


THE IMPACT OF IMPOSED COVID-19 MEASURES ON BELGIAN HIGHER EDUCATION STUDENTS

Selien Vancaillie^A, Paul Gemmel^B, Melissa de Regge^C, Bert Meijboom^D



ARTICLE INFO	ABSTRACT
<p>Article history: Received: Jul, 26th 2024 Accepted: Sep, 27th 2024</p>	<p>Objective: The objective of this study is to explore how higher education students behave when they are confronted with imposed measures that provide temporal cues, also called organizational temporal structures, and how their behavior evolves with time.</p>
<p>Keywords: Imposed Measures; Entrainment; Resistance; COVID-19; Higher Education.</p>	<p>Theoretical Framework: The Temporal Cognitive-Affective Processing System (T-CAPS), developed by Shipp and Richardson (2021) is used as the overarching theory to study the phenomenon. The theory describes five possible behavioral responses when individuals are confronted with organizational temporal structures.</p>
	<p>Method: The study uses a mixed-method design including surveys and interviews during three large COVID-19 waves in Belgium. In total, 1246 students filled in the survey and 30 interviews were carried out.</p> <p>Results and Discussion: The findings suggest that, in general, students mostly complied to the imposed measures. Especially in the beginning of the pandemic, resistance was almost non-existent. However, resistance increased over time, particularly when measures interfered with social life. Our qualitative data provides more insight into the reasoning behind indicated behavioral responses. Convenience appeared to be an important reason for compliance with remote learning and resistance towards the restrictions in social contact increased because of their deteriorating effect on mental health.</p> <p>Research Implications: Our research gives rise to recommendations aimed at governments, educational institutions and people entrusted with educational policy making, as it provides better insight into when and why students comply to new regulations.</p> <p>Originality/Value: This study contributes to the literature by applying the conceptually developed T-CAPS in an empirical setting and as a result validates propositions related to the theory.</p> <p>Doi: https://doi.org/10.26668/businessreview/2024.v9i11.5076</p>

O IMPACTO DAS MEDIDAS IMPOSTAS PELA COVID-19 SOBRE OS ALUNOS DO ENSINO SUPERIOR DA BÉLGICA

RESUMO

Objetivo: O objetivo deste estudo é explorar como os alunos do ensino superior se comportam quando são confrontados com medidas impostas que fornecem pistas temporais, também chamadas de estruturas temporais organizacionais, e como seu comportamento evolui com o tempo.

^A PhD Student in Business Economics. Ghent University. Ghent, Flanders, Belgium.

E-mail: selien.vancaillie@ugent.be Orcid: <https://orcid.org/0000-0002-8268-1692>

^B Doctor in Business Economics. Ghent University, Department of Economics and Business Administration.

Ghent, Flanders, Belgium. E-mail: paul.gemmel@ugent.be Orcid: <https://orcid.org/0000-0002-5955-8223>

^C Doctor in Business Economics. Ghent University. Ghent, Flanders, Belgium.

E-mail: melissa.deregge@ugent.be Orcid: <https://orcid.org/0000-0003-0375-5807>

^D Doctor in Economics and Management. Tilburg University, Department Tranzo. Tilburg, The Netherlands.

E-mail: b.r.meijboom@tilburguniversity.edu Orcid: <https://orcid.org/0000-0003-2288-1577>

Estrutura Teórica: O Sistema de Processamento Cognitivo-Afetivo Temporal (T-CAPS), desenvolvido por Shipp e Richardson (2021), é usado como teoria abrangente para estudar o fenômeno. A teoria descreve cinco possíveis respostas comportamentais quando os indivíduos são confrontados com estruturas temporais organizacionais.

Método: O estudo usa um projeto de método misto que inclui pesquisas e entrevistas durante três grandes ondas de COVID-19 na Bélgica. No total, 1246 alunos preencheram a pesquisa e 30 entrevistas foram realizadas.

Resultados e Discussão: Os resultados sugerem que, em geral, os alunos cumpriram, em sua maioria, as medidas impostas. Especialmente no início da pandemia, a resistência era quase inexistente. Entretanto, a resistência aumentou com o tempo, principalmente quando as medidas interferiram na vida social. Nossos dados qualitativos fornecem mais informações sobre o raciocínio por trás das respostas comportamentais indicadas. A conveniência pareceu ser um motivo importante para a conformidade com o aprendizado remoto e a resistência às restrições no contato social aumentou devido ao seu efeito deteriorante sobre a saúde mental.

Implicações da Pesquisa: Nossa pesquisa dá origem a recomendações destinadas a governos, instituições educacionais e pessoas encarregadas da elaboração de políticas educacionais, pois fornece uma visão melhor de quando e por que os alunos obedecem às novas regulamentações.

Originalidade/valor: Este estudo contribui para a literatura ao aplicar o T-CAPS desenvolvido conceitualmente em um ambiente empírico e, como resultado, valida as proposições relacionadas à teoria.

Palavras-chave: Medidas Impostas, Arrastamento, Resistência, COVID-19, Ensino Superior.

IMPACTO DE LAS MEDIDAS COVID-19 IMPUESTAS A LOS ESTUDIANTES BELGAS DE ENSEÑANZA SUPERIOR

RESUMEN

Objetivo: El objetivo de este estudio es explorar cómo se comportan los estudiantes de educación superior cuando se enfrentan a medidas impuestas que proporcionan claves temporales, también llamadas estructuras temporales organizativas, y cómo evoluciona su comportamiento con el tiempo.

Marco Teórico: El Sistema de Procesamiento Cognitivo-Afectivo Temporal (T-CAPS), desarrollado por Shipp y Richardson (2021) se utiliza como teoría general para estudiar el fenómeno. La teoría describe cinco posibles respuestas conductuales cuando los individuos se enfrentan a estructuras temporales organizativas.

Método: El estudio utiliza un diseño de método mixto que incluye encuestas y entrevistas durante tres grandes oleadas de COVID-19 en Bélgica. En total, 1246 estudiantes rellenaron la encuesta y se realizaron 30 entrevistas.

Resultados y Discusión: Los resultados sugieren que, en general, los estudiantes cumplieron mayoritariamente las medidas impuestas. Especialmente al principio de la pandemia, la resistencia era casi inexistente. Sin embargo, la resistencia aumentó con el tiempo, sobre todo cuando las medidas interferían en la vida social. Nuestros datos cualitativos proporcionan más información sobre el razonamiento que subyace a las respuestas conductuales indicadas. La conveniencia parecía ser una razón importante para el cumplimiento del aprendizaje a distancia y la resistencia hacia las restricciones en el contacto social aumentó debido a su efecto deteriorante sobre la salud mental.

Implicaciones de la Investigación: Nuestra investigación da lugar a recomendaciones dirigidas a los gobiernos, las instituciones educativas y las personas encargadas de la elaboración de políticas educativas, ya que proporciona una mejor comprensión de cuándo y por qué los estudiantes cumplen las nuevas normativas.

Originalidad/Valor: Este estudio contribuye a la literatura al aplicar el T-CAPS conceptualmente desarrollado en un entorno empírico y, como resultado, valida las proposiciones relacionadas con la teoría.

