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Occupational Disruptions Among Health Professional Graduate Students During COVID-19 Pandemic

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Occupational Disruptions Among Health Professional Graduate Students During COVID-19 Pandemic

Abstract

The COVID-19 pandemic created a global lockdown and restricted people from leaving their homes. The current study aimed to explore the impact of the pandemic on occupational engagement among health professional graduate students. A web-based survey consisting of quantitative and qualitative responses was sent out to graduate students enrolled in health professional programs at a private university in the Northeast and received 86 responses. The results revealed that social participation and education were the most impacted occupations. The least affected occupations among the graduate students in health professional programs was ADLs. The participants reported the pandemic did not negatively affect their grades or grade point average. Four themes emerged from the qualitative data: sedentary lifestyle, engaging in leisure activities, seeking support from friends and family, and interrupted clinical experience. The findings offer some insights into the needed support and resources universities and health professional programs can prepare and provide to students during the pandemic or future crises.

Comments

The authors declare that they have no competing financial, professional, or personal interest that might have influenced the performance or presentation of the work described in this manuscript.

Keywords

occupational engagement, coronavirus, occupational imbalance, college students

Cover Page Footnote

The authors would like to thank all the graduate student who participated in this study.

Credentials Display

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Coronavirus (COVID-19), a virus discovered in December of 2019, spread worldwide in a matter of months. The World Health Organization declared the COVID-19 virus outbreak a global pandemic on March 11, 2020 (Cucinotta & Vanelli, 2020). A “new normal” developed with habits like washing hands more frequently, wearing a mask, and staying 6 feet apart to decrease the virus’ spread (Centers for Disease Control and Prevention [CDC], 2020). Non-essential businesses, including schools, were shut down, causing disruptions to students’ learning environments and requiring many adaptations to fulfill their educational needs. Colleges and universities transitioned to virtual learning abruptly. Because of the COVID-19 outbreak, many health professional programs suspended students’ clinical placements, and some clinical facilities refused clinical rotations. The outbreak caused a significant disruption to college students’ learning and their engagement in other occupations.

The American Occupational Therapy Association (AOTA, 2020) defines occupation as everyday activities that people do to occupy their time and bring meaning and purpose to their lives. Occupation can be classified as activities of daily living ([ADLs] such as bathing, dressing, etc.), instrumental activities of daily living ([IADLs] such as care of others, care of pets, etc.), health management (such as medical management, physical activity, etc.), play (play exploration and play participation), leisure (leisure exploration and play participation), social participation (community participation, family participation, etc.), rest and sleep, education, and work.

The Person-Environment-Occupation Model (PEO) of occupational performance (Law et al., 1996) states that occupational performance is affected when there is a disruption between the three domains of the person (P), the environment (E), and the occupation (O). The COVID-19 pandemic affects the environment (physical, institutional, cultural, and social) where the person performs occupations. Occupational disruption “occurs when a person’s normal pattern of occupational engagement is disrupted due to significant life events” (Whiteford, 2000, p. 201).

Prior research provides evidence on how trauma and other disruptions, such as natural disasters, can affect human occupational performance and quality of life. Few research studies have examined the impact of traumatizing events on occupational disruptions of graduate students in health professional programs (Smith et al., 2011; Strom et al., 2016). The current study explored the impact of the COVID-19 pandemic on graduate students enrolled in health professional programs.

A study by Smith et al. (2011) examined how a natural disaster can cause occupational disruptions. The qualitative study investigated how graduate students’ habits, routines, and roles were affected by Hurricane Ike during their fieldwork Level II occupational therapy program. The researchers interviewed three participants through open-ended questions. Their findings suggested that the participants were not involved in all the roles they valued. There was an overall loss of personal space as many relocated with families, which affected the participants’ routines. The participants also experienced a disengagement in leisure activities as they felt the aftermath of the hurricane made it almost impossible for them to participate in their hobbies. The participants stated that their connection with their spouses became stronger, whereas their connections with their friends and family decreased. Smith et al. (2011) suggested that traumatic events like a hurricane could inhibit a person’s ability to engage in ADLs, IADLs, and leisure activities. The study did not examine how these traumatic events can affect a graduate student’s academic performance.

