

Impact of lockdown on occupational competence and values regarding the environment

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Abstract

Background

Since 2020, the world has been affected by the COVID-19 pandemic. To limit the spread of the virus, many countries ordered lockdowns, leading to occupational disruption.

Aim

The objective of this study was to evaluate the impact of lockdown on occupational competence and values.

Method

Participants in northern hemisphere French-speaking countries completed the Occupational Self-Assessment before and during the spring 2020 lockdown.

Results

Occupational competence decreased significantly during lockdown ($p < 0.01$). People with private external access had higher competence scores during lockdown than those without ($p < 0.01$). Also, an effect of the country of residence was found on occupational competence that differed before and during lockdown. Before lockdown, people living in Canada had a higher occupational competence score than those living in France ($p < 0.01$). During lockdown, people living in Switzerland had a higher occupational competence score ($M = 58.52$, $SD = 12.41$) than those living in France ($p < 0.01$) and Belgium ($p < 0.01$). The value score remained the same during and before lockdown but the results of the study, in terms of the importance attached to occupations, highlight changes suggesting a reshaping of the personal value system. During lockdown, participants appeared to attach more importance to activities related to satisfaction, enjoyment and actualization at the expense of occupations relating to managing life and relationships.

Conclusion

Lockdown had a significant impact on people's occupational competence and the environment within which the lockdown was experienced contributed to this perception. This recent change in occupational competence could have long-term implications, especially on the internal value system.

Keywords

Environment, Lockdown, Model of Human Occupation, Occupational competence, Occupational disruption, Values.

Introduction

Since 2020, the global population has faced a health crisis declared as a pandemic by the World Health Organization on March 11, 2020 (World Health Organization, 2020b). Because of the high level of contagiousness, most northern hemisphere countries drastically reduced their economic activities and ordered a lockdown in spring 2020 (World Health Organization, 2020a). Non-essential businesses and public spaces were closed, the population was forced to stay at home, isolated from their relatives, and their performance of their usual occupations were severely reduced. The Covid-19 pandemic changed how people accessed and engaged in their occupations, causing occupational disruption.

Occupational disruption resulting from lockdown had an impact on people's mental health (Shigeto et al., 2021; Zheng et al., 2021). It caused depression (Suso-Ribera & Martín-Brufau, 2020), stress, and sleep disorders (Beck et al., 2020). The lack of access to indoor areas to engage in leisure activities had significant psychological consequences (Moreno et al., 2020). Several studies also highlighted how occupational disruption led to a poor occupational balance (González-Bernal et al., 2020), increased sedentary behaviours (Alomari et al., 2020) and decreased leisure activities, affecting all generations of people (Engels et al., 2022). However, this sudden and long-lasting change in the environment, whether positive or negative, forced individuals to adapt their occupations and to modify their routines to respond to their "new" environmental constraints (Luck et al., 2021). Occupational disruption has been linked with changes in routines and modifications in priorities (Donnelly et al., 2021).

According to Kielhofner's Model of Human Occupation (MOHO), adjustment to this new imposed reality should be reflected in their occupational competence and their internal value system.

Occupational Competence

MOHO describes occupational competence as:

"the degree to which one sustains a successful pattern of occupational participation that reflects one's occupational identity. Thus, while identity has to do with the subjective meaning

of one's occupational life, competence has to do with putting that identity into action in an ongoing way." (De Las Heras de Pablo et al., 2017, p. 117)

More than how well a person can perform in occupations, occupational competence is strongly linked to occupational identity and the environment. Occupational competence includes, among others, *"fulfilling the expectations of one's roles and one's own values and standards for performance (...); participating in a range of occupations that provide a sense of ability, control, satisfaction and fulfillment"* (De Las Heras de Pablo et al., 2017, p. 118). Occupational competence is a dynamic concept that evolves over time and when environmental requirements change. The sudden arrival of the COVID-19 pandemic and subsequent increase in environmental constraints could have had negative or positive consequences on people's occupational competence.

Values from a MOHO perspective

Values are components of volition. Volition also includes interests and personal causation, which are constituent elements of the individual in MOHO. Values evolve over time and *"people acquire beliefs and commitments about what is good, right, and important to do"* (Lee & Kielhofner, 2017, p. 46). Values are an integrated set of personal beliefs, strongly influenced by the person's culture, and which define what things matter, what aspirations are desirable. They create a *"sense of obligation to perform in ways consistent with those values"* (Lee & Kielhofner, 2017 p. 46).