Palabras clave: Medidas Impuestas, Adhesión, Resistencia, COVID-19, Educación Superior.

1 INTRODUCTION

During the COVID-19 pandemic governments and institutions were forced to take extreme, never-before-seen measures to control the spread of the virus and protect public health. In Flanders, Belgium these measures included a complete lockdown with a ban on

non-essential displacements, a closure of non-essential shops, bars and restaurants, a switch to teleworking and remote learning, a curfew, a cancellation of all cultural activities, etc. These extreme measures were necessary to restrict social interactions and slow down the spread of the virus, but disrupted the daily lives of citizens in many ways (a.o. Asanov et al., 2021; Majumdar et al., 2020).

Research suggests that higher education students were disproportionately affected by the measures (Calleeuw et al., 2020; Mental Assessment Group, 2021). Apart from struggles that most people faced, students had to deal with some specific difficulties. The reduction in learning possibilities due to cancellations of traineeships and practical classes, resulted in concerns about learning losses and future careers (Aristovnik et al., 2020). For young adults, social interactions with peers is an essential aspect of life (Yubero et al., 2018). The sudden switch to remote learning and the cancellation of almost all recreational activities, like parties, concerts and group sports, meant an almost complete seclusion of the social world. The average living situation of students, namely with (a) parent(s), exacerbated this seclusion (Elmer et al., 2020; Mental Assessment Group, 2021). They also complained about the lockdown measures not being adjusted to their specific needs (Calleeuw et al., 2020).

Lockdown measures also caused a break in habits and routines and as a result, changed their relationship with time (Holman & Grisham, 2020). The loss of re-occurring activities, like weekly soccer matches or drinks on Friday evening, also resulted in more time disorientation and time distortion, which implies respectively a loss in the sense of time and a change in the pace of time (Bröer et al., 2021; Cellini et al., 2020; Loose, Wittmann, & Vásquez-Echeverría, 2021). It is not uncommon to experience the passage of time as slower during the pandemic and the distance to the beginning of the pandemic as longer than it really was (Cellini et al., 2020; Droit-Volet et al., 2021). Some measures, the curfew that was installed in Flanders for example, even directly include a dimension of time. This anecdotal evidence shows that the lockdown measures could be considered as organizational structures that confronted individual temporal schemata.

Temporal schemata are unconscious cognitive frameworks that provide an understanding of time. They are formed early in life, are influenced by childhood, culture and life experience and are fairly resistant to change. Examples are someone's daily routine, being a morning or an evening person or being punctual or not (Labianca et al., 2005; Shipp & Richardson, 2021). The temporal schemata of each individual are formed by and confronted with a process of temporal structuring. Temporal structures create rhythms of activity. They are shared between people. Examples of temporal structures are weekly work meetings and dinner

times around the world, or school schedules in the present context (Blount & Janicik, 2001; Orlikowski & Yates, 2002). The sudden switch to remote learning during the COVID-19 pandemic, can be considered as an imposed temporal structure that totally changed the way students ‘went to campus’ as it delayed wake-up times, completely reduced commute time and made changes to daily structures (Cellini et al., 2020; Schneider & Schinkowsky, 2021). The Temporal Cognitive-Affective Processing System (T-CAPS), developed by Shipp and Richardson (2021), suggests that there are continuous confrontations between the individual temporal schemata and organizational temporal structures that lead to behavioral responses.

The aim of this study is to explore how students behave in situations where temporal structures are imposed upon them. We use the T-CAPS as the overarching theory to study the phenomenon (Shipp & Richardson, 2021). Although the model was originally developed for an employer-employee relationship, this study takes a different approach and applies it in the context of higher education students in Flanders, Belgium during the COVID-19 pandemic. Considering that the pandemic was filled with measures imposed by governments and institutions that confronted individuals, it makes an interesting context for the study. The next chapter will discuss the mechanism captured in the T-CAPS.

2 THEORETICAL FRAMEWORK

2.1 EXTENSION OF THE COGNITIVE-AFFECTIVE PROCESSING SYSTEM

Shipp and Richardson (2021) introduce the T-CAPS in which they propose that in the context of time, temporal schemata and temporal structures operate within a person-situation interaction. This assumption is based on the Cognitive-Affective Processing System (CAPS) according to which a behavioral response results from interactions between context characteristics and cognitive-affective units of an individual. These cognitive-affective units include: encodings, expectancies and beliefs, affects, goals and values and competencies and self-regulatory plans (Mischel & Shoda, 1995; Shoda & Smith, 2004).

2.2 SITUATIONAL TEMPORAL CUES

The T-CAPS starts to operate when an organizational structure provides situational temporal cues: beginning, ending, duration, pace and position in a relevant time frame (Ancona, Okhuysen, & Perlow, 2001). In Flanders, the measure of the curfew had a beginning (every night at 12 p.m.) and an ending (every morning at 5 a.m.). The duration was five hours every night over a time period of seven months. The switch to remote learning provided more flexibility for the positioning of lectures in the weekly schedule of students and the restrictions in social contact affected the pacing of leisure time (Shipp & Richardson, 2021).

2.3 THE MECHANISM OF THE T-CAPS

The T-CAPS suggests that a consistency evaluation follows when the situational temporal cues from an organizational structure confront individual temporal schemata. This is drawn from schema theory according to which schemata allow individuals to notice and interpret cues and give meanings based on past experiences (Fiske & Taylor, 1991; Maitlis & Christianson, 2014). When there is consistency between the situational temporal cues and the individual temporal schemata, the individual will comply to the imposed temporal structure without much thought. This is called *automatic entrainment*. For students always going to bed at or before midnight, the beginning of the imposed curfew is consistent within their temporal schemata and will lead to automatic entrainment. The individual's cognitive-affective units are irrelevant in this situation (Shipp & Richardson, 2021).

The situation changes when there is inconsistency. Here the situational temporal cues are not in line with the individual temporal schemata and therefore lead to active thinking (Louis & Sutton, 1991). The individual will generate temporal cognitive-affective units (Mischel & Shoda, 1995; Shoda & Mischel, 2006) based on their individual temporal schemata to interpret the temporal structure. This can lead to four possible behavioral responses. The first one is *deliberate entrainment*. Here the individual will completely comply with the temporal structure, based on a deliberate choice since they understand it is important for themselves or for society. In the curfew example, students will not leave their home at night because they understand it is a necessary measure to protect public health (social interest) or to avoid a fine (self-interest).

The next possible behavioral response is *passive resistance*. An individual shows passive resistance when they entrain only partially. Put differently, they resist in a limited way.