McDonald et al. (2012) examined occupational disruptions in people with disabilities. Participants consisted of 37 women with an onset diagnosis of rheumatoid arthritis. The authors conducted qualitative interviews that included questions on how rheumatoid arthritis impacted their lives. Analysis of the data

yielded four themes: uncertainties, experiencing activity disruption, doing things differently, and changing views of self. Participants attributed their uncertainties based on the fluctuations in symptoms. Several women stated that they did not participate as much in activities that became difficult or time-consuming. Many reported feeling bored or excluded because they could not participate in certain hobbies, travel, study, and work. In the third theme identified, women chose to continue participating in desired occupations by modifying the task despite any distress this might cause. The last theme explained how the participants portrayed themselves based on the activities in which they were participating, which they referred to as an occupational identity.

Sima et al. (2017) conducted a qualitative study to explore the experiences and occupational disruptions after a cyclone in Australia. The study used semi-structured interviews to examine the experiences of nine participants post-cyclone. Five major themes were derived: recovery occupations, interruption to leisure and productive occupations, reconstruction, a second disaster, and occupational liminality and a new normal. They recognized that life would not revert to the way it was before, and some participants discovered ways to adapt to a new routine to survive, despite the change in their comfortable routines.

Another study conducted by Strom et al. (2016) explored the effects of a school shooting on school performance. The researchers performed a longitudinal interview study with the same 64 students in a senior high school program. Conducting mean differences and linear regression analysis measured the effects on students' academic progress. The study found that students produced lower grades following the shooting and a decreased overall grade point average. The authors also highlighted that absenteeism increased significantly. Further, this study emphasized the negative impact that a traumatic event or change in routine can have on students' academic performance. The current study aimed to explore if fear of COVID-19 also impacted graduate students' academic performance.

The existing literature provides an understanding of traumatic events or experiences on students and their academic performance. Understanding these studies assists in delivering better aid and support to students in uncertain times. The present study explored the occupational disruptions during the COVID-19 pandemic that occurred among students of different graduate health professional programs and examined which areas of the occupations were most affected by the COVID-19 pandemic.

Method

Study Design

The study used a mixed-methods approach with an exploratory design to examine occupational disruptions among graduate students in different health professional programs during the COVID-19 pandemic. The design included a cross-sectional web-based survey consisting of quantitative and qualitative responses.

Instrument

To explore the impact of the COVID-19 pandemic on occupational engagement among health professional graduate students, the researchers created and administered questionnaires on Qualtrics, a web-based platform. Expert university faculty reviewed the survey instrument to ensure face validity. The questionnaires consisted of demographic questions, fifteen 5-point Likert scale quantitative questions, two multiple-choice quantitative questions, and five open-ended qualitative questions (see Table 1). The non-demographic questions covered different areas of occupations, including ADLs (e.g., bathing, grooming, toileting, eating, and dressing), IADLs (e.g., grocery shopping, money management, caring for others, and religious practices), education, rest and sleep, health management, work, play, and leisure (AOTA, 2020).

The definition of each area of occupation was provided next to the questions to aid understanding of the concepts and questions for non-occupational therapy students.

Table 1

Questionnaire

Sample Questions

COVID-19 pandemic has disrupted my activities of daily living
COVID-19 pandemic has disrupted my instrumental activities of daily living
COVID-19 pandemic has disrupted my education
COVID-19 pandemic has disrupted my social participation
COVID-19 pandemic has negatively affected my academic experience
COVID-19 pandemic has negatively affected my grades or grade point average
COVID-19 pandemic has affected my clinical placements and internships
Please indicate your most disruptive occupation since the COVID-19 pandemic
How has your lifestyle changed since the COVID-19 pandemic (if any)?
What resources and supports do you find most helpful since the COVID-19 pandemic?

Participants

Participants were recruited using a convenience sampling technique through an email invitation asking for survey participation. The inclusion criteria for the study were graduate-level students who were currently enrolled in health professional programs and were adults over 18 years of age. Students not currently enrolled in health professional programs or at the undergraduate levels were excluded from the study.