Values are one aspect of a volitional dynamic process involving anticipation, making choices, experience while doing, and subsequent interpretation. People make choices that are consistent with their values and interests, and personal causation. These choices shape occupational participation, occupational competence and identity.

Values are sensitive to changes in people's lives, such as disability or impairment (Lee & Kielhofner, 2017). Again, it seems consistent that the internal value system would be affected by an external event, such as the Covid-19 pandemic, whose consequences on occupation are maintained over time.

Environment from a MOHO perspective

In MOHO, the environment is divided into 3 dimensions: physical, social, and occupational environment. The physical environment includes qualities and availability of spaces and objects. Social environment considers availability of people and relationships, and qualities of interactions. The occupational environment includes presence and qualities of occupations that reflect people's interests, roles, capacities, and cultural preferences. It also considers funding and policies that influence availability of these activities.

For each of these dimensions, MOHO considers the context in which the environment is situated: immediate, local, or global context. The immediate environment refers to home, work, school, close family, and friends. The local environment includes neighbourhood and community. The global environment considers laws, societal and geopolitical context (Fisher et al., 2017).

The environment provides a wide range of opportunities and resources that enable people to choose and do activities, but environments can also direct actions, encourage or discourage behaviours (demands and constraints). All the aspects of the environment act together and influence the person in a dynamic and constant interaction (Fisher et al., 2017; O'Brien & Kielhofner, 2017). Covid-19 restrictions ordered by public authorities had an impact on the local and immediate levels of the environment.

Aims of the study

The purpose of this study was to examine the impact of lockdown on occupational competence and values regarding the environment. To our knowledge, no studies have specifically explored the impact of lockdown through the prism of occupational competence and values. We hypothesised that 1) occupational competence would decrease during the spring 2020 lockdown; 2) that the impact of lockdown on occupational competence would be higher than the impact on value; and 3) that the environment in which people experienced lockdown would impact on their occupational competence.

Method

We conducted a descriptive observational study using a survey.

Participants

Participants included were: (1) French-speaking people; (2) aged 18 and over; (3) living in northern hemisphere French-speaking countries (France, Belgium, Switzerland, Luxemburg, Canada) who were experiencing lockdown; (4) completed the survey between the 14th and 22nd day after the beginning of lockdown in their country. To be included, a minimum sample of 60 participants per country was considered. Participants were recruited online and completed an online survey. The survey was sent via various social networks, OT association networks and by word-of-mouth. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by an Ethics Committee. Participants gave their consent to the use of their data for this study. No data allowing the identity of the participant to be known was collected. The data were collected in April 2020.

Measure

The online survey used was the French version of the Occupational Self-Assessment (OSA) version 2.2 (Baron et al., 2006). The OSA is a self-report instrument that measures occupational competence, values, and environmental characteristics. The OSA was developed by an international group to ensure its relevance across cultures (Baron et al., 2006).

The first part of this instrument provides an understanding of occupational competence as perceived by the person. Respondents self-rate their performance on each of 21 occupation items (e.g., Taking care of myself, Managing my finances, Relaxing and enjoying myself). The sum of the scores of each item gives a weighted total competence score (rated from 0-to-100).

The second part gathers information about what a person considers important (value). The person assigns a level of importance to the same 21 items. The sum of the scores of each item gives a weighted total value score (rated from 0-to-100).

The gap or match between competence and value scores provides information about the person's satisfaction with their personal competence.

According to the OSA authors (Baron et al., 2006), when more than 3 items are not rated (in both competency and value scales = 6 missing data /OSA), the rating of OSA is not recommended.

The OSA items are classified according to a hierarchy of 3 areas: basic tasks of living, managing life and responsibilities, and satisfaction, enjoyment and actualization.

“Research demonstrates that items related to basic tasks of living are easier to perform well, and are easier to assign a higher level of importance. Similarly, items related to satisfaction, enjoyment, and actualization are more difficult to perform in a competent manner, and are also less likely to be assigned a higher level of importance” (Baron et al., 2006, p 39).

Also, some items are deemed to refer to more specific MOHO concepts such as volition, habituation or performance.

The OSA has been found to detect changes over time (Kielhofner et al., 2010).

