Care Aides Working More Than One Job in Long Term Care

by

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Abstract

Background: Older adults living in long term care (LTC) homes are a vulnerable care group. Most of the care they receive is provided by care aides who are also a vulnerable working group – with high risks for job burnout, job dissatisfaction, injury, and poor work engagement. In addition, many care aides work more than one job in LTC (or at least did pre-pandemic), yet little is known about the possible effects on care aides of working more than one job. As COVID-19 continues to spread across the world, the LTC sector faces concerns about subsequent waves of COVID-19, virus variants emerging for which vaccines may be less effective, and a future where COVID-19 may be endemic, presenting a "moving target" and requiring ongoing, adaptable strategies to protect older adults in LTC homes. Policy and decision makers are faced with assessing existing trends and deciding on future policies related to "one worksite" policies and other public health measures, often with limited evidence.

Purpose: The purpose of my thesis research study was to determine if care aides who work more than one job in LTC homes report positive or negative work life outcomes compared to those who work one job.

Objectives: My research objectives were:

1. To describe existing evidence on the impact on care aides of working more than one job.
2. To describe the proportion of care aides working more than one job, their common demographic characteristics, and to determine if working more than one job in long term care affects care aides (i.e., positively, negatively, both, or neither) in comparison to care aides who work one job.

Methods: The thesis consisted of two studies: (1) an integrative literature review on the benefits or adverse events of nurses or care aides when working more than one job; and (2) a secondary analysis of existing survey data available from the longitudinal research program, *Translating Research in Elderly Care* (TREC) collected from May 1, 2017 to December 19, 2017, on care aides surveys.

Findings: My findings demonstrated that there is no research on care aides working more than one job in LTC and no Canadian studies or reports. Neither the United States nor Canada systematically collect information on care aides working more than one job or the possible effects of when one works multiple jobs. The integrative literature review found that working multiple jobs can have both negative and positive effects on nurses. The negative effects include absenteeism, burnout, mental, and physical fatigue but there is evidence of positive effects such as economic stability, educational skills and training, and workplace autonomy. While the effects for care aides working more than one job is inconclusive, more rigorous research into the motivations for care aides working more than one job is indicated as the COVID-19 pandemic has restricted care aides from working in more than one job. In addition, the secondary analysis revealed that 26.5% of care aides worked in more than one LTC home and that working more than one job was negatively associated with work engagement.

Conclusion: This research project adds to the knowledge about care aides working more than one job in LTC homes in two major ways. First, it identifies a clear gap in the literature regarding care aides working more than one job. It also contributes to knowledge regarding the benefits and the effects of working more than one job. Second, my thesis identifies the prevalence, characteristics, and outcomes when care aides work more than one job in LTC. My findings suggest that working more than one job may affect care aides' work engagement,

specifically vigor (the high energy levels and resilience care aides have in difficult circumstances).

This thesis is a beginning foundation on which to build our understanding on care aides working more than one job in LTC. It provides the necessary foundation for future research studies addressing working multiple jobs.

This is a paper-based thesis comprised of four chapters: (1) an introduction, (2) an integrative literature review, (3) a manuscript on care aide demographics and the effects of working more than one job; and (4) a discussion and concluding chapter.

Preface

This thesis is an original work by Helen Doan. The research project, which this thesis describes, received research ethics approval from the University of Alberta Research Ethics Board, Project Name "Care Aides Working in More Than One Job in Long Term Care Homes (Thesis)", No. Pro00094085, October 10, 2019. This research project is a secondary analysis research from studies led by Professor Carole A. Estabrooks at the University of Alberta: "TRANSLATING RESEARCH IN ELDER CARE [TREC] PROGRAM in the Wave 2.0" with the data collected from May 1, 2017 to December 19, 2017". I designed this research project with the assistance of Dr. Estabrooks. The data analysis and conclusions are my original work. In Chapter 1, I describe and review relevant background literature and provide information about the research methods used in my thesis. In Chapter 2, I present my integrative literature review on care aides working more than one job in LTC. In chapter 3, I present the characteristics and demographics of care aides working more than one job versus those that only work in one long term care home. I also present the effects on work engagement (*vigor, dedication, and absorption)* and burnout (*exhaustion, cynicism,* and *efficacy)* for care aides working more than one job versus those working in one. In chapter 4, I present my thesis conclusion along with future research considerations.

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I would like to extend tremendous gratitude to the front-line workers during COVID-19. Thank you for the sacrifices you have made. Thank you for your bravery, dedication, and perseverance during these uncertain times.

A heartfelt appreciation goes to my family who has supported me all my life and through the completion of my master's program. Thanks to the risks you took for our family I have been provided a shot at the life I know you have always wanted for me.

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Chapter 1: Introduction & Overview

Working more than one job, "dual" practice, or "moonlighting" has been identified in the literature as a priority research area given the possible negative physical and mental outcomes.[1] However, the literature also describes both financial and non-financial benefits of working more than one job. Most of the empirical work is based on descriptive cross-sectional studies (a few longitudinal) and qualitative inquiries. The research literature, aimed at investigating and understanding if there are effects on the Long-Term Care (LTC) care aide workforce or the individuals for whom they care when working multiple jobs, is nearly non-existent. There are several gaps; first, the proportion of care aides working more than one job and their common demographic characteristics are unknown. Second, we do not know if and how working more than one job effects care aides, the people they care for, or the care system. Third, there is no consensus on a clear definition of working more than one job, and often studies do not differentiate between different ways people can work multiple jobs. For example, do people who have more than one job work in a full-time capacity and a casual one, or if they work in two part time jobs, or several casual jobs, etc. Furthermore, we do not know if these individuals are choosing to work more than one job or if it is a necessity for them. Also, we often do not know if multiple jobs add up to one or more full-time equivalents (FTEs). It probably makes a difference whether a care aide works three jobs, each corresponding to 0.25 FTEs versus a care aide working two full-time jobs (2 FTE's). This thesis will contribute to addressing the first two gaps outlined. Specifically, it seeks to:

1. Identify the state of what is known about care aides who are working more than one job in long term care.
2. Assess the proportion of care aides working multiple jobs in long term care and to explore what impact working multiple job has on care aides' work engagement (*vigor, dedication, and absorption)* and burnout (*exhaustion, cynicism,* and *efficacy)*.