This could, for example, mean that a student usually follows the curfew, but not on New Year's Eve because on this night the beginning of the curfew is too inconsistent with their individual temporal schemata and they decide to take a risk. *Active resistance* is another possible behavioral response. Now the individual does not comply with the organizational temporal structure at all and does it with explicit verbal or physical actions. This can occur in a constructive way (e.g., voicing suggestions about other ways to protect public health) or in a destructive way (e.g., with protest and violence). The last possible behavioral response is *creation of substructure*. This usually occurs when one or more situational temporal cues of the organizational temporal structure are not necessarily inconsistent, but rather too unclear. Individuals need to fill in gaps themselves and this leads to creation of temporal substructures. Think of leaving your friends' house at six a.m. instead of one a.m. The student is technically obeying the rules by not being on the street during the night, but the purpose of the curfew is defeated. In contrast to passive or active resistance, in creation of substructure the individual fully entrains to all the information that is available about the temporal structure (Shipp & Richardson, 2021).

2.4 THE CHARACTERISTICS OF INTERPERSONAL SITUATIONS

Shipp and Richardson (2021) apply the characteristics of interpersonal situations (Reis, 2008) as context characteristics to predict which behavioral responses will be generated. Outcome interdependence is the degree to which the two parties have influence on each other's outcome, while mutuality of power entails the degree to which the power of the two parties is balanced. Anticipation of future interactions is the expectation of interaction in the long term and lastly, information uncertainty occurs when necessary information about the temporal structure is (partially) unavailable.

Deliberate entrainment will usually occur when outcome interdependence and anticipation of future interaction are both high and when there is a low level of mutuality of power and information uncertainty. Passive resistance is more likely to happen in situations in which the anticipation of future interaction is low and the information uncertainty is high. The level of outcome interdependence and mutuality of power can here be low to moderate. When mutuality of power and information uncertainty are both high, active resistance will most likely occur. The level of outcome interdependence and the level of anticipation of future interaction will determine if the active resistance is presented in either a constructive or destructive way.

Lastly, creation of substructure is the result of a high level of both information uncertainty and anticipation of future interaction (Shipp & Richardson, 2021; Reis, 2008).

2.5 THE SUSTAINABILITY OF BEHAVIORAL RESPONSES

Shipp and Richardson (2021) also make some propositions about the sustainability of behavioral responses. Passive and active resistance are considered *temporary* reactions. Over time, either the individual will need to adjust their temporal schemata or the organization will need to alter its temporal structure to be more consistent with each other. Automatic entrainment and creation of substructure, however, have a *sustained* character. These responses can last since in both responses the individual does not have the experience of inconsistency and therefore reinforces the temporal structure (Orlikowski & Yates, 2002). In the case of deliberate entrainment, the sustainability is dependent on how strong individuals hold their temporal schemata. When temporal schemata are strongly held, we talk about ‘hot’ processing and this leads to more affective responses. At the same time, ‘cold’ processing leads to more cognitive responses. Inconsistencies based on more weakly held schemata, and thus cognition-first reactions, will be more sustained than affect-first reactions. A student that is part of a sorority and often goes to parties, might have a more strictly held temporal schemata that is inconsistent with a curfew than a student who only occasionally goes out for a drink at night. For more weakly held temporal schemata, it is possible that over time the individual temporal schemata will adjust itself to be more consistent with the organizational structure (Shipp & Richardson, 2021).

By applying the T-CAPS in an empirical setting we validate propositions related to (1) the characteristics of interpersonal situations and (2) the sustainability of the behavioral responses, which were derived from Shipp and Richardson (2021).

3 METHODOLOGY

3.1 STUDY DESIGN

This study uses a mixed method design including surveys and online interviews during three large COVID-19 waves in Belgium.

3.2 STUDY POPULATION AND SAMPLING

The study population consists of Flemish students in higher education. As already discussed in the introduction, students were disproportionately affected by the COVID-19 measures and had to deal with some specific difficulties during the pandemic (e.g., Aristovnik et al., 2020; Calleeuw et al., 2020). Since it was important that our whole sample was confronted with exactly the same COVID-19 measures imposed by the government and educational institution, we decided to include students from only one educational institution. This decision was solely based on convenience.

We used convenience sampling to recruit our respondents by distributing the survey on the university's online learning platform and various Facebook pages. We targeted some specific courses to achieve a better mix of students with different socio-demographics. The survey remained available until the aimed sample size was achieved or until the COVID-19 measures questioned in the survey were lifted. Our aim was to have 400 completely filled in surveys per COVID-19 wave (Taherdoost, 2017). Interviewees were also recruited through convenience sampling. However, we purposively aimed at achieving a good mix in year of study and working regime.

3.3 DATA COLLECTION

We used Qualtrics survey software to create and distribute three surveys during three large COVID-19 waves in Flanders, respectively in April until May 2020, December 2020 until February 2021 and December 2021 until February 2022. In the surveys, students were confronted with descriptions about COVID-19 measures that were installed during that time (see Table 1) and were asked to indicate the type of behavioral response that best matched their response to the measure in real life. The response options corresponded with the behavioral responses derived from the T-CAPS (Shipp & Richardson, 2021). In the third survey, we also asked the students if the measures at that time were harder or easier to comply with than the corresponding measures installed during the preceding COVID-19 waves and why. The surveys concluded with socio-demographic questions. The complete surveys can be found in Web appendices A, B and C.

In addition to the three surveys, we also conducted semi-structured online interviews with students from the university during the first two COVID-19 waves. An interview protocol

was developed in advance. During the first COVID-19 wave, the interviews took place before the development of the survey and contributed with its construction, while in the second COVID-19 wave interviewees filled in the survey before the interview took place. These interviews focused on exploring the internal process that generated the behavioral responses indicated in the survey. In total, thirty interviews on MS Teams took place. Web appendices D and E provide the interview protocols. In the third wave, we did not conduct interviews, but we added some open-ended questions to the third survey to gather qualitative data.

Table 1

The description of the measures included in the surveys.

Imposer	Description
Survey 1	
Government	On March 18 th 2020 a ban on non-essential displacements was installed. This entails that you are only allowed to leave the house for the following actions: work, grocery shopping, going to the doctor or a pharmacy and outdoor physical activity. As of March 18 th gatherings with more than two people are prohibited. Only people that live under the same roof are allowed to go outside with more. Visits to friends and family that do not live under the same roof are forbidden.
University	On March 13 th 2020 the university decided to switch to remote learning. On March 20 th it was communicated that all on-campus teaching activities will be suspended until the end of the term.
Survey 2	
Government	Since October 19 th 2020 a curfew is set in Flanders. Specifically this means that you cannot go outside between midnight and five a.m. without a valid reason. Since October 19 th the number of visitors in a house is scaled down to one at a time. Outside gatherings are limited to four people. A physical distance of 1,5 meter is required.
University	On the 26 th of October 2020 the university decided to switch from partial on-campus lectures to only online lectures again.
Survey 3	
Government	The government encourages the population to limit social contact.
University	On November 27 th the university announced to switch to an adapted organization of educational activities with reducing the occupancy rate in classrooms. Because of this, a large part of the students will have to switch to (partial) remote learning.