Study design

Participants were asked to complete the OSA twice consecutively with no break in between. As there are no calibrated scores for the OSA in normal circumstances, it cannot be used as a reference to measure change. Therefore, for the first completion of the OSA, participants were asked to imagine themselves out with the lockdown situation with no pandemic hindering their occupations (BEFORE). For the second OSA, they were asked to consider themselves in the current situation of lockdown (DURING).

The OSA was formatted in an online form and demographic questions were added relating to age, gender, family situation, and country of residence. For this study, it was decided to add targeted complementary questions to obtain a clearer picture of the environments in which the participants were living during the spring 2020 lockdown period. Respondents were asked to provide information on their type of housing, if they lived in an urban or rural residential area, and if they had private outdoor access (garden, balcony, or

terrace). Finally, participants were asked to specify their socio-professional category, usual professional practice, and professional activity during the lockdown to provide a complete picture of the situation of the respondents.

Finally, additional questions asked participants to indicate whether their occupations changed during the lockdown, their level of satisfaction and whether their occupational priorities changed.

Statistical analysis

Descriptive statistics are presented as mean and standard deviation (SD) for continuous variables and frequencies for categorical variables. The data followed a normal distribution (Shapiro-Wilks's test) and therefore parametric tests were used. For all data, several repeated measures ANOVAs were used to evaluate the OSA competence total score and the OSA value total score with time (BEFORE, DURING) as the first factor, and participant characteristics (country of residence, family situation, gender, type of accommodation, private outdoor access, urban or rural residential area and professional occupation, professional activity during lockdown), as the second factor. A Fisher post-hoc test was conducted to determine significant differences between time and participant characteristics. Only for respondents who completed the whole OSA, several repeated measures ANOVAs were used to highlight the differences between the different MOHO concepts scores and between the OSA hierarchy items score with time (BEFORE, DURING) as the first factor and participant characteristics as the second factor (country of residence, and if the participants had private outdoor access). A Fisher post-hoc test was conducted to determine significant differences between time and country and private outdoor access.

The level of significance was fixed at $p < 0.05$. Data was analysed using SPSS Version 21, IBM, NY, USA.

Results

Participants

A total of 2115 responses were received from several French-speaking countries (France, Canada, Belgium, Switzerland, Togo, Luxembourg), of which 1879 respondents matched the inclusion criteria received. We chose to retain the responses

(n=1850) from 4 countries (those with the largest samples: n > 60), namely France, Belgium, Canada (province of Quebec) and Switzerland. After excluding the questionnaires with more than 6

missing data (n=81), a total of 1769 participants were included. Table 1 shows the demographic characteristics of participants.

Table 1: *Demographic characteristics of the participants in the study*

Characteristics	Participants N (%)
Total	1769
Gender	
Female	1466 (82.8)
Male	303 (17.2)
Family situation	
Single	558 (31.5)
Couple	1182 (66.8)
Widower	29 (1.6)
Number of children at home	
0	1075 (60.8)
1 and more	694 (39.2)
Country of residence	
France	1502 (84.9)
Belgium	86 (4.8)
Canada	100 (5.6)
Switzerland	81 (4.5)
Type of housing	
House	1100 (62.2)
Flat	669 (37.8)
Residence area	
Urban	780 (44.1)
Suburban	397 (22.5)
Rural	592 (33.4)
Private outdoor access	
Yes	1408 (79.3)
No	361 (20.3)
Socio-professional category	
Farmer	4 (0.2)
Craftsmen, shopkeepers and heads of enterprises	27 (1.5)
Managers and higher intellectual professions	456 (25.7)
Intermediate professions	653 (36.8)
Employees	105 (5.9)
Workers	9 (0.5)
Retired	67 (3.8)
Other people without any professional activity (including students)	448 (25.2)
Usual professional practice	
Outside the home	1304 (90.4)
Remote working	139 (9.6)
Professional activity during lockdown	
Outside the home	359 (24.9)
Remote working	911 (63.1)
Furlough for economic reasons and childcare	173 (12.0)

The majority of participants were women (n=1466, 82.8%). The mean (SD) age of the participants was 35.94 (13.9) years with a range of 18 to 83 years. Most lived in France (n=1502, 84.9%), in a house (n=1100, 62.2%) with private outdoor access (n=1408, 79.3%).

