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Physical Activity Levels among American Long-Term Care Employees during the COVID-19 Pandemic

RESEARCH

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ABSTRACT

Context: Physical activity has been shown to have physiological and psychological benefits in adults worldwide. Those in the healthcare industry, including long-term care employees, face unique occupational stressors that could be barriers to initiating and maintaining a physically active lifestyle.

Objectives: 1) to describe the physical activity level of a group of long-term care employees; and 2) examined demographic and self-efficacy influences on physical activity level.

Methods: The cross-sectional study included an online questionnaire with demographics, the Godin Leisure-Time Exercise Questionnaire (GLTEQ), and the Self-Efficacy for Exercise Scale, in a convenience sample of 218 participants.

Findings: Results found 71.5% of the sample were classified as active, the percentage of participants who indicated they were highly active in their youth compared to adulthood decreased from 40.3% to 16.0%, and 37.3% of the sample decreased their physical activity level during COVID-19. Additionally, the GLTEQ score was significantly higher for those with high exercise self-efficacy (M = 65.97, SD = 30.78) compared to those with moderate exercise self-efficacy (M = 37.14, SD = 27.07, p = .000) and low exercise self-efficacy (M = 16.00, SD = 15.11, p = .000).

Implications: Although the majority of the long-term care employees were considered active even during the COVID-19 pandemic, strategies to promote physical activity in the occupation setting are needed. Additional research is warranted to better understand if the nature of healthcare and occupational physical activity may have impacted this value.

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INTRODUCTION

Regular physical activity positively impacts multiple systems of the human body, such as the cardiovascular system, respiratory system, skeletal muscle system, and brain. These include the prevention of cardiovascular disease (Ekblom-Bak et al., 2014; Lear et al., 2017; Nystoriak & Bhatnager, 2018), obesity and weight control (Jakicic et al., 2019; Kim et al., 2017), risk of cancer (Jung et al., 2019; Matthews et al., 2020), diabetes risk (Gill & Cooper, 2008) and diabetes control (Bird et al., 2017; Chimen et al., 2012), and all-cause mortality (Gebel et al., 2015; Min et al., 2020). From a psychological aspect, participation in regular physical activity has been shown to decrease general stress levels (Dogra et al., 2018; Rueggeberg et al., 2012; Schultchen et al., 2019; van der Zwan et al., 2015; Vankim & Nelson; 2013). Additionally, physical activity has been shown to reduce anxiety (Aylett et al., 2018; Saeed et al., 2010) and decrease symptoms of depression (Aylett et al., 2018; de Camargo et al., 2021; Lindegard et al., 2015; Lovell et al., 2015; Saeed et al., 2010; Wang et al., 2010).

Despite the demonstrated physical and psychological benefits of regular physical activity, globally, more than a quarter of the world's population is not active enough to experience health benefits from physical activity (Guthold et al., 2018, WHO, 2020). Previous research has shown that 46.7% of adults in the United States did not meet the guidelines for aerobic physical activity. Only 23% of adults in the United States met both the aerobic and muscle-strengthening physical activity guidelines (CDC, 2020; HHS, 2018). Additionally, the CDC indicated that between 2015–2018 individual states reported 17.3 – 47.7% of those over the age of 18 reported no leisure-time physical activity (2020). The reported physical activity level of healthcare employees has varied widely (Jun et al., 2019; Marques-Sule et al., 2021; Saad et al., 2020; Saridi et al., 2019), and occupational physical activity in healthcare employees may not be adequate to experience physical and psychological benefits (Benzo et al., 2021; Chappel et al., 2017; WHO, 2020). However, very little evidence exists on the physical activity level of those working specifically in the long-term care sector of healthcare. This may be an important factor in physical activity promotion for long-term care employees.

The physical activity level of long-term care employees may directly and indirectly impact resident care. Work related musculoskeltal disorders and illness were factors in 29.8% of long-term care employees decreasing work time and 63.8% having occupational restrictions while on the job (Wilke et al, 2020). Additionally, employee absenteeism has been shown to impact resident care quality indicators, including physical restraint use, catheter use, pain management, and pressure sores (Castle & Ferguson, 2015). However, meeting physical activity guidelines significantly reduced long-term care employee absenteeism (Lopez-Bueno et al., 2021; Losina et al., 2017). This supports the potential idea that physical activity level may be an important factor in staffing shortages that many long-term care facilities face by decreasing employee absenteeism (Harrington et al., 2016). Staffing shortages have continued or worsened during the COVID-19 pandemic (Gohar et al., 2020; White et al., 2021), creating changes to work hours that negatively influenced physical activity participation (Kua et al., 2022).