3.4 DATA ANALYSIS

We used SPSS Statistics 29.0 (IBM Corp., 2022) to perform analysis on the data gained during the three surveys. First, we performed purely descriptive analysis to get more familiar with the data and visualize the progression of the reaction types throughout the three waves. Afterwards, we performed Pearson Chi-square tests with the reaction types in which a clear increase or decrease throughout the waves was visible to test if the response patterns are also statistically significant different. In the behavioral responses to the measure of ‘remote learning’

no clear increase or decrease was visible, to which we decided to perform the Chi-square test on the most indicated reaction types. A 95% confidence level was used.

The interviews were transcribed. Afterwards, we organized and analyzed the transcriptions using NVivo. We also used NVivo to analyze the open-ended questions in the third survey (QSR International Pty Ltd., 2020). The code trees can be found in web appendices F, G and H.

3.5 ETHICAL CONSIDERATIONS

The survey participants were informed in written about the aim of the study, their right to discontinue their participation at any time and their right to ask for more information in order to give their informed consent. In addition to the in written informed consent, we also orally informed the interviewees. A confidential handling of data was assured throughout the research process.

4 FINDINGS

4.1 SOCIO-DEMOGRAPHIC INFORMATION

The first survey was filled in by 442 university students, the second by 454 university students and the third by 350¹ university students. Generally the respondents were predominantly female and most of them studied at the faculty of Medicine and Health Sciences (MH) or the faculty of Economics and Business Administration (EB). Most respondents did not have a job. We were however able to include the perspective of working students, especially in the first two surveys. Web appendix I represents detailed socio-demographic information about the survey respondents.

Ten (round 1) and twenty (round 2) university students participated in the interviews. Generally, most interviews were conducted with students in their master year(s) (n=15) from the faculty of EB (n=12) or MH (n=11). Web appendix J provides an detailed overview of their socio-demographic information.

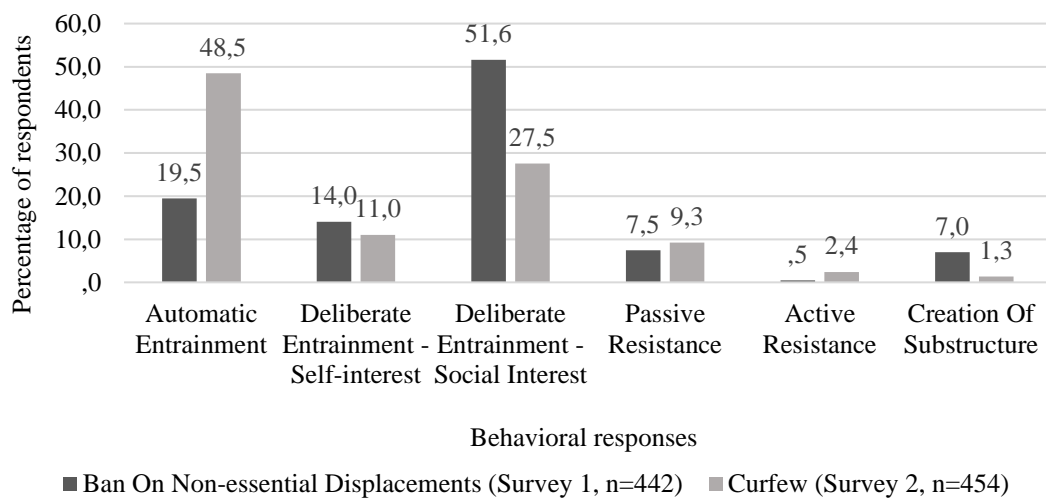
¹ We were not able reach the aimed study sample size before the measures were lifted.

4.2 THE BEHAVIORAL RESPONSES TO THE MEASURES CONCERNING RESTRICTIONS IN MOBILITY IMPOSED BY THE GOVERNMENT (SURVEY 1 & 2)

The governmental measure of the ban on non-essential displacements (first wave), is similar to the measure of the curfew (second wave). After all, they both entail a restriction in mobility. Figure 1 represents the behavioral responses to the ban on non-essential displacements and the curfew. The pattern of behavioral responses is fairly different between the two. The complete ban on non-essential displacements is mostly followed out of deliberate entrainment – social interest, while there is more automatic entrainment visible in the measure of the curfew. The number of students responding these reaction types is significantly different between the first and second wave (Pearson $\chi^2 = 87,469$; $df = 1$; $p < 0,001$).

Figure 1

Comparison between the behavioral responses to the ban on non-essential displacements and the curfew.



Note: The categories ‘active resistance-constructive’ and ‘active resistance-destructive’ are combined.

None of the ten interviewees from the first round of interviews mentioned that they showed any form of resistance towards the ban on non-essential displacements. Five students, however, indicated that having to stay at home was a difficult adjustment.

I usually go outside a lot, it is frustrating to stay inside all the time. – Interviewee (I) 6, Wave (W) 1.

In the second round of interviews, seventeen of the twenty interviewees indicated that they showed entrainment towards the curfew in either an automatic or deliberate way. Six of them mentioned that it is not hard to adhere to the measure because they usually do not go out at night anyway, especially not when bars and night clubs are closed. Four working students, working in the healthcare sector, mentioned that their work experience made entrainment easier. Deliberate entrainment out of self-interest was shown by five to avoid a fine.

During the past few months I have worked in a hospital a lot and know what the effects of COVID-19 are, so it is very easy for me to follow the measures. – I 18, W 2.

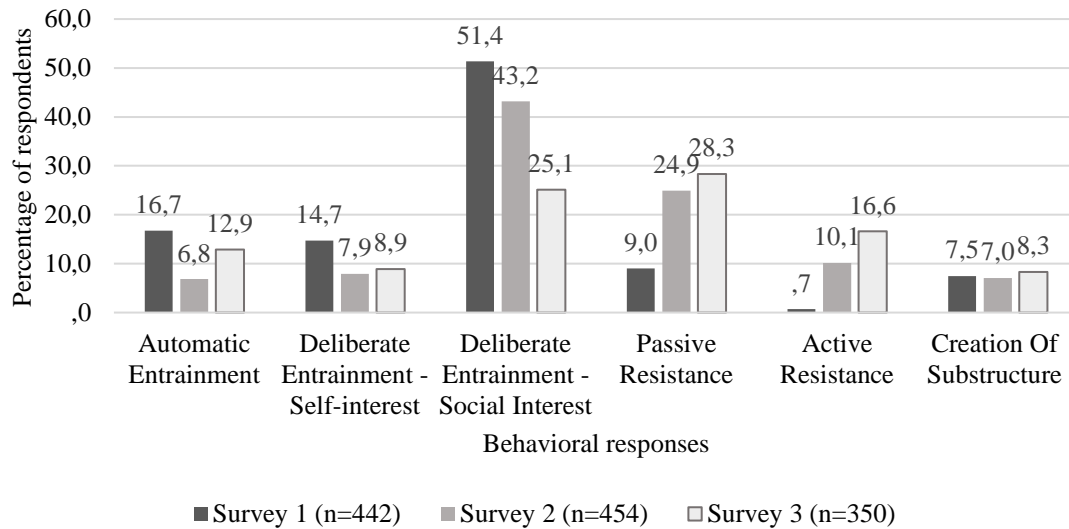
I comply with the curfew out of self-interest because I do not want to get fined. I do not really see the point of the measure, but I follow it because I fear the consequences if I don't. – I 30, W 2.