Procedures

The university's institutional review board committee approved the current study. The researchers sent an introductory email with an invitation link to the Qualtrics survey to each health professional program. If the students agreed to participate, they were asked to click on the survey link, complete the consent form, and fill in the questionnaires. The survey took approximately 15 min, including the demographics and the COVID-19 related questions. Reminder emails were sent twice to increase the chance of participation.

Data Analysis

The quantitative data were analyzed using IBM SPSS Statistics (version 27.0). Descriptive statistics, including frequency distributions, means, and standard deviations were performed to summarize demographic data and each area of occupation. Content and thematic analyses were used to analyze the qualitative data from the open-ended survey responses. Key words were identified, and relevant information that answered the research questions was extracted. Codes were created and then turned into themes. After the researchers independently coded the data, they compared their notes and lists of themes and identified commonalities among them through peer debriefing. The researchers documented how conclusions and interpretations arose from the data.

Results

The participants were 86 students enrolled in graduate health professional programs, including nursing, physician assistant studies, communication and science disorders, nutrition and dietetics, and occupational therapy at a university in the northeast region. Of the 86 students, 74 (86%) were female, 68 (79%) were full-time, and 49 (57%) were employed. All but one lived on-campus. The participants' ages ranged from 22 to 56 years ($\bar{x} = 28.65$, $SD = 7.24$). Forty-six of the participants (54.76%) were white, eight (9.52%) were Asian/Pacific Islander, 14 (16.67%) were black, nine (10.71%) were Hispanic/Latino, one (1.19%) biracial/multiracial, four (4.76 %) were others, and two (2.38%) preferred to not disclose their race (See Table 2).

Table 2
Participants' Characteristics

Characteristics	<i>n</i> (%)
Gender	
Female	74 (86.0)
Male	12 (14.0)
Race	
Asian / Pacific Islander	8 (9.3)
Biracial or Multiracial	1 (1.2)
Black	15 (17.4)
Hispanic / Latino	10 (11.6)
White	46 (53.5)
Other	4 (4.7)
Prefer not to disclose	2 (2.3)
Living Status	
Off-campus	85 (98.8)
On-campus	1 (1.2)
Marital Status	
Single	63 (73.3)
Married	20 (23.3)
Did not answer	3 (3.4)
Program Currently Enrolled	
Communication and Science Disorders	5 (5.8)
Nursing	19 (22.1)
Nutrition and Dietetics	5 (5.8)
Occupational Therapy	42 (48.8)
Physician Assistant Studies	15 (17.4)
Year in the Program	
First Year	36 (41.9)
Second Year	42 (48.8)
Third Year	4 (4.7)
Other	4 (3.7)
Current Student Status	
Full-time	68 (79.1)
Part-time	18 (20.9)
Employment Status	
Full-time	21 (24.4)
Part-time	28 (32.6)
N/A	37 (43.0)

The results showed the majority of the participants agreed that all of their occupations were disrupted except in the area of ADLs. In the area of ADLs, the majority of the participants (58%) disagreed that they were affected by the COVID-19 pandemic (see Table 3). Two areas reported to be most disrupted by the pandemic were social participation and education. The least affected areas reported were ADLs and rest and sleep. Other areas of concern included current and future clinical placements, and the area that was not negatively affected by the pandemic was grades or grade point average.

Table 3
Percentages of Responses in Each Occupation

Occupation Areas		<i>n</i>	%
Activities of Daily Living	Strongly Agree	15	17.4%
	Agree	15	17.4%
	Neither or N/A	6	7.0%
	Disagree	31	36.0%
	Strongly Disagree	19	22.0%
Instrumental Activities of Daily Living	Strongly Agree	26	30.2%
	Agree	27	31.4%
	Neither or N/A	15	17.4%
	Disagree	12	14.0%
	Strongly Disagree	6	7.0%