Physical activity level may also indirectly impact resident care through employee job satisfaction. A small increase in physical activity has been shown to increase healthcare employee job satisfaction (Iwaasa & Mizuno, 2018). Additionally, fewer physical health problems was associated with higher long-term care employee job satisfaction (Schwendimann et al., 2016). As previously indicated, physical activity and exercise provide numerous physical health related benefits (Bird et al., 2017; Chimen et al., 2012; Ekblom-Bak et al., 2014; Gebel et al., 2015; Gill & Cooper, 2008; Jakicic et al., 2019; Jung et al., 2019; Kim et al., 2017; Lear et al., 2017; Matthews et al., 2020; Min et al., 2020; Nystoriak & Bhatnager, 2018). These physical benefits may assist with decreasing physical health problems in long-term care employees and be a contributing factor to employee job satisfaction. A one point increase in long-term care employee job satisfaction has been shown to increase resident and family satisfaction by 17.4% and decrase the prevelance of negative quality care indicators such as resident falls, weight loss and pressure ulcers by 19.0% (Plaku-Alakbarova et al., 2018). These direct and indirect impacts from physical activity on employees and residents, make employee physical activity level an important metric for long-term care organizations.

Those working in healthcare must overcome common barriers to initiate and maintain a physically active lifestyle such as a lack of time, social support, enjoyment, confidence/self-efficacy, resources, and motivation (Hoare et al., 2017; Herazo-Beltran et al., 2017; Stutts et al., 2002). Healthcare workers face unique occupational stressors that may exacerbate common barriers and further inhibit initiation or maintenance of regular physical activity (Chaudhari et al., 2018; Dighe, 2020; Happell et al., 2013; Mosadeghrad, 2013; Sarifis et al., 2016; Trivellas et al., 2013). Workplace stressors and environment were associated with negative health-related behaviors, including a decrease in physical activity level (Miranda et al., 2015). Additionally, long-term care staff care for residents with consistent declining physical and cognitive health, including memory loss and dementia (Woodhead et al., 2014). Up to 40% of long-term care staff time is dedicated to dealing with challenging resident behaviors both directly and indirectly adding to occupational stress (Baker et al., 2015). These occupational challenges may create additional barriers to physical activity for long-term care employees.

The aim of the present study was to describe the physical activity level of a group of long-term care employees, including changes to physical activity level from youth to adulthood and the impact of COVID-19 on physical activity level. The second aim of the study was to understand demographic influences on physical activity levels. The final aim of the study was to understand various aspects of self-efficacy for physical activity and exercise among a group of long-term care employees. Through these aims, the article will demonstrate how physical activity level of long-term care employees may be connected to overall employee health, potentially leading to better resident outcomes. Long-term care administers may utilize this information to demonstrate the importance of measuring employee physical activity as an organizational metric which may contribute to caring behaviors and resident satisfaction.

METHODS

STUDY POPULATION

The setting of the study was a long-term care and senior living organization with 19 locations within both a large metropolitan area and smaller rural communities in the Midwestern United States region. The organization offers a full continuum of care, including independent living, assisted living, memory care, and skilled nursing. There are approximately 1,500 total employees throughout the organization, with 900 full-time employees and 600 part-time employees. The organization has six categories of employees including administrative, professional, sales and marketing, managers, service workers, and technicians. However, for the purpose of data collection and comparison to previous research, the participants were divided into two categories, including those who provide direct resident care as their primary job function and those that do not provide direct resident care as their primary job function.

All employees who met the inclusion criteria were eligible to participate in the study, regardless of their role within the organization. Inclusion criteria for the study were full-time employees of the organization (≥ 60 hours per pay period) and access to a computer/electronic device to complete the survey. Exclusion criteria for the study were part-time employees of the organization (less than 60 hours per pay period), employees who are per requested need (PRN) status, or have no direct access to a computer/electronic device to complete the survey.