Worldwide, there are nearly 901 million people aged 60 years or over, a figure expected to increase to 2.1 billion by 2050.[2] Globally, population ageing is poised to become one of the most significant social transformations of the twenty-first century. This has implications for nearly all sectors of society, including labor, housing, and social protection.[3-6] Generally, peoples' life expectancies are increasing with better living conditions (social determinants of health) and medical advancements, but people are living with more chronic diseases – such as

dementia.[3] As a result, older adults can often maintain their health in the community for quite a long period, but when their health demands increase and capacity declines, they enter supportive and long-term care settings. Because societies in high income countries are becoming better at alternative (to LTC) housing and care arrangements, older adults who do require LTC (the highest care level), are being admitted far later in the trajectory of their progressive illnesses (high among them dementia). Thus, they present with higher levels of frailty, higher dependency levels and care demands, greater medical and nursing needs, and greater social, and psychological needs.[7-10]

Long-term care homes (also known as nursing homes) serve older adults who do not require a hospital bed but do require 24-hour nursing and residential services at a level not generally available through home care or assisted living programs and settings.[11] Long-term care provides supports in many facets of living over a prolonged period that includes housing, recreation, physical therapy and nursing care.[12] Typically, the nursing care refers to assistance with activities of daily living such as: bathing, dressing, eating, toileting, and getting in and out of bed, and much more that is performed by care aides.[12] While its primary goal ought to be and often is *quality of life*, most homes struggle to ensure good quality of care because the system is underfunded and resourced from years of non-prioritization.

Care aides (also known as personal support workers or nursing assistants) are the largest workforce in Canadian long-term care homes.[13,14] Care aides provide between 75 and 90% of direct care and are central to quality of care and quality of life of residents.[10,13,15] Care aides require a certificate to practice in Canada, although educational standards and programs vary widely. Importantly, they are *unregulated* category of care staff.[16] Canadian studies report that care aides are predominantly women (> 90%), on average are 36-45 years, and about half in urban areas speak English as a second language.[13,15,17] Furthermore, care aides have a lower level of education than other health care workers, the lowest salary in the health care field, and possess the least amount of workplace autonomy.[8,18-20]

Care aides have demanding jobs physically, mentally, and emotionally. Care aides bathe, feed, transfer, brush teeth and hair, cut fingernails, provide emotional support, advocate for resident needs, and provide many more daily necessities.[12] They are often a resident's major source of contact and social support. Unfortunately, care aides often have a high resident to staff ratio impeding their ability to provide quality care and services and support quality of life for

their residents,[21] potentially leaving care tasks undone, missed, omitted (in part or in whole) or delayed.[22,23] Moreover, care aides must learn how to deal with aggression and agitation with residents, often related to their progressing dementia. Nearly 90% of care aides report incidents of screaming, yelling slapping, squeezing, punching/hitting, shoving/ pushing while at work.[24] They also report lack of job resources such as training to manage behavioral and psychiatric symptoms, although over 80% of LTC individuals have a psychiatric diagnosis.[22] Despite the high job demands and the insufficient job resources care aides consistently show high resiliency, proficiency, and dedication to the people they care for.[8,20]

Working more than one job, "dual" practice, or "moonlighting" is a widespread phenomenon that has largely been overlooked in research studies.[1,25] Research published shows that working more than one job has been on the rise worldwide.[26,27] The overall multiple job holding rate in Canada is between 3-8.4%,[28] and in the US it is 6.9%.[29] However, there is reason to believe that this is a significant underestimate, at least among care aides.[30] Underreporting may be attributed to stigma around working more than one job, as many employers believe that working more than one job affects employee tiredness, dedication, absenteeism, turnover, and poor work performance.[26,31] Although the practice is common worldwide,[32,35] most literature focuses on physicians,[32-34] some on the regulated nursing workforce, and non-health professions,[35-37] but barely any literature focuses exclusively on care aides.

There is limited knowledge about care aides who work more than one job in long term care homes. This is a significant gap in the literature because we do not know if there are benefits or negative consequences when care aides work more than one job. The one area where we are certain that working in more than one job site can have a negative consequence is in the spread of highly contagious disease. That is, when care aides in LTC work multiple jobs in either other LTC or other settings, the risk of infection among residents is higher.[38] The literature focusing on regulated nurses suggests both positive and negative outcomes to employees. Most of the articles included key themes such as *exhaustion, absenteeism*, and *medical errors* when working in more than one job,[39,40] but the studies focused on regulated nurses in acute care settings. Exhaustion was mentioned as an important factor because it affects efficiency in the performance of the job, fatigue,[39,40] and observations of absenteeism when working more than one job. Three of the studies discussed motivations of working more than one job, for example, additional income, education, workplace autonomy.[39,41,42]

There is a significant gap in the literature related to benefits or risks of working multiple jobs – especially as it relates to care aides working in LTC settings. Furthermore, the issue of COVID-19 has raised a new and worrisome problem of disease spread and infection that is associated with care aides working multiple jobs: the rapid spread of COVID-19 among long term care sites,[38] leading to disproportionally high death rates of the most frail and vulnerable residents living there.[43,44]

Purpose

The purpose of my research study was to understand and describe care aides working more than one job and for those that do, whether they report positive or negative work life outcomes (specifically, burnout and work engagement) compared to those who work one job.

Research Objectives

The research objectives were:

1. To describe existing evidence on the impact on care aides of working more than one job.
2. To describe the proportion of care aides working more than one job, their common demographic characteristics, and to determine if (and how) working more than one job in long term care affects care aides (i.e., positively, negatively, both, or neither) in comparison to care aides who work one job.

Theoretical Framework for this Study

In my thesis research I used a modified Job-Demands and Resource (JD-R) model[45] (Figure 1) to assist me in selecting independent and dependent variables along with the current literature on care aides' quality of work life. The JD-R model states that occupations have unique sets of job requirements (demands) and job-related resources that precede burnout and engagement. In my theoretical models (Figures 2-7) I operationalized well-being (engagement) and burnout as dependent variables, and I ran a separate model for each dependent variable: first, for work engagement (vigor, dedication, and absorption) and second, for burnout (exhaustion, cynicism, and efficacy).

In the JD-R model, job demands can be physical, emotional, or mental.[45] In contrast job resources support people in achieving work goals, they reduce job demands, stimulate personal growth and development. Examples are, career opportunities, supervisor coaching, role-clarity, and autonomy.[45]

In addition, the JD-R model integrates two basic psychological processes. **First**, a stress process, which is caused by excessive job demands and a lack of resources contributing to burnout — that further leads to negative outcomes such as absences, poor work performances, impeded workability, and low organizational commitment. The model indicates that when job demands are chronically high and are not compensated by job resources, an employee's energy is progressively drained. This may result in a state of mental exhaustion ('burnout'), which, in its turn, may lead to negative outcomes for the individual (e.g., poor health), as well as, for the organization (e.g., poor performance). **Second**, the JD-R model describes a motivational process, which is triggered by abundant job resources and may improve work engagement — lead to positive outcomes such as organizational commitment, intention to stay, and increased work performance. The model states that job resources have inherent motivational qualities to engage workers which, in turn leads to better outcomes.

I hypothesized that working multiple jobs could function as both a job demand and resource, resulting in an increase in care aide burnout and work engagement.