OCCUPATIONAL DISRUPTIONS AMONG HEALTH PROFESSIONAL GRADUATE STUDENTS

Education	Strongly Agree	32	37.3%
	Agree	33	37.4%
	Neither or N/A	14	16.3%
	Disagree	4	4.6%
	Strongly Disagree	3	3.4%
Health Management	Strongly Agree	14	16.3%
	Agree	31	36.0%
	Neither or N/A	14	16.3%
	Disagree	21	24.4%
	Strongly Disagree	21	24.8%
Rest and Sleep	Strongly Agree	21	24.4%
	Agree	27	31.4%
	Neither or N/A	13	15.7%
	Disagree	17	15.1%
	Strongly Disagree	8	9.4%
Work	Strongly Agree	32	37.2%
	Agree	29	33.7%
	Neither or N/A	9	10.5%
	Disagree	12	14.0%
	Strongly Disagree	4	4.6%
Play	Strongly Agree	28	32.6%
	Agree	28	32.6%
	Neither or N/A	16	18.6%
	Disagree	11	12.8%
	Strongly Disagree	3	3.4%
Leisure	Strongly Agree	25	29.0%
	Agree	26	30.2%
	Neither or N/A	10	11.6%
	Disagree	18	20.9%
	Strongly Disagree	7	8.1%
Social Participation	Strongly Agree	55	63.9%
	Agree	29	33.7%
	Neither or N/A	1	1.2%
	Disagree	1	1.2%
	Strongly Disagree	0	0
Grades and Grade Point Average	Strongly Agree	4	4.7%
	Agree	3	3.5%
	Neither or N/A	21	24.4%
	Disagree	38	44.2%
	Strongly Disagree	20	23.2%

Note. 1 = strongly agree, 2 = agree, 3 = neither, 4 = disagree, 5 = strongly disagree

The researchers found four themes in the five open-ended survey questions: Sedentary lifestyle, engaging in leisure activities, support from friends and family, and interrupted clinical experience. Further discussion of each theme follows.

Sedentary Lifestyle

In response to the first open-ended question (How has your lifestyle changed since the COVID-19 pandemic [if any]?), most of the participants shared that since the onset of the COVID-19 pandemic, they have become more sedentary, less social, and felt stuck at home. One of the participants mentioned that they “used to go to the gym and work out a lot. I am a registered nurse, and now I feel like I’m only working, studying, and repeat.” It is also important to note that other participants felt more anxious, had fears of illness or transmitting the virus to others, and had to implement personal protective equipment (PPE) as preventative measures and virtual learning into their everyday lives.

Engaging in Leisure Activities

When asked how the participants have adapted to or recovered from the pandemic’s disruptions, several of the participants mentioned that they learned to engage in their hobbies in their home to follow quarantine guidelines. Some even said that they picked up new hobbies, such as baking, exercising at

home, and cooking. Other participants stated that they have not recovered from the COVID-19 pandemic. One participant shared, “I continue to go through the motions and hope that I can remain focused on school and, like, knowing that these will generally pass when the virus comes under better management and control.”

Support from Friends and Family

Most of the participants said that their friends and family were the most helpful and supportive throughout the pandemic and allowed them to express their concerns. One participant mentioned that their family has been “lifting each other up throughout this hardship and making sure we’re each taken care of.” The participants also mentioned that Zoom has been very resourceful in keeping their classes on track and meeting with professors, friends, and distant family members. A few of the participants mentioned prayer has been helpful through the pandemic, as well as hobbies, including cooking, exercise, television, and reading. Very few of the participants said that they could not find any resources to help them through the pandemic, and a few found CDC guidelines and information about COVID-19 supported them through the pandemic.

Interrupted Clinical Experience

When asked how COVID-19 has affected their academic and clinical experience, almost every participant mentioned that their clinical experience was either cut short or transitioned to an online experience. The participants were concerned about the lack of clinical experience and not being prepared to work with real-life patients, which caused stress and anxiety. Every participant received online learning since the beginning of COVID-19, which hindered their hands-on experiences. The participants have had negative experiences with online learning. A few mentioned struggles, such as “online classes can be distracting for me compared to an in-person lecture,” “it was harder to focus being online,” and “it is hard to find a balance between home life and school life.” However, a few of the participants did not mind having classes online and found them more convenient.

Discussion

The study’s findings indicated that social participation and education were the two most affected areas for the participants during the pandemic. This finding is consistent with previous research. Because of quarantine during COVID-19, people were prohibited from socially interacting with others outside of their homes. The lack of socialization is similar to experiences during Hurricane Ike in that connections with friends suffered during the storm and the rebuilding process (Smith & Scaffa, 2014). The pandemic withdrew people from society. It is a traumatic event unlike any other, where gathering together is more harmful than recovering because of transmission of the virus.