STUDY DESIGN AND DATA COLLECTION

Prior the the study, researchers completed research ethics courses through CITI training. The completion of the CITI research ethics training was submitted as a part of the Institutional Review Board (IRB) application. The long-term care organization where the data was collected did not assist in the design of the survey or the analysis of the data. The data collection site completed a Site Permission form, which outlined the purpose of the study, along with any benefits and foreseeable risks associated with the study. The form was submitted as a part of the IRB application. The long-term care organization did provide the principal investigator email addresses for all full-time employees of the organization to be utilized for data collection. The study utilized a web-based survey through Qualtrics. Data collection occurred between September 20, 2021 and October 11, 2021. Employees were emailed a link to survey, which they were able to access on any electronic device. The link to the survey also contained the Informed Consent, which indicated that answers to survey questions were anononymous, their participation in the survey was voluntary, they could withdraw from the study at any time without penalty and provided benefits and foreseeable risks associated with the study. Employees were not compensated with monetatry or non-monetary rewards for completing the survey. However, at the end of the survey employees did have the opportunity to provide their email address to be randomly selected for 1 of 5 electronic Amazon gift cards valued at $25.00 USD.

MEASUREMENTS

EMPLOYEE DEMOGRAPHICS

Employee demographics were collected as a part of a 10-item survey designed by the principal investigator. Demographics collected included employee: age, gender, race/ethnicity, marital status, education level, height and weight (utilized to calculate body mass index), health status, years of service, and job function. The variables age and years of service were transformed into categories based on cut points following data collection to have even participant numbers in each group. The variables height and weight were utilized to calculate body mass index and then categorized based on the values associated with underweight, normal weight, overweight and obese. All other demographic variables were already categorized based on the question and possible choices.

PHYSICAL ACTIVITY

Physical activity was measured using the Godin Leisure-Time Exercise Questionnaire (GLTEQ) (Godin, 2011). The questionnaire asked participants to indicate the number of times during a typical seven-day period that they do strenuous, moderate, or mild/light exercise for at least 15-minutes. Descriptions and various modes of each level of exercise were provided next to the name. Each participant's leisure activity score was calculated by multiplying strenuous activity by nine, moderate active by five and mild/light activity by three and adding the three values together. The total score was labeled in units. Scores may be categorized into active (24 or more

units), moderately active (14–23 units), or insufficiently active/sedentary (less than 14 units). For the purpose of the present study statistical analysis, only the total leisure physical activity score was utilized. The GLTEQ has shown moderate levels of reliability, including the direct use of the GLTEQ (r = .62) and modified versions of the questionnaire (r = .68) (Eisenmann et al., 2002; Zelener & Schneider, 2016). Additionally, a modified version of the GLTEQ, which classified participants as either active or insufficiently active, found that those who were classified as active had a higher VO_2max, lower percentage of body fat, and higher fitness center participation than those who were classified as insufficiently active (Amireault & Godin, 2015).

SELF-EFFICACY

Self-efficacy for exercise was measured using the Self-Efficacy for Exercise Scale (Resnick &Jekins, 2000). The scale is a nine-item questionnaire that asked participants about their current confidence level to exercise three times per week if they were faced with various barriers to exercise. Participants selected a value between 0 (not confident) and 10 (very confident), which correlates to a total score between 0 – 90. For the purposes of the present study, the self-efficacy categories low, moderate, and high were created based on the total score of 0 – 30, 31 – 60, and 61 – 90, respectively. The Self-Efficacy for Exercise Scale has been found to have internal consistency (α = .89–.92), moderate reliability (r = .38–.76), and validity when compared to the 12-item Short-Form Health Survey and the Expected Outcomes and Barriers for Habitual Exercise scale (λ = .81) (Resnick & Jenkins, 2000; Resnick et al., 2004).

RESULTS

There was a total of 912 surveys distributed during data collection. There were 218 surveys completed, a 23.9% completion rate. For the purpose of data analysis, all returned surveys were utilized, despite a number of surveys that were only partially completed. The study utilized SPSS (IBM, 2020) for data analysis.