Figure 1: *The Job-Demand and Resource Model* [45]

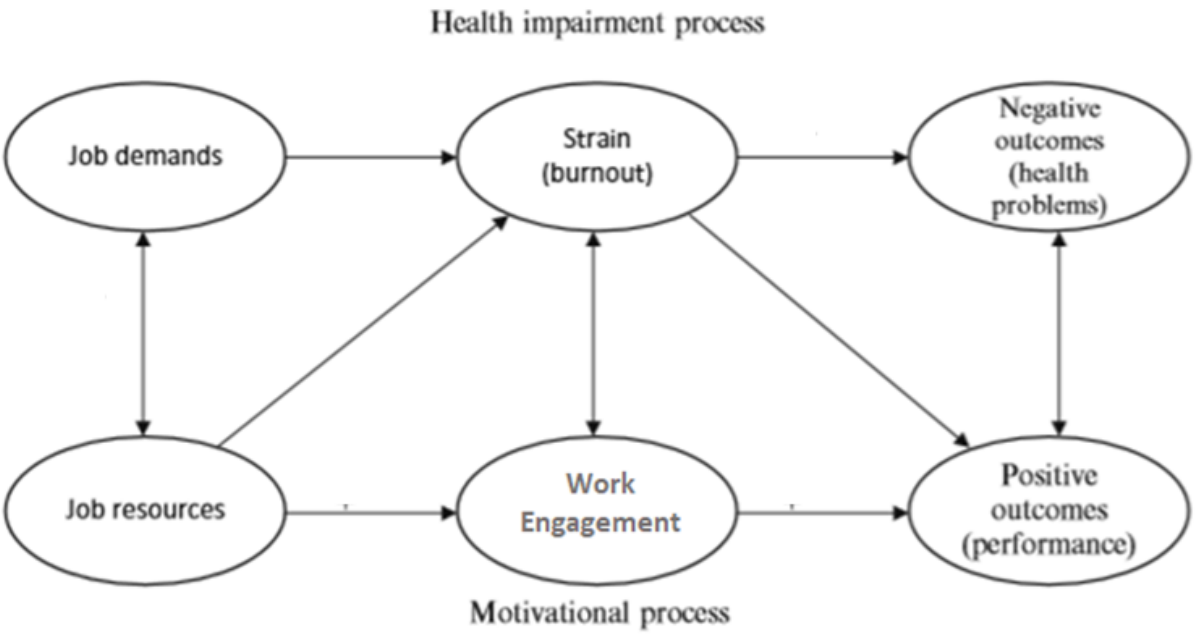


Figure 2: *Research Model – Work Engagement (Vigor)*

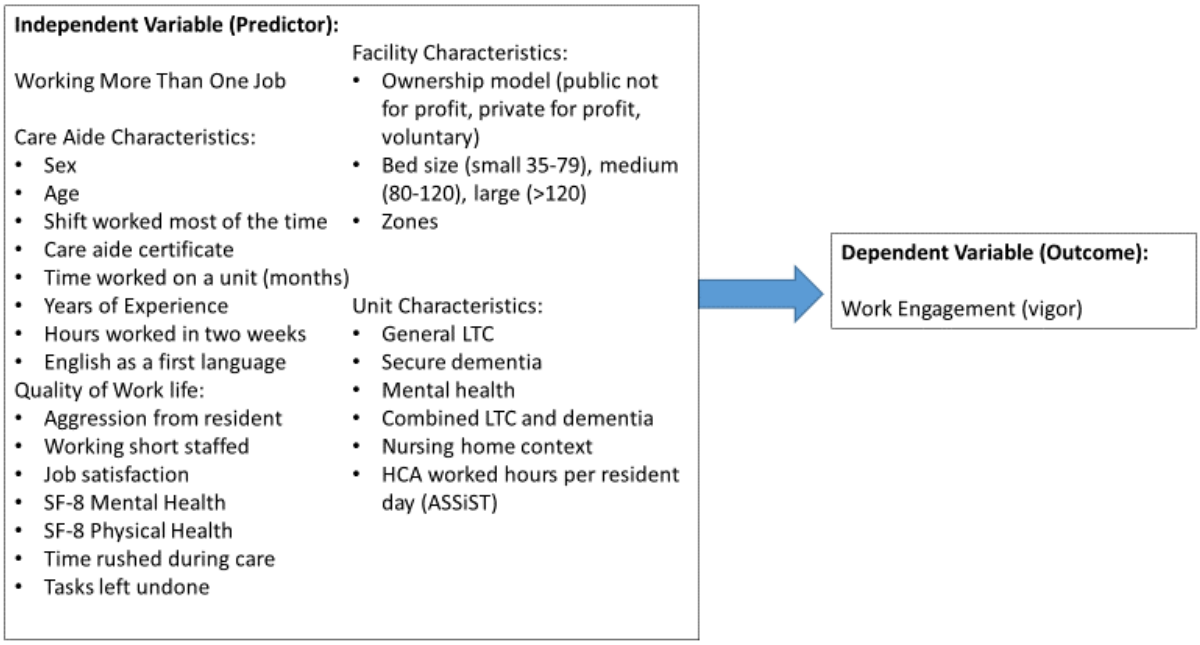


Figure 3: *Research Model- Work Engagement (Dedication)*

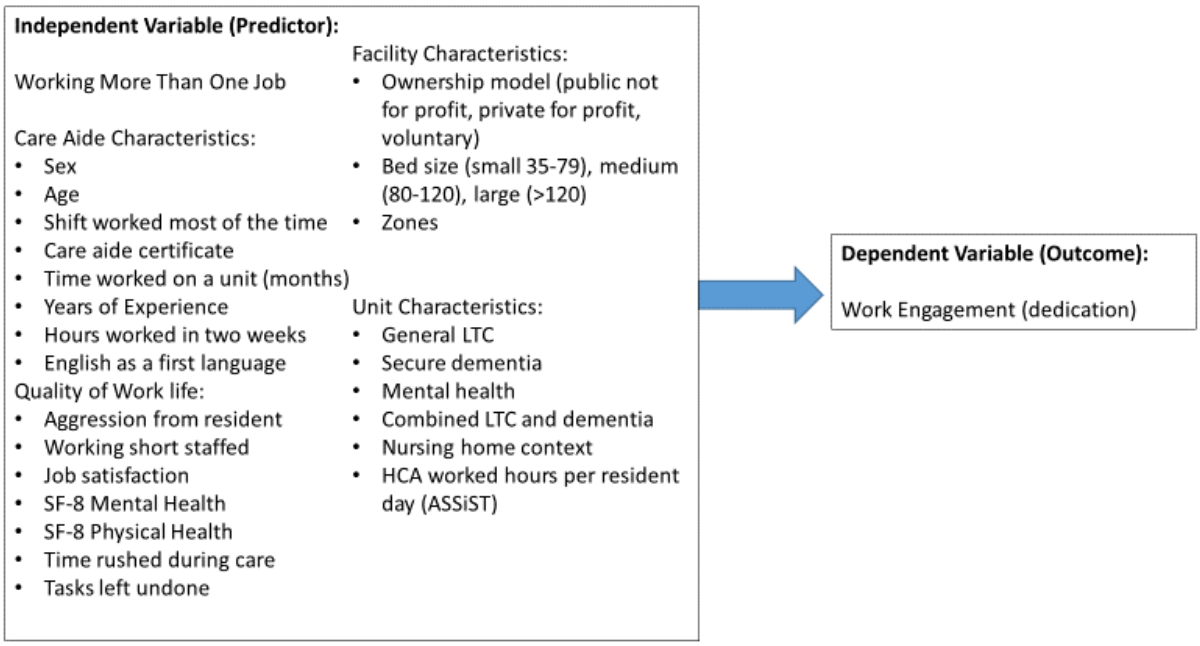


Figure 4: *Research Model- Work Engagement (Absorption)*

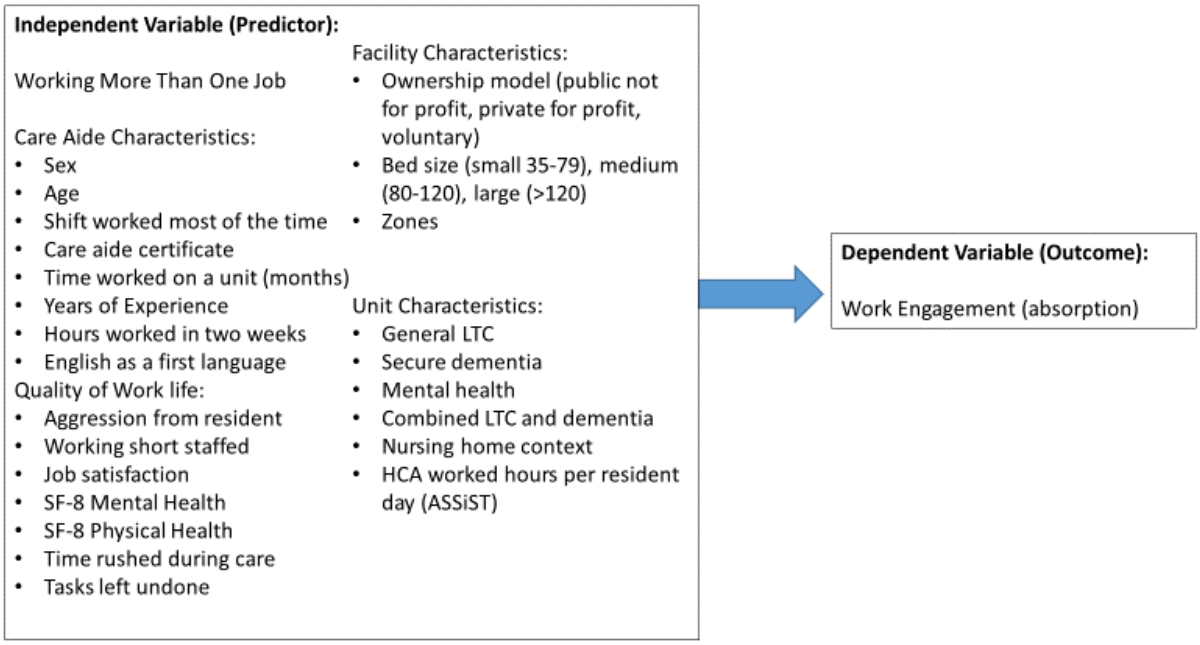


Figure 5: *Research Model- Burnout (Exhaustion)*

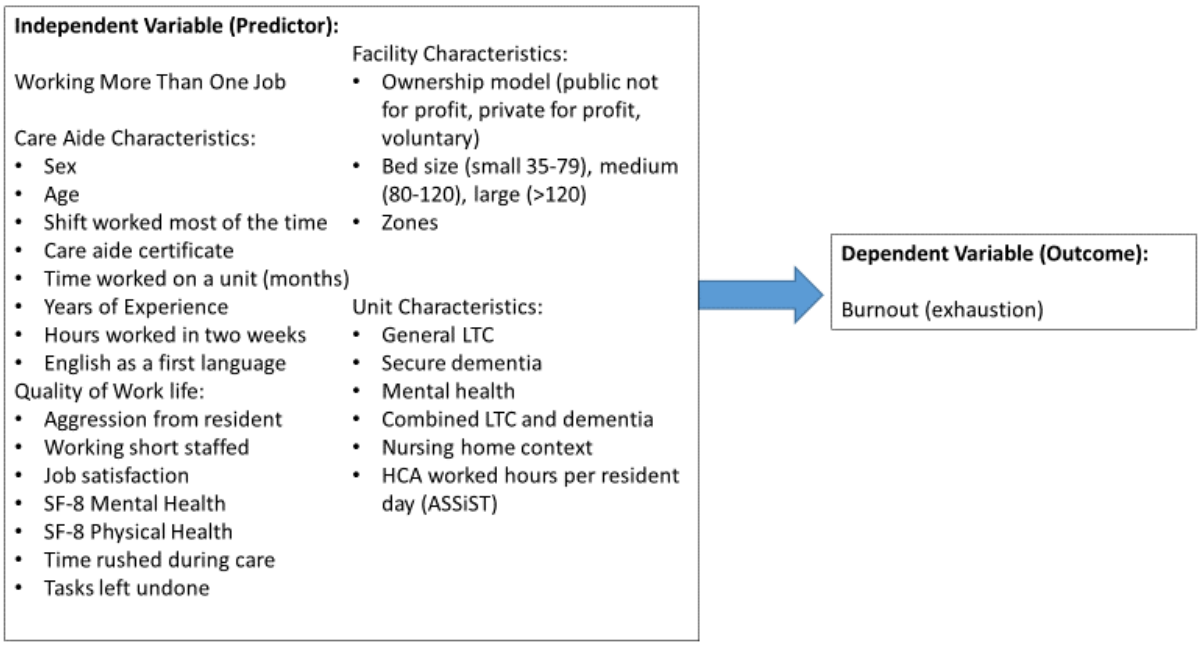


Figure 6: *Research Model- Burnout (Cynicism)*

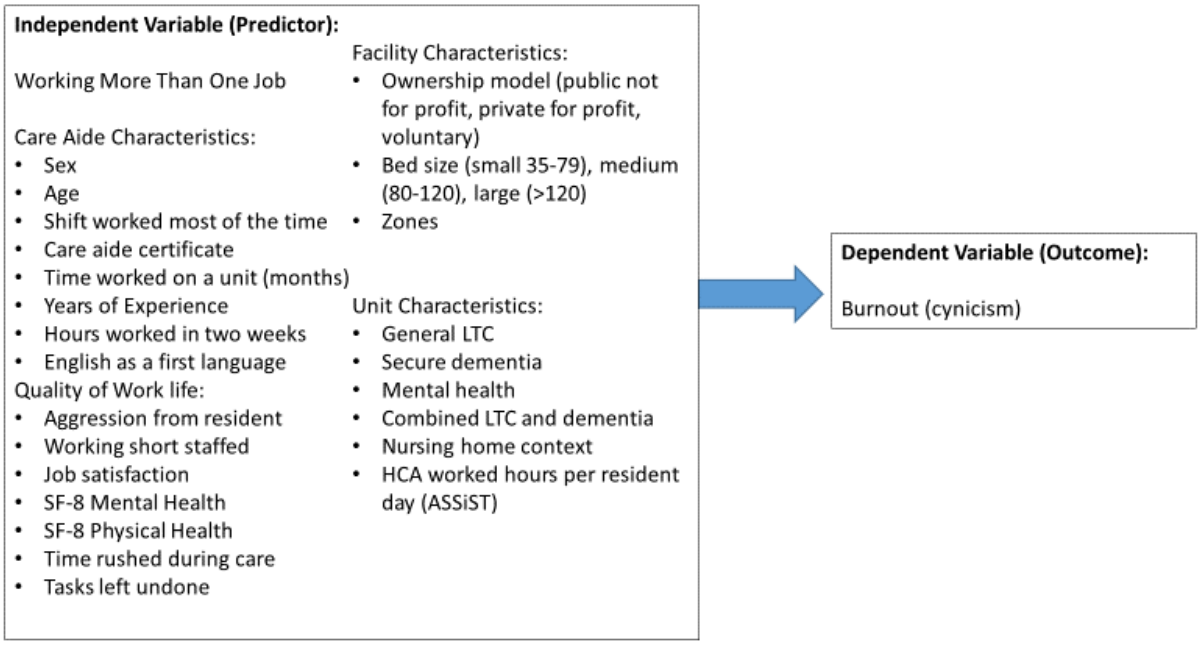
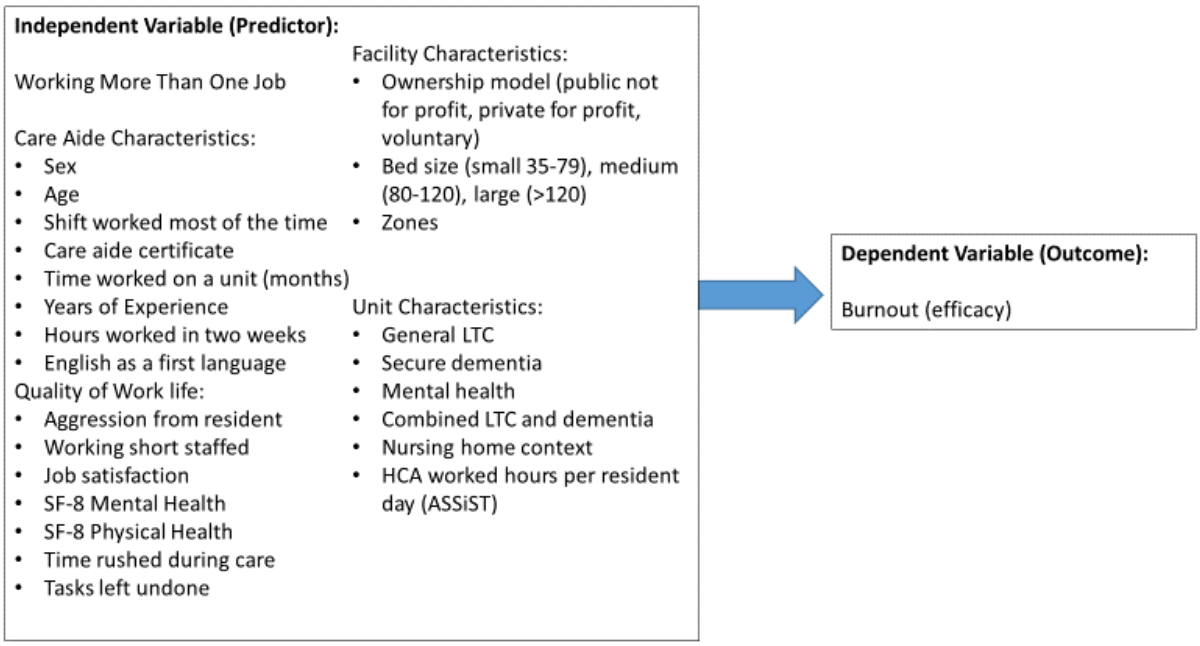


Figure 7: *Research Model- Burnout (Efficacy)*



Ethics

Ethics approval was obtained for the original studies from the appropriate Institutional Review Boards at each participating institution and from the Universities with which the investigators were affiliated. I also obtained ethical approval from the University of Alberta Health Research Ethics Board (Pro00094085) for this secondary study.