The pandemic also caused an abrupt disruption in students’ learning (Sklar, 2020; Woolliscroft, 2020) and social participation. Some students had difficulty accepting the possibility of not seeing their classmates and others in person at school (Kee, 2021). According to Kee (2021), graduate students who participated in the study experienced psychological challenges, such as fears, anxieties, frustration, and concerns when the mode of delivery was abruptly changed from face-to-face to remote during the pandemic. This finding is consistent with the current study. Although offering virtual learning in place of in-person classes allowed the participants to continue their academic programs, the participants felt that the lack of hands-on learning kept them behind in their education. The participants noted they feared future clinical placements would be cancelled or clinical sites would not allow students to participate onsite. The participants were concerned that replacing hands-on clinical experiences with virtual simulations would not adequately prepare them to work with real-life patients. Almost every participant missed the

opportunity to complete their clinical education because clinical experiences were either cut short or transferred to a virtual clinical simulation. Though many students were still on track in their program to graduate, stress and anxiety were apparent. This anxiety could stem from not knowing how to interact with real-life patients efficiently, and not feeling prepared for post-graduation employment.

The current study found that the pandemic did not negatively affect grades or grade point average. This is inconsistent with Strom et al.'s (2016) findings, where participants shared that their grade point average was the most impacted the year after the trauma. The COVID-19 pandemic interrupted in-person learning; however, the university still provided students with many other resources to continue their education via remote learning. Moreover, the university and program offered some flexibility in terms of grading policy and assignment due dates. Empathy and understanding of the students' needs were also crucial.

The researchers discovered significant occupational disruptions in the participants' everyday routines based on the themes identified in the responses to the open-ended questions. Despite experiencing occupational disruptions, many of the participants adapted to the circumstances presented by the COVID-19 pandemic (following restrictions, abiding by quarantine rules, and incorporating PPE into their routines). Some of the participants found ways to continue engaging in hobbies within the confines of their homes. Although the pandemic caused occupational disruptions, some students eventually learned to adapt and develop coping strategies through increased positivity and resilience toward their work and personal lives. According to Schultz (2014), "Success in occupational performance is a direct result of the person's ability to adapt with sufficient mastery to satisfy the self and others" (p. 528). Occupational adaptation is a normative process that leads to competence in occupational functioning. This occupational functioning occurs through the interaction of the person with the areas of occupational performance such as ADLs, IADLs, work, education, and so forth (Schultz & Schkade, 1992). These responses highlight the adaptations that the participants resorted to in response to their occupational disruptions and how those adaptations allowed them to continue participating in meaningful activities.

The PEO model (Law et al., 1996) and the Occupational Adaptation model (Schultz & Schkade, 1992) can be applied in the current study. The PEO model states that occupational performance is affected when there is a disruption between the three domains. The Occupational Adaptation model states that when individuals are faced with challenges, they learn to adapt and continue to engage in meaningful occupations, which was found in the current study. When an individual faces occupational challenges, regular responses may not be sufficient to master his or her occupation. In this situation, occupational adaptation is required for the individual to meet the occupational challenge (Schkade & Schultz, 1992).

Limitations

This study was conducted on graduate students at one university, and the convenience sampling method was used. These factors could limit the generalizability. Some confounding variables found in this study include socioeconomic status and access to resources, which lead to occupational disruption. Another limitation was that women were overrepresented in the study sample.

Conclusion

The study findings offer insights into the needed support colleges and universities can provide students during a crisis such as natural disasters or pandemics. Colleges and universities should develop emergency response plans for disaster preparedness, build a mechanism for students' counseling and mentorship, and acquire resources that help to prevent the students' challenges. In addition, the universities and programs should identify strategies to best support students' clinical experience during a

pandemic or disaster. The findings allow health care programs to prepare to adjust the curriculum to benefit students' participation and clinical experiences in future crises. More support and resources during traumatic events may help students excel in these programs. Future research can investigate if a difference between genders exists and explore the long-term effects of COVID-19 to better prepare for future traumatic events.

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