4.3 THE BEHAVIORAL RESPONSES TO THE MEASURES CONCERNING SOCIAL CONTACT IMPOSED BY THE GOVERNMENT (SURVEY 1,2 & 3)

In all three COVID-19 waves, the government imposed a measure regarding restrictions in social contact. In the first wave this restriction was more extreme than in the second wave. During the third wave, the government solely encouraged to limit social interactions. Even though the restrictions in social contact decreased in strictness, the results (see Figure 2) clearly shows a higher number of students showing passive and active resistance in the later waves. Deliberate entrainment, on the other hand, clearly decreased. It stays however a frequently answered response in all three waves. When performing a Pearson Chi-Square test for these three reaction types, the result is highly significant (Pearson $\chi^2=136,104$; $df=4$; $p<0,001$).

Figure 2

Comparison between the behavioral responses to the restrictions in social contact measured in the three surveys.



Note: The categories ‘active resistance-constructive’ and ‘active resistance-destructive’ are combined.

These findings are reflected in the interviews. While most interviewees from the first round mentioned that limiting all social interactions was hard, they understood the necessity of it. Three of them showed minor violations.

I must admit that I have seen more people than the strict interpretation of the rules allow. However, I would not be able to function without these contacts. In this situation, I prefer a minor violation over the common good. – I 1, W 1.

During the second wave some interviewees stated that the measures started to weigh on their mental health or the mental health of friends and family. Therefore seven students hinted at some form of resistance or creation of substructure. This usually meant that they would meet up with more people than was allowed while paying attention to safety regulations (e.g., wearing masks). The open-ended questions in the third survey, suggested similar forms of resistance and creation of substructure. Impact on mental health, the duration of COVID-19 and the high vaccination rate were mentioned as causes. Some answers hinted towards feelings of anger and deception.

It would actually do more harm to my grandparents’ well-being to not see their grandchildren, than it would harm their physical health to see us. – I 26, W 2

Whenever possible I wear a face mask, but I do meet anyone I'd like to encounter with. The pandemic has been going on for too long and my patience is running out. In the beginning I have quarantined to protect myself and society, but I do not longer want to protect anti-vaxxers. It is their own choice and their own responsibility. – Respondent survey 3.

In both round of interviews, one interviewee mentioned that the restrictions in social contact are complex and open to interpretation. This information uncertainty is also mentioned by some respondents from the third survey.

I try to strictly adhere to all measures, but I have seen my girlfriend even though it is very unclear if this is allowed or not. – I 5, W 1

The rule [the encouragement to limit social interactions] is not specific enough to be able to follow it.” – Respondent survey 3

Deliberate entrainment out of social interest is a frequently given response in all three questionnaires. This demonstrates that a lot of students understand the severity of the situation. Especially students who live together with an at-risk patient or who work in healthcare, are -according to the interviews- more motivated to follow the regulations. During the third COVID-19 wave, working in healthcare seemed a less important reason. Protecting vulnerable close ones was here the main motivation to reduce social interactions.

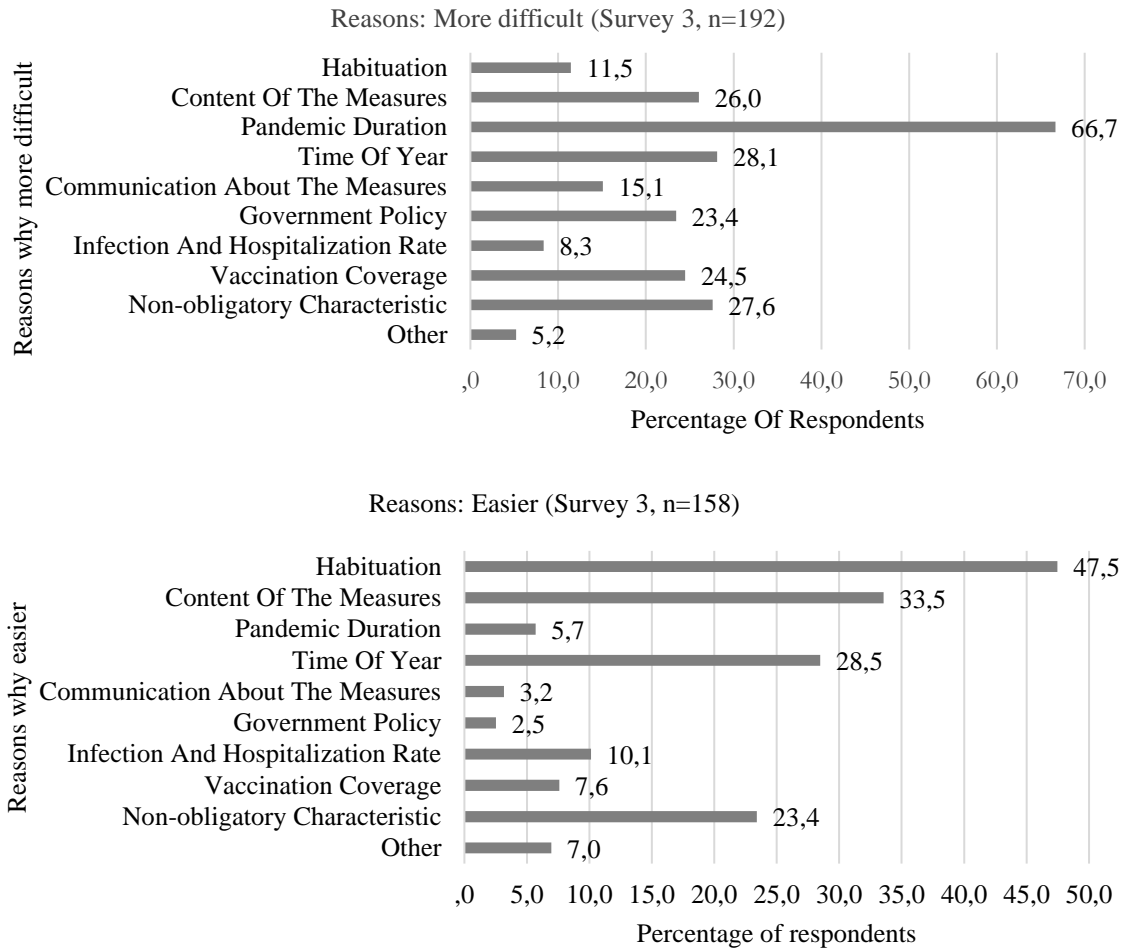
Because I work in healthcare, I know how precarious the situation is and I understand that drastic measures are necessary to reduce the circulation of the virus. – I 28, W 2.

I would absolutely not want that by not limiting my social interactions, I would further infect weaker people, like my grandparents. That conviction makes it easier to follow through with the measures. – Respondent survey 3

A small majority of the respondents (54,9%) found the measures concerning social contact imposed during the third wave more difficult to follow than the measures imposed during the preceding waves. 128 students indicated that the duration of the pandemic was the main reason for it being more difficult. Of the 158 students who indicated that they found the measures concerning social contact imposed during the third wave easier to follow, 75 indicated that this is mainly because they have gotten used to it (see Figure 3).