Design & Methods

Objective 1: *To describe existing evidence on the impact on care aides of working more than one job.*

I conducted an integrative literature review to search for published articles on why health care workers work more than one job and the effects of this on their work performance using four databases (CINAHL, MEDLINE, Scopus, ABI/INFORM and ProQuest). The integrative literature review is a form of research that generates new knowledge about a topic by reviewing, critiquing, and synthesizing representative literature on a topic. I excluded articles published in a language other than English and samples not relevant to healthcare.

Objective 2: *To describe the proportion of care aides working more than one job, their common demographic characteristics, and to determine if working more than one job in long term care affects care aides (i.e., positively, negatively, both, or neither) in comparison to care aides who work one job.*

I conducted a secondary analysis of existing cross-sectional survey data available from the longitudinal research program, *Translating Research in Elderly Care* (TREC)[46] collected from May 1, 2017 to December 19, 2017. This was a repurposing and analysis of a previously collected data to answer new research questions not considered in the original analysis. In this wave of survey data collection, I focused on the surveys administered to care aides only. 4,158 care aide surveys were obtained using in-persons, structured computer assisted interviews (73.72% response rate).

TREC is a pan-Canadian, multi-level, longitudinal program of research aimed at identifying modifiable characteristics of organizational context in LTC homes that are associated with the uptake of research evidence by care providers and care managers, and the subsequent impact of this uptake on resident care quality (i.e., pain) and staff outcomes (i.e., burnout). TREC's aim is to improve the quality of care and life of frail, older long-term care home residents and the quality of work life for their paid care staff.