EMPLOYEE DEMOGRAPHICS

Employee demographics data that were collected included employee: age, gender, race/ethnicity, marital status, highest education level achieved, primary job function, and years of service. Employee demographics from the sample are shown in Table 1.1.

CHARACTERISTIC	n	%
Age		
19–30	40	23.0
31–40	48	27.6
41–52	36	20.7
53 and older	50	28.7
Gender		
Male	31	17.5
Female	146	82.5
Race/Ethinicity		
Asian or Pacific Islander	3	1.7
Black or A frican American	12	6.8
Hispanic or Latino	6	3.4
White or Caucasian	149	84.2
Multiracial or Biracial	4	2.3
A race/ethnicity not listed here	3	1.7
Marital status		
Single, never married	37	20.9
Married or domestic partnership	104	58.8
Widowed	4	2.3
Divorced	25	14.1
Separated	7	4.0
Highest education level		
High school/GED	24	13.6
Some college	38	21.5
Undergraduate degree	82	46.3
Master's degree or higher	33	18.6
Priman-job function		
Provide direct resident care	62	35.0
Do not provide direct resident care	115	65.0
Years of service		
0–2 years	36	23.1
3–6 years	43	27.6
7–14 years	35	22.4
15 years or more	42	26.9

Table 1.1 Demographics of a sample of 2 IS long-term cco-e employees.

HEALTH AND PHYSICAL ACTIVITY CHARACTERISTICS

Physical activity and health characteristics that were collected included: height and weight, which were converted to BMI categories, health rating, self-reported physical activity level, the impact of COVID-19 on physical activity level, physical activity patterns during youth, physical activity patterns during adulthood and self-efficacy for exercise. The physical activity and health characteriscs of the sample are shown in Table 1.2.

DEMOGRAPHIC AND HEALTH VARIABLE RELATIONSHIP TO PHYSICAL ACTIVITY

The study utilized ANOVA's to compare the mean leisure-time physical activity score from the GLTEQ between the various groups/categories of demographic and health variables. Post-hoc analysis was conducted where appropriate to examine between-group differences.

CHARACTERISTIC	n	%
Activity Level		
Insufficiently Active	31	17.3
Moderately Active	20	11.2
Active	128	71.5
COVDD-19 Impact on PA		
Increased	39	22.0
Decreased	66	37.3
No change	72	40.7
Physical Activity Patterns in Youth		
Highly Active	83	40.3
Moderately Active	89	43.2
Sporadically Active	30	14.6
Not Active	4	1.9
Physical Activity Patterns in Adulthood		
Highly Active	33	16.0
Moderately Active	84	40.8
Sporadically Active	80	38.8
Not Active	9	4.4
Self-Efficacy for Exercise		
Low	19	10.2
Moderate	128	68.4
High	40	21.4
Bodv Mass Index		
Underweight	2	1.8
Normal weight	36	31.6
Overweight	36	31.6
Obese	40	35.1
Health Rating		
Excellent	13	7.3
Very good	62	35.0
Good	78	44.1
Fair	23	13.0
Poor	1	0.6

Table 1.2 Physical activity and health characteristics of a sample of 218 long-term care employees.

A statistically significant difference was found among the four categories of Body Mass Index (BMI) on the total score of the Godin Leisure-Time Exercise Questionnaire (GLTEQ) $F(3, 103) = 3.88$, $p = .011$. A Tukey post hoc test revealed that the GLTEQ score was significantly higher for those in the normal weight category ($M = 54.61$, $SD = 41.79$) compared to those in the obese category ($M = 29.61$, $SD = 25.09$, $p = .006$). Table 1.3 shows the results of the One-Way Analysis of Variance summary.

A statistically significant difference was found among the four categories of health status on the total score of the Godin Leisure-Time Exercise Questionnaire (GLTEQ) $F(3, 163) = 10.74$, $p = .000$. A Tukey post hoc test revealed that the GLTEQ score was significantly higher for those with excellent health status ($M = 59.83$, $SD = 28.26$, $p = .006$) and very good health status ($M = 58.48$, $SD = 42.00$, $p = .000$) compared to those with fair health status ($M = 22.39$, $SD = 22.47$). Additionally, the GLTEQ score was significantly higher for those with very good health status compared to those with good health status ($p = .000$). Table 1.3 shows the results of the One-Way Analysis of Variance summary.