Occupational Self-Assessment

Occupational competence

Table 2 shows the occupational competence and value scores for the periods BEFORE and DURING and the demographic characteristics of the participants.

Table 2: Occupational competence and value scores, and demographic characteristics for the BEFORE and DURING lockdown periods

	Occupational competence		Value	
	BEFORE	DURING	BEFORE	DURING
Global	63.6 (11.7) †	54.1 (10.6) †	60.2 (11.8)	60.0 (12.8)
P Value (Before vs During)	† p<0.01			
<i>Gender</i>				
Female	63.4 (11.6)	54.0 (10.6)	60.2 (11.3)	60.3 (12.5)
Male	64.8 (12.3)	54.6 (10.3)	60.1 (13.0)	58.6 (14.0)
<i>Family situation</i>				
Single	62.8 (10.5)	53.6 (10.8)	59.9 (11.1)	60.1 (12.3)
Couple	63.8 (12.1)	54.3 (10.4)	60.2 (12.1)	60.0 (13.0)
Widower	69.2 (15.3)	54.4 (12.7)	63.2 (12.8)	60.3 (13.2)
<i>Number of children at home</i>				
0	63.4 (11.4)	54.2 (10.6)	60.1 (11.5)	60.3 (12.7)
1 and more	63.8 (12.1)	53.9 (10.5)	60.3 (12.3)	59.6 (12.8)
<i>Country of residence</i>				
France	63.1 (11.5)*	53.8 (10.5)**	59.8 (11.9)***	59.7 (12.9)
Belgium	64.1 (11.3)	53.2 (8.4)**	61.2 (10.3)	61.8 (10.5)
Canada	67.9 (13.2)*	55.6 (11.4)	63.4 (11.9)***	62.0 (11.9)
Switzerland	66.5 (13.4)	58.5 (12.4)**	61.4 (12.2)	62.2 (13.5)
P value	*p<0.01	**p<0.01	***p=0.02	
<i>Type of housing</i>				
House	63.5 (11.8)	54.4 (10.7)	60.1 (11.9)	59.6 (12.7)
Apartment	63.7 (11.7)	53.5 (10.3)	60.3 (11.8)	60.7 (12.9)
<i>Residence area</i>				
Urban	63.6 (11.3)	53.7 (10.6)	60.6 (12.2)	60.8 (12.9)
Suburban	63.4 (12.0)	53.6 (10.1)	59.9 (10.9)	59.5 (12.8)
Rural	63.7 (12.0)	54.9 (10.7)	59.8 (11.9)	59.4 (12.5)
<i>Private outdoor area</i>				
Yes	63.6 (11.7)	54.5 (10.6)**	60.3 (11.7)	60.1 (12.7)
No	63.6 (11.8)	52.6 (10.4)**	59.7 (12.4)	59.9 (13.1)
P value		**p<0.01		
<i>Usual professional practice</i>				
Outside the home	63.8 (11.8)	54.1 (10.5)	60.4 (11.8)	59.9 (12.7)
Remote working	64.1 (12.5)	54.2 (10.7)	61.6 (12.8)	61.6 (13.0)
<i>Professional activity during containment</i>				
Outside the home	65.2 (12.6)	54.4 (10.4)	60.4 (11.8)	59.6 (12.6)
Remote working	63.6 (11.5)	53.4 (10.5)	60.9 (11.8)	60.7 (12.6)
partial unemployment for economic reasons	60.8 (11.1)	54.9 (10.6)	58.7 (10.9)	58.6 (12.8)
Childcare	62.2 (9.5)	53.5 (9.8)	58.4 (10.7)	58.5 (14.0)

Data are mean (SD).

† p<0.01; *p<0.01; **p<0.01; ***p=0.02

The range of possible scores was 0-100.

Occupational competence score decreased significantly during lockdown (mean 63.6, SD 11.7 vs 54.1, 10.6), $p < 0.01$.

Access to a private outdoor space had no effect on the level of occupational competence before lockdown ($p = 1.00$); however, an effect was observed during lockdown ($p = 0.02$). People with private outdoor access had a higher competence score during lockdown (mean 54.5, SD 10.6) than those without private outdoor space (52.6, 10.4, $p < 0.01$, $F = 8.75$.)