I used regression analyses, specifically mixed-effects linear regression to account for the clustered nature of the data, necessary because care aides are nested in units, and units within facilities. Units within facilities may have specific residents, cultures, and values creating a potential for people working on the same unit to answer similarly to one another. Additional information on how I requested the data from TREC, assessed the quality, and completed preliminary analysis are in Appendix A.

Findings

Findings for objective one is reported in Chapter 2. Findings from objective two are reported in Chapter 3. Data analyses were conducted according to the pre-described protocol in Appendix B.

Conclusion

In this introductory chapter, I have provided background on my thesis topic, objectives, and rationale. Subsequent chapters (2-3) contain the manuscripts that represent the thesis outputs. Chapter 4 of this thesis is a summary of the thesis and addresses the contributions this thesis makes to research, knowledge, and policy. It also summarizes limitations and highlights my future goals.

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Chapter 2. Paper 1- Care aides working in more than one long-term care home – An integrative review

Introduction

Worldwide, there are nearly 901 million people aged 75 years or over, a figure expected to increase to 2.1 billion by 2050.[1] With a steadily aging population we also see a steady rise in dementia prevalence[1]. Dementia being a the major driver of long term care (LTC) home admission.[2] Coupled with increasing efforts to keep older adults in the home and community as long as possible, delaying LTC homes admission, we see older adults entering LTC settings at later and more complex stages of their care trajectories and closer to the end of their lives.[3] Ample research has pointed out how particularly frail and vulnerable LTC residents are[4-6] but nothing has demonstrated these residents' vulnerability as dramatically as the current COVID-19 crisis. While case fatality rate at its peak in the general population ranges from 0.3% (Iceland) to 10.5 % (Italy),[7] this rate is much higher among LTC residents. Rates of LTC deaths among all COVID-19 deaths range from 24% (Hungary) to 85% (Canada).[7]

In addition, as many as, 30% of care aides working in LTC are working more than one job.[6] Working more than one job, "dual" practice, or "moonlighting" is a widespread phenomenon that has largely been overlooked in research studies.[8,9] Although the practice is common worldwide,[10,11] most literature focuses on physicians,[12-14] some on the regulated nursing workforce, and non-health professions;[15-18] little literature focuses exclusively on care aides (also called nursing assistants or personal support workers). Comparable to other Western countries, in Canada, care aides make up the largest workforce in LTC homes, have physically, mentally and emotionally demanding jobs that include caring for a large proportion of frail, vulnerable residents with complex diagnosis such as dementia[3] – providing care such as bathing, feeding, transferring, brushing teeth and hair, cutting fingernails, managing responsive behaviors of dementia, providing emotional support, advocating for resident needs and more.[19-21] COVID-19 has brought to the surface the importance of understanding the motivations for working multiple jobs as it has uncovered severe risks associated with this the potential spread of the virus[22] resulting in many LTC homes in Canada enforcing a one work site policy.

There is a significant gap in the literature related to the potential benefits or risks of working multiple jobs – particularly as it relates to care aides who work in LTC settings. COVID-19 has highlighted the serious potential for infectious disease spread that may be

associated with care aides working multiple jobs.[23,24] However, neither research on this issue, nor discussions of how available evidence could inform us about the risks or benefits of LTC care aides working more than one job are yet available.

Purpose

The purpose of this integrative literature review was to synthesize what is known from the published research literature on care aides who work more than one job in LTC homes and to understand the effects of working more than one job.

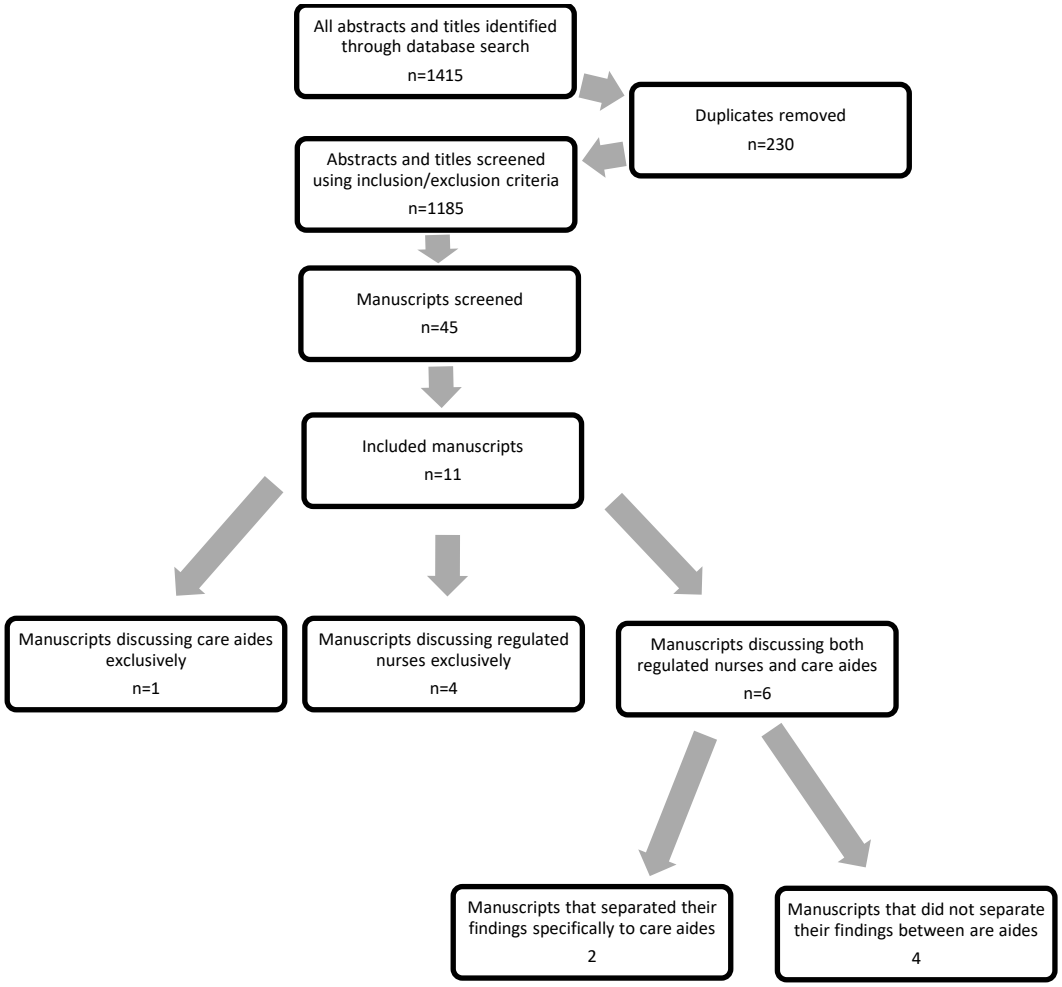
Methods

I conducted an integrative literature review[25] on care aides and regulated nurses working more than one job. I expanded the search terms beyond LTC because restricting citations to those in LTC settings yielded no studies. I included regulated nurses (in addition to care aides) in our search terms since even expanding our care aide specific search beyond LTC only yielded one paper. I used two search engines (Google and EBSCO Discovery Science) and 4 databases (CINAHL, MEDLINE, Scopus, ABI/INFORM and ProQuest) with the assistance of a health science librarian. I searched titles from 2000-2020. Original qualitative and quantitative studies and systematic reviews published in English were included in the search. The search terms were: (healthcare or care or personal or home or health or nursing) pre/2 (worker* or aide* or assistant* or attendant*) or hca* or nurs*AND moonlight* or "second* job*" or "second* employment" or "multiple jobs" or "two jobs".