A statistically significant difference was found between those who provide direct resident care and those who do not provide direct resident care as their primary job duty on the total score of the Godin Leisure-Time Exercise Questionnaire (GLTEQ) $F(1, 1666) = 6.07$, $p = .015$. A Tukey post hoc test revealed that the GLTEQ score was significantly higher for those who provide direct resident

SOURCE	*M*	*SD*	*F*	*p*
Body Mass Index				
Insufficiently Active	21.10	6.23	5.38	.005*
Moderately Active	18.32	5.43		
Active	17.00	6.25		
Health Status				
Fair	22.39	22.47	10.74	.000*
Good	34.73	24.01		
Very good	58.48	42.00		
Excellent	59.83	28.26		
Job Function				
Direct resident care	51.79	41.13	6.07	.015*
No direct resident care	38.33	29.00		
Self-efficacy for Exercise				
Low	16.00	15.11	25.83	.000*
Moderate	37.14	27.07		
High	65.97	30.78		

Table 1.3 One-Way Analysis of Variance Summary Table Comparing the Effects of Demographic and Health Information on Total Physical Activity Score.

* $p < .05$.

care as their primary job function (M = 51.79, SD = 41.13, p = .015) compared to those who do not provide direct resident care as their primary job function (M = 38.33, SD = 29.00). Table 1.3 shows the results of the One-Way Analysis of Variance summary.

A statistically significant difference was found among the three categories of exercise self-efficacy on the total score of the Godin Leisure-Time Exercise Questionnaire (GLTEQ) $F(2, 168) = 25.83$, p = .000. A Tukey post hoc test revealed that the GLTEQ score was significantly higher for those with high exercise self-efficacy (M = 65.97, SD = 30.78) compared to those with moderate exercise self-efficacy (M = 37.14, SD = 27.07, p = .000) and low exercise self-efficacy (M = 16.00, SD = 15.11, p = .000). Additionally, the GLTEQ score was significantly higher for those with moderate exercise self-efficacy compared to those with low exercise self-efficacy (p = .007). Table 1.3 shows the results of the One-Way Analysis of Variance summary.

DISCUSSION

The current study examined the physical activity level of a group of long-term care employees, including changes to physical activity level from youth to adulthood and the impact of COVID-19 on physical activity level. The study also examined demographic influences on physical activity level and various aspects of self-efficacy for physical activity and exercise. An important finding of the current study is the amount of physical activity the present sample self-reported through the Godin Leisure-Time Exercise Questionnaire (GLTEQ). Based on the calculations provided for the GLTEQ, 128 (71.5%) participants fell into the active category, with a mean total score of 43.65 (SD = 35.82). This value is higher than previously reported data of healthcare employees, which found a mean total score of 30.14 (SD = 34.80) on the GLTEQ (Wolff et al., 2021). A potential explanation for this difference is that the current study did not specifically differentiate between occupational physical activity and leisure-time physical activity, as was the case in Wolff et al. (2021). However, studies have demonstrated that occupational physical activity for nurses largely consists of light-intensity physical activity with short bouts of moderate-intensity tasks (Chappel et al., 2017). More specifically, Benzo et al. (2021) found that nurses spend at least 50% of their shift standing and 15% walking. Furthermore, studies from other industries have shown that when using a self-reported scale, those with high occupational physical activity met the guidelines for physical activity 89% of the time (Gudnadottir et al., 2019) and that 65% of the participants daily moderate physical activity was from occupational tasks (Arias et al., 2015). These patterns may have led the participants in the current study, particularly those that provide direct resident care, to report their occupational physical activity as a part of the GLTEQ, increasing their total score and activity category.

While the results from the current study indicate that a large percentage of the sample is considered active (71.5%), the assertation that participants may have overestimated their physical activity level by including occupational physical is important for the promotion of future physical activity. As previous research has indicated the occupational physical activity of staff with direct resident/patient care duties is primarily made up of light-intensity physical activity, with occasional short moderate-intensity bouts (Benzo et al., 2021; Chappel et al., 2017). This type of activity is unlikely to meet the recommendations for physical activity from the World Health Organization (2020), and in turn, may not be adequate for employees to experience physical and psychological benefits. This stresses the importance of future physical activity promotion, despite the high percentage of the current sample being active.