The following variables had no effect on occupational competence score between BEFORE and DURING lockdown: age, gender, family situation, number of children at home, type of

housing, urban or rural residential area, socio-professional category, usual professional practice and practice professional activity during lockdown. However, an effect of the country of residence was found on occupational competence. Before lockdown, people living in Canada had a higher occupational competence score (mean 67.9, SD 13.2) than those living in France (63.1, 11.5) ($p < 0.01$). During lockdown, people living in Switzerland had a higher occupational competence score (58.5, 12.4) than those living in France (53.8, 10.5) ($p < 0.01$) and Belgium (53.2, 8.4) ($p < 0.01$). Table 3 shows occupational competence and value scores BEFORE and DURING lockdown for each MOHO concept and OSA hierarchy items.

Table 3: Occupational competence and value scores BEFORE and DURING lockdown for each MOHO concept and the OSA hierarchy items

	Occupational competence			Value		
	BEFORE	DURING	<i>p</i>	BEFORE	DURING	<i>p</i>
MOHO Concepts						
Skills/Occupational Performance	3.2 (0.4)	2.8 (0.4)	<0.01	2.9 (0.5)	2.9 (0.5)	0.83
Habituation	3.1 (0.4)	2.7 (0.6)	<0.01	3.0 (0.5)	3.0 (0.6)	0.47
Volition	3.0 (0.5)	2.6 (0.6)	<0.01	3.0 (0.6)	2.9 (0.6)	<0.01
OSA hierarchy						
Basic tasks of living	3.3 (0.4)	2.8 (0.5)	<0.01	2.9 (0.5)	2.95 (0.5)	0.94
Managing Life & Relationships	3.2 (0.4)	2.9 (0.4)	<0.01	3.0 (0.5)	2.91 (0.6)	<0.01
Satisfaction, Enjoyment, & Actualization	3.0 (0.5)	2.5 (0.6)	<0.01	2.9 (0.5)	3.05 (0.6)	<0.01

Data are mean (SD).

DURING lockdown, there was a decrease in occupational competence reflected in all components of MOHO personal factors ($p < 0.01$), whether for volition (mean 3.0, SD 0.5 vs 2.6, 0.6), habituation (3.1, 0.4 vs 2.7, 0.6) or performance (3.2, 0.4 vs 2.8, 0.4). Only one performance item increased DURING lockdown: "Taking care of the place where I live" (2.9, 0.6 vs 3.0, 0.7), $p < 0.01$.

There was a decrease in occupational competence reflected on the 3 levels of hierarchy of the OSA: basic tasks of living (mean 3.3, SD 0.4 vs 2.8, 0.5), managing life & relationships (3.2, 0.4 vs 2.9, 0.4), and satisfaction, enjoyment & actualization (3.0, 0.5 vs 2.5, 0.6), $p < 0.01$.

Table 4: Occupational competence scores for the OSA hierarchy items BEFORE and DURING lockdown depending on access to a private outdoor area

	BEFORE		DURING		<i>p</i>
	No private outdoor access	Private outdoor access	No private outdoor access	Private outdoor access	
Basic tasks of living	3.3 (0.4)	3.3 (0.4)	2.8 (0.5)	2.8 (0.5)	0.06
Managing Life & Relationships	3.1 (0.4)	3.2 (0.4)	2.8 (0.4)	2.9 (0.4)	0.31
Satisfaction, Enjoyment, & Actualization	3.0 (0.5)	3.0 (0.5)	2.4 (0.6)	2.5 (0.6)	0.01

Data are mean (SD).

People with private outdoor access had a higher level of occupational competence DURING lockdown than people without on items related to satisfaction, enjoyment and actualization (mean 2.5, SD 0.6 vs 2.4, 0.6) $p=0.01$ (Table 4).

Table 5 shows occupational competence scores for OSA hierarchy items BEFORE and DURING lockdown depending on the country.