Results

I identified and screened titles and abstracts of 1185 references. I included 11 full text articles that met the inclusion criteria in my final sample (Figure 8). Of the 11 articles that met the inclusion criteria, 4 addressed regulated nurses (associates, bachelors, masters, and doctoral nursing degrees) exclusively, 1 discussed care aides exclusively and 6 articles discussed both care aides and regulated nurses. Nine studies were quantitative cross-sectional studies and 2 were qualitative. All analyses used in studies were descriptive. Most of the studies were conducted in hospitals, one was conducted in home care.[26] No studies were conducted in LTC.

Figure 8: *Review search strategy of included and excluded studies*



Common reported consequences of working more than one job *across most of the studies*, were exhaustion, along with negative physical and mental health effects. However, studies also highlighted potential benefits of working more than one job such as additional income, education, workplace autonomy.[26-29]

Care aide studies

Only one article discussed care aides exclusively. The study was conducted in the United States and investigators interviewed 33 care aides.[26] This paper was a grounded theory study that conducted in-depth interviews over the length of a year. Twenty-three of the 33 aides discussed stressors that came from having multiple jobs for multiple clients so that they could ensure enough weekly income simply to pay their own bills and rent. The care aides identified constraints that compromise their ability to do a good job or to experience their work as meaningful, but they also reported several rewards that come from caring for dependent adults. Care aides interviewed believed that they should be paid more for what they did, suggesting they were underpaid because their work was undervalued in addition to stressors when working multiple jobs. In general, this qualitative research shows that caregivers believe low-pay and insecurity of the work is 'part of the job'.[26]

Regulated nurse studies

Four articles discussed regulated nurses (licensed practical, associate, bachelors, master's, and doctoral) only – 2 in Iran,[30,31] 1 in Africa,[27] and 1 in the US.[32] Three were cross sectional surveys with samples ranging from 112 to 2,273 all conducted in hospital settings;[30-32] one was a qualitative study with 24 critical care nurses.[32] Common findings across these 4 articles were: work exhaustion was often exacerbated by working a second job and having possible impacts on safe patient care.[27,30-32] One article discussed benefits of working more than one job such as the ability to afford an education for their children, to have educational experiences, and to have a psychologically exciting change from routines at secondary jobs.[27] This report identified that working more than one job was physically tiring, and this may tempt nurses to go off sick. It was also reported that participants experienced family disorganization when working more than one job.[27] (Table 1)

Regulated nurse and care aides (combined samples) studies

Six articles using survey methods, reported on both regulated nurses and care aides – 2 in Brazil,[33,34] and 4 in Africa.[28,29,35,36] Sample sizes ranged from 211 to 3,784. Two of the 6 articles

separated their findings by regulated nurses and care aides.[35,36] One article found that care aides were less likely than regulated nurses to report any incidents of feeling too tired when on duty, pay less attention while working, take a sick leave when not actually sick or have involvement in a medical-legal event.[36] The second study where nurses and care aides samples were separated, care aides were reported to be less likely than nurses to report intention to leave their jobs.[35]

The remaining 4 studies reported their findings with regulated nurses and care aides together: all used survey methods. Two studies reported that working more than one job was difficult as it was physically straining but reported both financial motivations (more money and weekly agency pay); as well as non-financial motivations (choice of unit/ward, job variety, opportunity to learn new nursing skills, and relationships with co-workers).[28,29] The remaining two, found negative physical and mental health effects (i.e., anxiety and depression) in individuals who worked more than one job[33] and physical strain due to long hours working.[34]

Table 1: *Findings from the literature on working more than one job*

First Author and Year	Title	Study Design	Main Research Questions	Findings about working a second job	Country where data were collected	Facility sample	Care staff sample	Care aide findings	Resident Sample
Care Aide Studies									
Stacey, 2005	Finding dignity in dirty work: the constraints and rewards of low-wage home care labor	Qualitative grounded theory study	How workers manage the constraints of their employment and to what extent they craft a sense of ownership and dignity on the job	Percentage of people who worked a second job: ~70% 23 of 33 aides worked multiple jobs. They discussed the stress that came from having multiple jobs for multiple clients to ensure enough weekly income simply to pay their own bills and rent. In general, caregivers minimized the low-pay and insecurity of the work as 'part of the job'.	United States	Home care	A sample of 33 care aides	23 of the 33 aides discussed stresses that came from having multiple jobs to ensure weekly income for their personal bills and rent	NA
Regulated Nurses Studies									
Farzianpour, 2015	Investigating dimensions and impairments caused by shifts in nurses who work in constant shifts	Cross sectional and applied research	How shift work impacts nursing health and fatigue	Percentage of people who worked a second job: 31% of nurses who worked in a private nursing facility had a secondary job. There were greater negative impacts to their physical and mental health (i.e., fatigue and social familial statuses when working a second job.	Iran	Six non-governmental hospitals	A sample of 305 from regulated nurses. 10.5% had a diploma or associate degree, 81% of people had bachelor's degree and 8.5% had a master's degree	NA	NA
Yarmohammadia, 2018	Work-related fatigue and the effective factors in the Iranian nurses	Cross - sectional study	How work-related fatigue effect nurses working in Kermanshah hospitals	Percentage of people who worked a second job: 22% of nurses had a secondary job. Nurses experienced greater occupational fatigue when working a second job, but there	Iran	Hospitals	A sample of 112 regulated nurses. 1.8% had associate degrees, 93.8%	NA	NA