Figure 3

The reasons why the respondents found it easier/ more difficult with time to comply with the measures concerning social contact.



Note: Respondents were able to indicate more than one reason.

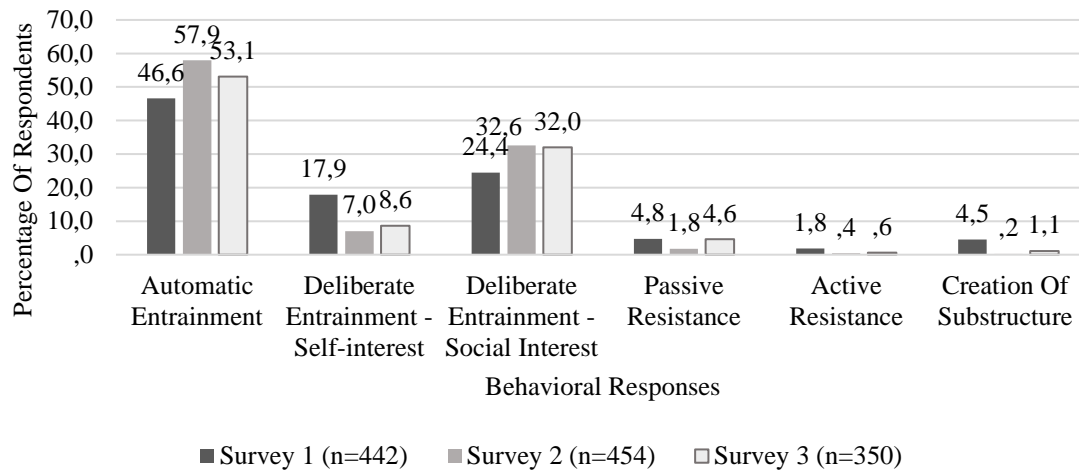
4.4 THE BEHAVIORAL RESPONSES TO THE MEASURES CONCERNING REMOTE LEARNING IMPOSED BY THE UNIVERSITY (SURVEY 1, 2 & 3)

During the three COVID-19 waves, the university imposed measures concerning the switch from on-campus lectures to online lectures. In the first two waves this meant a complete switch to remote learning while, in the third wave it was only a partial switch. The distribution of the behavioral responses to the three measures are represented in Figure 4. There is not a lot of difference visible between the three waves. There are slightly more respondents showing automatic entrainment and deliberate entrainment out of social interest in the second and third wave compared to the first, however, when performing a Pearson Chi-square tests on these

distributions, the result is not significant (Pearson $\chi^2= 0.676$; $df= 2$; $p=0.713$). This suggests that there is no significant difference in reaction types between the three waves in regards to the switch to remote learning.

Figure 4

Comparison between the behavioral responses to the switch to remote learning measured in the three surveys.



Note: The categories ‘active resistance-constructive’ and ‘active resistance-destructive’ are combined.

During the first round of interviews, five interviewees stated to have little difficulty with the switch to remote learning. They mentioned that this was a rather small adjustment for them since they already followed most lectures online or felt as if this resulted in more time to study. However, three interviewees experienced some difficulties. Their complaints included a lack of uniformity between the professors’ approaches and the loss of the ‘real college experience’.

In my education program, video recordings are completely new. Every course also takes a totally different approach. The used methods vary strongly. For some courses we receive video recordings, in others we are only provided with slides with audio recordings or written notes, etc. – I 4, W 1

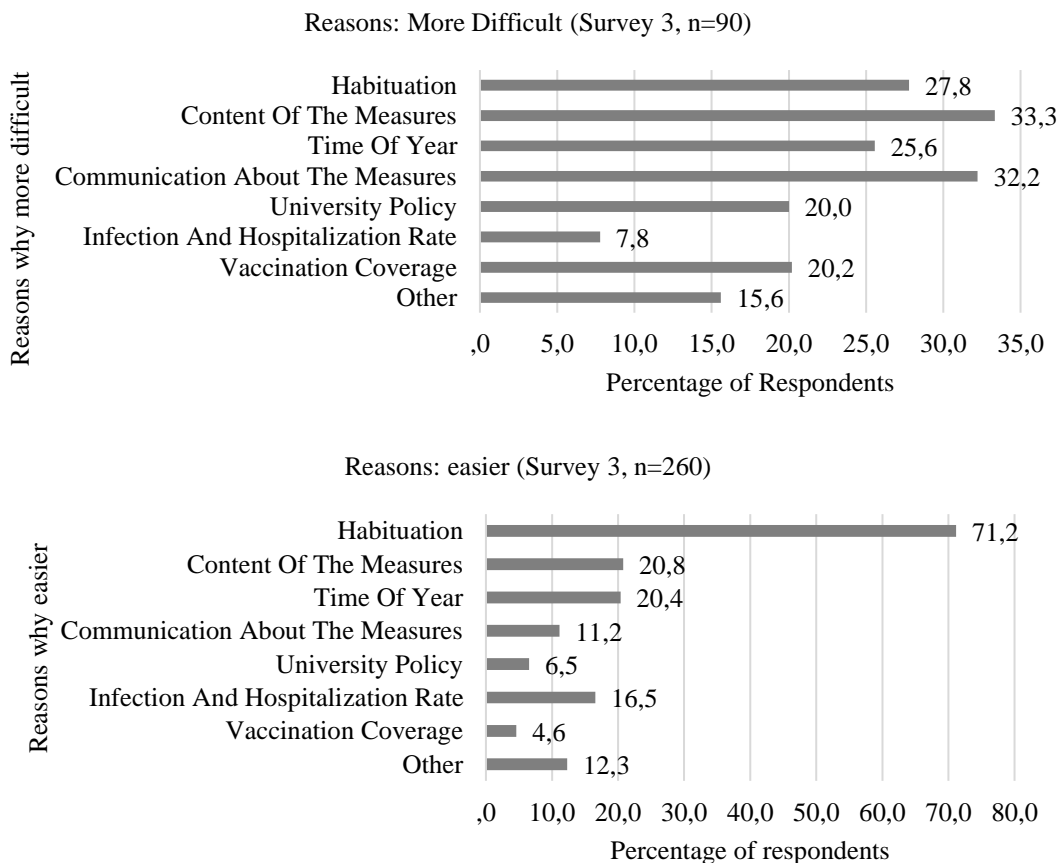
Sixteen of the twenty interviewees in the second round, showed automatic entrainment towards remote learning. The remainder indicated showing deliberate entrainment. The main reason for automatic entrainment, described by nine, is the fact that they saw no room for resistance. Other students mentioned that remote learning actually makes lectures more convenient. Travel times are reduced and they have more freedom in when to watch the lectures. One interviewee stated to be very pleased with the way remote learning was organized.

It is very hard to resist towards these measures. If there are no physical lectures organized, there is just little you can do besides following the classes online. – I 16, W 2.

