for school and getting to school
- I was able to do more things during the remote
- I could just show up 5 minutes before class online
- I didn't have to worry about getting lost at school
- I had more time to do homework without the commute
- I didn't have any anxiety or worry - I just stayed home and enjoyed studying at home
- I can spend the time I would be on the train to study
- I was fine staying at home and being in my room
- I loved online learning - I wasn't getting distracted by a bunch of things

In-person period negative comments.

- I felt really paranoid when I was out in public about catching Covid
- I had to get supplies to school but would forget because I was so used to having these next to me when I was at home
- Eating at school was more difficult and more expensive
- I felt tired all the time
- I was really anxious and paranoid now that I was back in the public

- I was nervous and anxious about competition with classmates
- Not as much time in the evening to do things
- First semester back I was always late to class
- Everything feels rushed in the morning
- It's really busy and tiring now that things are in-person
- In-person return was mostly negative
- School related stress from traveling back and forth- there is less time to do homework
- There are more challenges in-person
- It's hard to get back to in-person

In-person comments positive periods

- Getting back into routine was positive
- I would be more excited - going out doing things I enjoy
- Having to go to school imposed a schedule - that's good
- I was able to interact with my classmates
- I really need the separation
- My eyes are feeling better - no longer burned out from reading on the screen
- Nice to see people and not just talk to them online
- It is easier to have human interaction in-person
- Once I was back to school I put more effort into my appearance
- My social life is thriving
- My mental health improved because I wasn't cooped up anymore
- I had a routine
- I could see my classmates and have more social interactions
- Classmates help each other
- In-person it's 100% better for me - I don't even need to think about it

Chronotype

Again, we found no differences between students with and without disabilities. We did find, as have others (e.g., Mecacci et al., 1986), that older individuals were more likely to have a morningness chronotype and that individuals with an eveningness chronotype slept more poorly than those with morningness or intermediate chronotypes during both the remote and in-person periods.

We expected those with a morningness chronotype to have less difficulty adjusting the rerun to in-person (Li & Yang, 2023), and we expected that those with an eveningness chronotype would sleep especially well during the remote period. However, our data did not reflect this. Thus, we did not confirm Hypothesis 3.

Limitations

It is important to mention that the sample size was relatively small and consisted mainly of female participants, that the order of sleep quality questions was constant, and that responses concerning the remote period were retrospective.

Implications

Perhaps the most important implication of our findings is that students with and without disabilities were very similar in their views about the impact of the remote and in-person periods on sleep and that students were not concerned about the impact of the Covid-19 virus on their own health, either during the remote or during the return to in-person periods. In addition, our findings show that chronotype had no specific impact on sleep during the remote or in-person periods.

Another issue relates to the topic of the return to in-person classes and studying. It is clear from the students' comments that the return to in-person studies does NOT mean "return to normal" (i.e., the way things used to be). Although the literature shows that students prefer in-person learning, their views about the impact of the return to in-person studies are mainly negative. As our findings show, students' views about the impact of the return to in-person studies had more negative than positive impacts on their sleep. In addition, while the impact of the return to in-person learning on their well-being also had positive elements, this also had mainly negatives.

Favorable aspects of students' experiences during the remote period are bound to have an impact on the future "normal". This includes the possibility of making available online courses for those who have lengthy commutes or those whose disability makes travel inconvenient, especially during the Canadian winter.

Our findings on chronotype are also important. As Fischer et al. (2017) noted, students show a peak in 'lateness' around 19 years, and they shift to an earlier chronotype thereafter. Thus schedules in junior/community colleges and in the first year of university should take this phenomenon into account and need to ensure the availability of later schedules as these are likely to benefit students' sleep quality and circadian alignment.

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