Additionally, in the current study, the ANOVA revealed that those who provide direct resident care reported significantly higher physical activity (M = 51.79, SD = 41.13 M) compared to those who do not provide direct resident care (M = 38.33, SD = 29.00). Previous research has shown healthcare staff with direct resident/patient care accounted for 71.7% of self-reported moderate physical activity and 73.3% of self-reported intense physical activity compared to staff who do not have direct resident/patient care duties (Saridi et al., 2019). However, Abu Saad et al., (2020) found opposite results with 61.1% of non-direct care staff being classified as active, compared to 36.5–45.1% of direct care staff. The difference in the current study and previous research may be explained by the inclusion of occupational physical activity in the total physical activity score, as previously discussed, but it may also be indicative of a need for a greater understanding of the motivations and barriers to physical activity for staff that do not provide direct resident care for the promotion of physical activity.

The current study also examined the physical activity trends between youth and adulthood. The largest change between youth and adulthood was those who were highly active in their youth (40.3%) compared to highly active as an adult (16.0%). This was mirrored by those who were sporadically active in their youth (14.6%) compared to those who were sporadically active as an adult (38.8%). These physical activity trends match previous research (Corder et al., 2019; Gordon-Larsen et al., 2004; Ortega et al., 2013). However, physical activity trends may also be important as previous research has shown that longitudinal changes in leisure-time physical activity have relationships with all-cause mortality (Talbot et al., 2007), metabolic syndrome (Yang et al., 2008), and body composition (Shuval et al., 2014). Additionally, while youth sport participation was not related to cardiovascular risk factors at age 40 (Lefevre

et al., 2002), those who were active in youth sports had two times greater odds of having at least three healthy behaviors at a 28-year follow-up compared to participants who were not active in youth sports (Palomäki et al., 2018). This previous research stresses the importance of continued physical activity promotion as participants move from adolescence to high school and college, but ultimately enter middle adulthood as an employee and may encounter new barriers to physical activity associated with their employment.

Previous research has demonstrated consistent decreases in physical activity as a result of the pandemic, which may be attributable to social distancing and lockdowns (Bu et al., 2021; Dunton et al., 2020; Puccinelli et al., 2021; Stockwell et al., 2021). While 37.3% of current participants indicated that their physical activity level decreased as a result of COVID-19, there were also 22.0% of participants who increased their physical activity level, similar findings to other research in the healthcare industry (Kua et al., 2022; Mota et al., 2021). It should be noted, that Kua et al. (2022) found that for healthcare employees who experienced a change in working hours associated with COVID-19 there was a 42.5% decrease in frequency and 42.8% decrease in duration of physical activity. Conversely, approximately 35% of employees who did not have a change in working hours decreased their physical activity, while approximately 21% of employees who did not have a change in working hours increased their physical activity level. While the current study did not ask participants to indicate how COVID-19 impacted their working hours, the results from Kua et al. (2022) point to the idea that healthcare employees may have needed to work additional hours to care for COVID-19 patients or cover additional shifts for coworkers who were ill. In turn, this may have been a primary contributing factor to physical activity shifts during COVID-19 for healthcare employees.

Self-efficacy has been shown to have a positive influence on participation in physical activity (Hutchins et al., 2010; Stutts et al., 2002; Prodaniuk et al., 2004). The results of the present study are similar to previous research, in which those with high self-efficacy reported significantly more physical activity than those with moderate or low self-efficacy. The same was true for those who had moderate self-efficacy compared to those with low self-efficacy. Additional research may be needed to better understand how the currently reported self-efficacy impacts the sample on a longitudinal basis. As Beauchamp et al. (2019) indicated, many health-enhancing behaviors, such as regular exercise and physical activity, are not as concerned with the ability to occasionally perform tasks such as physical activity, but whether a participant can regularly maintain those behaviors over time when they are faced with barriers, obstacles and competing demands. As indicated, those in the healthcare industry face many common barriers to physical activity such as lack of time, social support, enjoyment, confidence, resources, and motivation (Hoare et al., 2017; Herazo-Beltran et al., 2017; Stutts et al., 2002). However, healthcare workers also face unique occupational stressors that potentially inhibit the initiation or maintenance of regular physical activity (Baker et al., 2015; Chaudhari et al., 2018; Dighe, 2020; Happell et al., 2013; Harrington et al., 2016; Mosadeghrad, 2013; Sarifis et al., 2016; Trivellas et al., 2013; Woodhead et al., 2014). While promoting physical activity among long-term care employees is important, understanding the self-efficacy to maintain physical activity over the course of time and overcome occupational barriers and obstalces is equally as important.