No less than 74,3% of the respondents found the measures taken by the university during the third COVID-19 wave easier to follow. Of the 260 respondents who indicated that it was easier, 185 indicated that habituation to remote learning was an important reason for that. Ninety students responded that they found it more difficult to follow the measures during the third COVID-19 wave. Frequently indicated reasons are the content of (n=30) and the communication about the measures (n=29) (see Figure 5).

Figure 5

The reasons why the respondents found it easier/ more difficult with time to comply with the measures imposed by the university.



Note: Respondents were able to indicate more than one reason.

5 DISCUSSION OF THE FINDINGS

This study uses the T-CAPS (Shipp and Richardson, 2021) to explore how higher education students behave when they are confronted with organizational temporal structures during the COVID-19 pandemic in Flanders.

Two types of measures imposed by the government were compared between the different COVID-19 waves, namely measures concerning restrictions in mobility and restrictions in social contact. The comparison between the ban on non-essential displacement (first wave) and the curfew (second wave) showed more deliberate entrainment towards the former and more automatic entrainment towards the latter. Even though they both entail restrictions in mobility, a complete ban on non-essential displacements has a much higher impact and is therefore, less consistent with individual temporal schemata than the curfew. This caused interference by the cognitive-affective units, while this was not necessarily the case for most students in the measure of the curfew. The end result, namely entrainment, is the same in both situations, but the cognition behind the responses is different. The fact that this is reflected in the results, is a signal that students entrainment is deliberate when temporal schemata are inconsistent with the temporal cues of the situation (Shipp & Richardson, 2021).

Restrictions in social contact were imposed during all three COVID-19 waves. The results clearly show that passive and active resistance towards measures interfering with students' social contact, increased over time. This demonstrates that behavioral responses are not always sustained and may change with time. The increase of resistance is mostly caused by a decrease of deliberate entrainment. This is in line with the theory captured in the T-CAPS, which states that deliberate entrainment can have a temporary nature. This temporary nature illustrates that for a large part of the respondents the deliberate entrainment concerned an affective response resulted by strongly held temporal schemata (Shipp & Richardson, 2021).

The qualitative data demonstrates that resistance or creation of substructure towards limiting social contact was shown because the rules were either too unclear or too hard to comply with. The ambiguity in the measures points to a high information uncertainty (Reis, 2008), which – according to Shipp and Richardson (2021) – can result in passive or active resistance or creation of substructure. Students who mentioned that the measures were too hard to comply with, may have had a low level of competence in dealing with periods of very little social interaction. 'Competencies and self-regulatory plans' is one of the five cognitive-affective units of an individual that can generate behavioral responses (Mischel & Shoda, 1995).

The small majority of the respondents found the measures concerning social contact imposed during the third COVID-19 wave more difficult to follow than the similar measures imposed during the preceding waves. This is consistent with the number of students that showed resistance or creation of substructure during the third wave. The long duration of the pandemic is the main reason why following the measures gets harder. It is remarkable that most students who experienced that the restrictions in social contact had gotten easier to follow, indicated that habituation was the main reason. This shows that imposing regulations over a longer a period of time, can make it easier for some, but harder for others.

The study also compared the behavioral responses towards remote learning. Most students showed automatic and deliberate entrainment. Compared to the measures imposed by the government, no significant difference between the waves is visible. The qualitative data indicate that students mostly followed the measures imposed by their university because there is little room for resistance. This can be explained in terms of an asymmetric power dynamic (Reis, 2008) between students and the university, which leads to more entrainment (Shipp & Richardson, 2021). Compared to the restrictions in social contact, there is no decrease in deliberate entrainment. This indicates cognitive processing caused by less strongly held temporal schemata (Shipp & Richardson, 2021). This is not surprising, as it is evident that individual temporal schemata are more strongly held in regards to time spent with friends and family than in regards to how lectures are organized. This is especially true for adolescents and young adults as social support plays a very important contributing factor to their well-being (Yubero, 2018). In addition, the restrictions in social contact impact many aspects of life, such as leisure activities, family traditions, birthday celebrations, etc., while the impact of remote learning is limited to one aspect of life.

For 75% of the respondents the switch to remote learning became easier over time. Habituation was again the main reason. This indicates that students had gotten used to this form of education. Their individual temporal schemata may had changed over time to be more consistent with remote learning. Another possible explanation is that in the second and third survey students were included who had never experienced going to the university in a COVID-free environment. Their individual temporal schemata may have been different to begin with.

A general finding from the qualitative data is that students who combine their studies with work in healthcare or students who have a family member that is an at-risk patient for COVID-19, found it easier to adhere to the regulations. Because of their different experiences

around the pandemic, it is possible that they have different perceptions (encodings) and different feelings (affects) about the imposed measures (Mischel & Shoda, 1995).

Another general finding from our qualitative data is the limited difference in what the different types of resistance, as defined by Shipp and Richardson (2021), mean in practice. All three reaction types usually meant not following parts of the imposed measure. This is in contrast to the clear difference between automatic and deliberate entrainment, which we observed in the restrictions in mobility. Maybe, here again it is not so much the end result that is different, but the cognition behind it.

5.1 RECOMMENDATIONS

Our research gives rise to some recommendations aimed at governments, educational institutions and people entrusted with policy making, as it provides better insight into when and why students entrain or resist to new regulations that contain temporal cues and can serve as a wake-up call to consider the possible impact on time experience when imposing regulations.

Firstly, our findings suggest that deliberate entrainment can transform into resistance over a longer period of time. Deliberate entrainment is not a sustained way of entrainment when it confronts strongly held temporal schemata and should therefore be avoided if possible. One way to do this, is by seeking a common ground between organizational temporal structures and the individual temporal schemata. This way they will be more consistent with each other, which will result in more automatic entrainment. Adjustments to the academic calendar will probably be more easily accepted if students are involved in their development. We should also mention that it is preferred to immediately seek this common ground instead of waiting until resistance is starting to show. The government, for example, tried to meet the social needs in a safe manner by somewhat easing the restrictions each wave. However, our results show that resistance still increased.

It is also important to make sure that temporal structures are clearly formulated and are not open to interpretation. Unclear measures result in people starting to bend the rules in their own favor. Clear communication about all temporal cues is key (Ancona et al., 2001).

In addition, it also seems that if entrainment is the only option, people will comply to the temporal structure anyway. This is visible in the students who stated that they went along with remote learning, because there was just no room for resistance. Not all contexts offer the

opportunity to enforce entrainment as the only option, but it could be a valid consideration if the need for entrainment is of great importance.

Lastly, our findings suggest the importance of habituation as a factor for entrainment over time. Based on that, we can recommend that even if new regulations result in frustrations at the beginning, it can still pay off to persist in the long run.

5.2 LIMITATIONS

During the data collection we could not predict that there would be consecutive COVID-19 waves and that we would be able to repeat the data collection three times. Therefore, we did not collect contact information from the respondents. As such, it is impossible to do a longitudinal comparison with data collected from the same study sample. We can merely state that there are significant differences in response patterns between the three samples and that we have some qualitative indicators that the duration of the pandemic might be the cause of this.