Table 5: Occupational competence scores for OSA hierarchy items BEFORE and DURING lockdown depending on country

	BEFORE				DURING				<i>p</i> (BEFORE vs DURING)
	France	Belgium	Canada	Switzerland	France	Belgium	Canada	Switzerland	
Basic tasks of living	3.3 (0.4)	3.3 (0.3)	3.5 (0.3)	3.4 (0.4)	2.8 (0.5)	2.8 (0.5)	3.1 (0.5)	3.1 (0.4)	0.01
Managing Life & Relationships	3.1 (0.4)	3.2 (0.4)	3.4 (0.4)	3.3 (0.4)	2.8 (0.4)	2.8 (0.4)	2.9 (0.5)	3.0 (0.4)	0.02
Satisfaction, Enjoyment, & Actualization	3.0 (0.5)	3.0 (0.4)	3.2 (0.4)	3.1 (0.5)	2.5 (0.6)	2.5 (0.6)	2.5 (0.6)	2.7 (0.6)	0.36

Data are mean (SD).

There was an effect of a country of residence on the OSA hierarchy items basic tasks of living ($p<0.01$) and managing life & relationships ($p=0.01$) (Table 5). The post-hoc test showed that for basic tasks, people living in Canada or Switzerland maintained a higher level of occupational competence than those living in France or Belgium ($p<0.01$); regarding managing life & relationships, people living in Canada or Switzerland maintained a higher level of occupational competence than those living in France ($p<0.01$).

Value

The value score remained the same DURING lockdown (mean 60.0, SD 12.8) as BEFORE (60.2, 11.8), $p=0.55$ (Table 2).

Considering the MOHO personal factors, no difference was found for habituation or performance. However, the volition score decreased significantly during lockdown (mean 3.0, SD 0.6 vs 2.9, 0.6), $p<0.01$ (Table 3).

An effect of the country of residence was found on value scores. Before lockdown, people living in Canada (mean 63.4, SD 11.9) had higher value scores than those living in France (59.8, 11.9) ($p=0.02$) (Table 2). No difference was found during lockdown.

The following variables had no effect in the change in value score from BEFORE to DURING lockdown: age, gender, family situation, number of children at home, country of residence, type of housing, urban

or rural residential area, socio-professional category, usual professional practice and professional activity during lockdown.

Concerning the 3 levels of the value hierarchy, no difference was found for basic tasks of living ($p=0.94$). However, there was a decrease in the scores for managing life & relationships (mean 3.0, SD 0.5 vs 2.9, 0.6, $p<0.01$) and an increase in the scores for satisfaction, enjoyment and actualisation (2.9, 0.5 vs 3.0, 0.6, $p<0.01$) (Table 3).

Change in occupations during lockdown

Most of the participants indicated that their occupations had changed during lockdown ($n=1509$, 85.3%). More than half of the participants were satisfied with the change in their occupations during lockdown ($n=1083$, 61.2%). Their occupational priorities changed ($n=1282$, 72.5%) and 59.5% ($n=1052$) indicated that they had discovered new occupations.

Discussion

The aim of this study was to examine the impact of lockdown on occupational competence and values regarding the environment. As hypothesized, occupational competence score decreased during the spring 2020 lockdown and the impact of lockdown on occupational competence was higher than the impact on values. Furthermore, the environment in which people experienced

lockdown had an impact on occupational competence. From a MOHO perspective, the spring 2020 lockdown affected all components of the person (volition, habituation, performance capacity) and environments (Lin & Fischer, 2020). The immediate physical environment, including the natural and built environments where people live or work, changed during lockdown.

Impact on occupational competence and values

In line with our hypotheses, the lockdown imposed during the first wave of the Covid-19 pandemic in Spring 2020 had a negative impact on occupational competence. As occupational competence refers to the way a person constructs, organises and participates in life to be consistent with his/her identity (De Las Heras de Pablo et al., 2017), it seems logical that this aspect should be affected since the restrictions strongly limited occupational participation in all areas of activity.

Regarding the value scale, the overall score did not change during lockdown compared with before. This could be explained by the fact that changes in values take longer to occur than changes in occupational competence. According to Baron et al. (2006), the value that individuals assign to the items in the OSA reflects a part of their occupational identity. Studies in the context of disability have shown that changes occur first in occupational competence (Kielhofner et al., 2001; De Las Heras de Pablo et al., 2017). It would therefore be consistent for the impact of lockdown to be first seen on occupational competence.

However, the hierarchy of values changed, i.e., the aspects associated with managing life and relationships and those related to satisfaction, enjoyment and actualization. This suggests that a reshaping of the personal value system took place during the lockdown in which people gave more importance to occupations that allowed satisfaction, enjoyment, and actualization at the expense of occupations relating to managing life and relationships. Indeed, most participants indicated that their occupations had changed during lockdown. Their occupational priorities changed, and they indicated that they discovered new occupations. Basic tasks of living remained at

the same level, suggesting the essential nature of these tasks to the functioning of daily life.