LIMITATIONS

The current study had limitations, including response rate, self-reported physical activity measurement, and sample representation. The current study distributed 912 surveys and had 218 surveys returned, a response rate of 23.9%. The desired sample for the study was 271 returned surveys. Due to this, the study may have reduced statistical power. Second, the survey utilized a self-reported physical activity questionnaire to estimate the physical level of the participants. Previous research has indicated that participants overestimate their physical activity level, particularly those with work that is active in nature, such as the healthcare industry (Ferrari et al., 2020; Nelson et al., 2019; van Sluijs et al., 2007). A direct measurement of physical activity may be necessary in future research. Additionally, the survey did not ask participants to indicate the type of physical activity they participated in, such as aerobic, muscle strengthening or flexibility-based physical activity. Furthermore, it did not ask participants to differentiate between occupational physical activity and physical activity outside of work. It only asked participants to indicate the number of times throughout a week they performed certain intensities of physical activity. Due to the nature of healthcare related tasks, participants may have counted occupational physical activity where they frequently stand, walk at a moderate pace and perform light muscle related tasks. Future research should address the limitations in assessing physical activity. Finally, the setting for the study was a single long-term care organization located within the Midwestern region of the United States. The sample is not representative of all Americans or participants from around the world.

CONCLUSION AND APPLICATION

In conclusion, the present study presented various components of physical activity levels in long-term care employees. The results of the study indicated that a large

percentage of the employees (71.5%) were considered active according to the Godin Leisure-Time Physical Activity Questionnaire. As previously indicated, this may be due to the increased occupational physical activity demand of working in healthcare. More research may be needed to better differentiate the physical activity associated with occupational tasks and leisure-time physical activity in the sample. Additionally, demographic and health factors such as health status, exercise self-efficacy, body mass index, and job function demonstrated a significant impact on physical activity level. Next, the study results indicated that employees demonstrated decreased physical activity levels from their youth to adulthood. This result is confirmed by previous research. Finally, COVID-19 did not have as great an impact on the physical activity level of the long-term care employees as in other populations. This may also require additional research to better understand if the nature of healthcare and occupational physical activity may have impacted this value.

Physical activity may have a direct and indirect relationship to quality resident care and long-term care organizational success through impacts on employee absenteeism, job performance and employee satisfaction (Castle & Ferguson, 2015; Iwaasa & Mizuno, 2018; Lopez-Bueno et al., 2021; Losina et al., 2017; Plaku-Alakbarova et al., 2018; Schwendimann et al., 2016). This makes physical activity level an important metric for long-term care organizations to measure and promote both on-site and non-worksite physical activity solutions for their employees. Additionally, in the present study, the physical activity level of those who provide direct resident care was significantly higher than employees that do no provide direct resident care. This points to the importance of long-term care organizations specifically providing physical activity solutions to employees that do not provide direct resident such as standing desks, flexibility and stretching programs, options for walking meetings and physical activity groups. Those who provide direct resident care achieved a high level of physical activity in the current study. However, it should be noted that occupational physical activity may have been included in survey response. Occupational physical activity of long-term care employees may not be enough to achieve physical activity guidelines and experience the full benefits of the physical activity. Because of this, long-term care organizations should promote physical activity solutions for direct care staff to help them achieve a higher level of physical activity through both on-site and non-worksite physical activity. Finally, the current study found that higher exercise self-efficicacy was associated with higher levels of physical activity. Long-term care organizations should concentrate on how to increase employee self-efficacy for physical activity in order to initiate and maintain a physically active lifestyle. In turn, this may lead to improved employee health and resident outcomes. However, long-term care organizations should also aim to understand the motivations and barriers to physical activity that their employees experience, as this will asssit with future physical activity promotion.

COMPETING INTERESTS

The author has no competing interests to declare.

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