A large part of our sample in the surveys and the interviews consisted of students from the faculty of Medicine and Health Sciences and the faculty of Economics and Business Administration. Other faculties are underrepresented in our sample. This is caused by the use of convenience sampling. A positive side effect is that these faculties have some educational programs aimed at working students who were consequently well represented in our samples.

6 CONCLUSION

The measures imposed by governments and institutions to control the spread of the COVID-19 virus had a huge impact on time experience. Overall, there was a great willingness to entrain to the imposed temporal structures among students. Especially in the beginning of the pandemic, the number of students that showed resistance to any of the measures was small. With time, entrainment declined and resistance grew. This is particularly visible in the measure that interfered with social life.

Furthermore, a clear difference can be seen between entrainment when temporal schemata and temporal structures are consistent (automatic) and when they are not (deliberate). By contrast, this distinction is less clear between passive and active resistance and creation of substructure.

ACKNOWLEDGEMENTS

We would like to thank the members of the Center for Service Intelligence (Ghent University, Belgium) for their comments and support. The constructive feedback we received from other scholars on the presentations given during Frontiers in Service 2021, the 17th International Research Symposium on Service Excellence in Management (QUIS17), the 17th International Research Conference in Service Management (La Londe Conference 2022) and 83rd Annual Meeting of the Academy of Management was also of great value in the development of this paper. Subsequently, our gratitude goes out to alumni Mattias Van Look, Klaas Parmentier, Robin Ingelaere and Emma Klincke who assisted with the data collection. Lastly, we thank all the students who took the time to fill in the survey and to participate in the interviews.

REFERENCES

- Ancona, D. G., Okhuysen, G. A., & Perlow, L. A. (2001). Taking time to integrate temporal research. *Academy of Management Review*, 26(4), 512-529.
- Aristovnik, A., Keržič, D., Ravšelj, D., Tomažević, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability*, 12(20).
- Asanov, I., Flores, F., McKenzie, D., Mensmann, M., & Schulte, M. (2021). Remote-learning, time-use, and mental health of Ecuadorian high-school students during the COVID-19 quarantine. *World Development*, 138.
- Blount, S., & Janicik, G. A. (2001). When plans change: Examining how people evaluate timing changes in work organizations. *Academy of management Review*, 26(4), 566-585.
- Bröer, C., Veltkamp, G., Bouw, C., Vlaar, N., Borst, F., & de Sauvage Nolting, R. (2021). From danger to uncertainty: Changing health care practices, everyday experiences, and temporalities in dealing with COVID-19 policies in the Netherlands. *Qualitative Health Research*, 31(9), 1751-1763.
- Calleeuw, H., Poeze, M., Creupelandt, T., & Dejonckheere, P. (2020). Nieuw academiejaar: We moeten zoveel mogelijk studenten aan boord houden. *Sociaal.Net*. Retrieved from <https://sociaal.net/achtergrond/nieuw-academiejaar-studenten-aan-boord-houden/>
- Cellini, N., Canale, N., Mioni, G., & Costa, S. (2020). Changes in sleep pattern, sense of time and digital media use during COVID-19 lockdown in Italy. *Journal of Sleep Research*, 29(4).
- Droit-Volet, S., Martinelli, N., Chevalère, J., Belletier, C., Dezechache, G., Gil, S., & Huguet, P. (2021). The persistence of slowed time experience during the COVID-19 pandemic: two longitudinal studies in France. *Frontiers in Psychology*, 12.

- Elmer, T., Mephram, K., & Stadtfeld, C. (2020). Students under lockdown: Comparisons of students' social networks and mental health before and during the COVID-19 crisis in Switzerland. *PLoS ONE*, *15*(7).
- Fiske, S. T., & Taylor, S. E. (1991). *Social cognition (2nd ed.)*. McGraw-Hill.
- Holman, E. A., & Grisham, E. L. (2020). When time falls apart: The public health implications of distorted time perception in the age of COVID-19. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*.
- IBM Corp. (2022). *IBM SPSS Statistics for Windows, Version 29.0*. IBM Corp.
- Labianca, G., Moon, H., & Watt, I. (2005). When is an hour not 60 minutes? Deadlines, temporal schemata, and individual and task group performance. *Academy of Management Journal*, *48*(4), 677-694.
- Loose, T., Wittmann, M., & Vásquez-Echeverría, A. (2022). Disrupting times in the wake of the pandemic: Dispositional time attitudes, time perception and temporal focus. *Time & Society*, *31*(1), 110-131.
- Louis, M. R., & Sutton, R. I. (1991). Switching cognitive gears: From habits of mind to active thinking. *Human relations*, *44*(1), 55-76.
- Maitlis, S., & Christianson, M. (2014). Sensemaking in organizations: Taking stock and moving forward. *Academy of Management Annals*, *8*(1), 57-125.
- Majumdar, P., Biswas, A., & Sahu, S. (2020). COVID-19 pandemic and lockdown: Cause of sleep disruption, depression, somatic pain, and increased screen exposure of office workers and students of India. *Chronobiology International*, *37*(8), 1191-1200.
- Mental Assessment Group. (2021). *Mental Health of Belgian Population: Update 17/03/2021*. Retrieved from https://fdn01.fed.be/documents/49bef06e0d64624e350e2909080f16ce/GEMS_MAG_20210317.pdf
- Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychological Review*, *102*(2), 246-268.
- Orlikowski, W. J. & Yates, J. (2002). It's about time: Temporal structuring in organizations. *Organization Science*, *13*(6), 684-700.
- QSR International Pty Ltd. (2020). *NVivo*. (released in March 2020). Retrieved from <https://support.qsrinternational.com/nvivo/s/>
- Reis, H. T. (2008). Reinvigorating the concept of situation in social psychology. *Personality and Social Psychology Review*, *12*(4), 311-329.
- Schneider, R. J., & Schinkowsky, H. (2021). Reactions to university campus commute mode shifts during COVID-19. *Findings*.
- Sciensano. (2020a). Epidemiologische Bulletin van 8 November 2020. Sciensano.

- Sciensano. (2020b). *Wekelijkse Epidemiologische Bulletin van 10 April 2020*. Sciensano.
- Sciensano. (2022). *Epidemiologisch Bulletin van 1 Februari 2022*. Sciensano.
- Shipp, A. J., & Richardson, H. A. (2021). The impact of temporal schemata: Understanding when individuals entrain versus resist or create temporal structure. *Academy of Management Review*, 46(2), 299-319.
- Shoda, Y., & Smith, R. E. (2004). Conceptualizing personality as a cognitive-affective processing system: A framework for models of maladaptive behavior patterns and change. *Behavior Therapy*, 35, 147-165.
- Taherdoost, H. (2017). Determining sample size; How to calculate survey sample size. *International Journal of Economics and Management System*, 2.
- Yubero, S., Navarro, R., Larrañaga, E., Esteban, M., Gutiérrez, J., & Elche, M. (2018). Health contributing factors in higher education students: The importance of family and friends. *Healthcare*, 6(4), 147-155.