Impact of the environment

The environment in which people experienced lockdown had an impact on occupational competence, but, surprisingly, only a part of the physical immediate environment (access to a private outdoor area) had a significant impact during the lockdown.

Although it might have been expected that the local context (e.g., rural vs. urban living environment), the size of the residence, the presence of children at home, or the number of people with whom the participants were confined would have had an impact, only having private outside access fostered better occupational competence. However, some results are consistent with other results in the literature. Gonzalez-Bernal et al. observed an effect of private access to the outside in their study, but no effect of residence area was found on occupational balance (González-Bernal et al., 2020). This could be explained by the fact that, beyond the location or the type of residence, the ability to go outside when people wanted to was essential. We can hypothesise that it is this aspect of environment (having a balcony or a garden) that allowed the participants to engage in specific outdoor occupations and therefore maintain a higher level of occupational competence. The MOHO authors refer to the notion of environmental impact arguing that «*opportunities, resources, demands, and restrictions of cultural, political, and economic conditions and social and physical environmental dimensions of different occupational setting play an active role in changing, for better or for worse, the course of occupational adaptation*» (De Las Heras de Pablo et al., 2017 p. 117). Also, to be recognised as truly supportive, there must be a match between the opportunities and resources offered by the environment and the wishes of the individual (Fisher et al., 2017). It can therefore be assumed that, in the context of lockdown, having private outdoor access constitutes an opportunity of interest that suits the person's more limited wishes in this context.

Also, although not anticipated, a significant difference was found in the level of occupational competence according to the country of residence.

The cultural, political, and economic context has an important influence on occupational competence (Fisher et al., 2017). Consequently, the conditions (political discourse, information disseminated related to the pandemic, and application of the lockdown) in which lockdown took place in each country may have influenced people's occupational competences differently. Thus, prior to lockdown, it appears that the level of occupational competence was significantly higher among participants living in Canada than those living in France. To our knowledge, such differences between populations were not reported by the OSA authors in their validation studies. These results lead us to hypothesise that (1) the global environmental context (including public health policies) has an influence on occupational competence; and (2) the perception of occupational competence depends on the country/continent of residence and the specific culture associated with that place of residence. Moreover, our sample does not accurately represent the population of French-speaking countries. Participation was not equally distributed across these countries. This aspect could have influenced the results because the conditions of lockdown were announced politically in different ways in each country. Therefore, additional studies are necessary to clearly identify the factors that could influence occupational competence in terms of the environmental context. With lockdown, changes in occupational competence occurred immediately, whereas for values, a reorganization of the internal system of values first seems to predominate before a potential change occurs. This suggests that changes in the OSA scores for value and occupational competence should be evaluated when the pandemic has stabilized. It would be interesting to determine if the score returns to its previous level or increases, and if the reorganization of the hierarchy is confirmed.

Methodological Considerations

This study has several limitations. First, the men-women distribution was unequal. However, we found no influence of gender on variations in competence and value scores, which confirms the reliability of the results. Second, asking participants to self-rate their occupational competence and

value prior to lockdown (BEFORE), is a projection of reality since the participants had already been in the lockdown situation for the last 14 days. Their perception may have been influenced by this unusual situation, perhaps resulting in an embellished view of their occupational competence before lockdown. This can be explained by the positivity bias in memory (Adler & Pansky, 2020), whose positive effect on the reporting of past events was demonstrated in the context of the Covid-19 pandemic (Aizpurua et al., 2021).

Conclusion

This study showed that the routines and habits of people during lockdown were disturbed, resulting in occupational disruption. This had a significant impact on their perceived occupational competence and this process may have initiated a redesigning of their internal value system. Nevertheless, access to a private outdoor area had a positive influence on occupational competence. Finally, the global environmental context in which individuals live (i.e., the country of residence) seemed to affect individual's perceptions of their own occupational competence.

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Declaration of Conflicting Interests

The authors declare that there is no conflict of interest.

Research ethics section and patient consent

All subjects gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was

approved by the Ethics Committee of Paris-Saclay University (CER-Paris-Saclay-2021-008).

Data

Data are available on request from the corresponding author.

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