First Author and Year	Title	Study Design	Main Research Questions	Findings about working a second job	Country where data were collected	Facility sample	Care staff sample	Care aide findings	Resident Sample
				were no differences in the motivations between those that worked in one job and more than one.			had a bachelor's degree, and 3.6% had a master's degree		
Trinkoff, 2006	How long and how much are nurses now working?	Quantitative survey data	How long and how much nurses are working with extended work schedules in nursing settings	Percentage of people who worked a second job: A total of 19% of the sample work in more than one job. 25% of nurses with more than one job worked 50 or more hours per week, and they were more likely to work many days consecutively, without enough rest between shifts, and during scheduled time off.	United States	Hospital, Ambulatory setting, nursing home, and home health setting	A sample of 2273 regulated nurses. 47.1% had a diploma/ associate's degree, 41.8% had a bachelor's degree, and 11.1% had a master's degree	NA	N/A
Bhengu, 2001	Exploring the critical care nurses' experiences regarding moonlighting	Qualitative interviews	What critical care nurses' rationales and experiences are regarding holding a second job	Percentage of people who worked a second job: 24/24 participants had experiences holding a second job. Benefits of working more than one job included economic ability to afford an education for their children, to have educational experiences, and to have psychological exciting change from routines at secondary jobs. Less positive descriptions were that it was physically tiring, and this would tempt them to go off sick. Nurses also discussed family disorganization when working more than one job.	South Africa	Two hospitals	A sample of 24 critical care Registered Nurses	NA	NA
Regulated Nurses & Care Aide Studies									
Rispel, 2015	The health system consequences	A cluster random sample	To determine if there are potential	Percentage of people who worked a second job: 40.7% worked a second job.	South Africa	80 hospitals	A sample of 1473 nurses. 735 nurses	Care aides were less likely than	N/A

First Author and Year	Title	Study Design	Main Research Questions	Findings about working a second job	Country where data were collected	Facility sample	Care staff sample	Care aide findings	Resident Sample
	of agency nursing and moonlighting in South Africa.		health system consequences of agency nursing and moonlighting among South African nurses.	51.5% reported feeling too tired to work, 11.5% paid less attention to nursing work on duty, and 10.9% took sick leave when not actually sick. Among all care staff, 11.9% had taken vacation leave to do agency work or moonlighting, and 9.8% reported conflicting schedules between their primary and secondary jobs. The researchers found that care staff were significantly more likely than staff who did not have second job to take sick leave when not sick and to pay less attention to nursing work on duty.			were regulated/professionals, 315 were enrolled nurses and 423 were nursing assistants	regulated nurses to report any incidents of feeling too tired when on duty, paying less attention while working, taking a sick leave when not actually sick, or being involved in a medical legal event.	
Rispel, 2014	Does moonlighting influence South African nurses 'intention to leave their primary jobs?	A cluster random sample	To determine if nurses will quit their primary jobs when they moonlight	The percentage of people who worked a second job: 42.2% had experience working a second job with 28% currently working a second job. The researchers separated care aides and professional nurses with 32.7% of registered nurses working a second job, 28.9% of licensed practical nurses working a second job and 20.5% of care aides working a second job.	Africa	80 hospitals	A sample of 3,784 nurses. 1,910 were professional nurses, 818 were enrolled nurses, and 982 were care aides	Care aides were less likely to report intention to leave their jobs compared to professional nurses	N/A
Rispel, 2014	Factors influencing agency	A cluster random sample	To determine factors that influence	Percentage of people who worked a second job: 42.2% had experience working a	Africa	80 hospitals	A sample of 3,784 nurses. 1,910 were	NA	NA

First Author and Year	Title	Study Design	Main Research Questions	Findings about working a second job	Country where data were collected	Facility sample	Care staff sample	Care aide findings	Resident Sample
	nursing and moonlighting among nurses in South Africa		agency nursing and moonlighting	second job with 28% currently working a second job. The common reasons for working more than one job was to take care of patients (92%), to learn new skills (87.8%), relationship with coworkers (84.4%), weekly pay (81.8%), and financial (60%).			professional nurses, 818 were enrolled nurses, and 982 were care aides		
Monterio, 2012	Work ability among nursing personnel in public hospitals and health centers in Campinas – Brazil	2 cross sectional studies	To evaluate the work ability, health aspects, and life among nursing staff	Percentage of people who worked a second job: 26% worked more than one job The study identifies working a second job as an unfavorable condition of long work hours, increased attention demand and strain at work	Brazil	Public municipal hospitals, health centers and public state hospitals	A sample of 570 workers, 22.3% were Registered Nurses and 61.4% auxiliary nurses	NA	NA
Schmidt, 2011	Anxiety and depression among nursing professionals who work in surgical units	Cross sectional study	To assess the presence of anxiety and depression among nursing professionals working in surgical units	Percentage of people who worked a second job: unspecified A statistically significant difference was found for the occurrence of anxiety for cases of holding two jobs and the type of institution and for the occurrence of depression for cases of nurses holding two jobs.	Brazil	11 hospitals	A sample of 211 participants. 132(62.6%) were auxiliary staff, 28(13.3%) were attendants, 27(12.8%) were technicians, and 22(10.4%) were nurses.	NA	NA
Engelbrecht, 2019	Emotional well-being and work engagement of nurses who moonlight (dual employment)	Cross-sectional descriptive survey	To determine the emotional well-being of moonlighting nurses and their work engagement	Percentage of people who worked a second job: All participants had experiences holding a second job. 79.0% of care staff worked more than one job for financial reasons, 77.3% for the opportunity to learn new skills,	South Africa	12 private facilities	A sample of 251 individuals. 49% of the respondents were professional nurses (four	NA	NA

First Author and Year	Title	Study Design	Main Research Questions	Findings about working a second job	Country where data were collected	Facility sample	Care staff sample	Care aide findings	Resident Sample
	in private hospitals			and 78.6% for job variety. A fifth of the participants considered leaving nursing during the past year. The most common reasons for considering leaving nursing included financial, workload, feeling undervalued, stressed, or to pursue more studies. In general, nurses who moonlighted in private health care facilities reported low risk for burnout, and high levels of compassion satisfaction and work engagement.			years of training), 27.9% were assistant nurses (one year of training) and 23.1% were enrolled nurses (two years of training).		

Discussion

My findings demonstrate that research on care aides who work more than one job is almost nonexistent. My search found no articles focused on LTC and only one that reported exclusively on care aides (in a home care setting).[26] The remaining 10 articles focused on hospital settings, one having a small sample in LTC.[32] While undoubtedly findings in the acute care sector have some relevance in other settings, LTC is a unique setting with unique features and challenges including a different population of residents (patients).

In the available published articles included in our search, key findings included: motivations for working more than one job that were beyond financial motives,[26-29] worsening exhaustion, as well as, worse physical and mental health effects.[27,31] Seven of our 11 included articles had primary research questions not focused directly on care staff working more than one job. Four of the 11 articles exclusively examined the effects of working more than one job.[27,28,35,36] Two of these studies further separated their findings from regulated care staff and care aides.[35,36] The reports that we reviewed used either qualitative interview and survey methods and used heterogenous outcome measures, making it difficult to make meaningful comparisons among studies. This review focused on care aides and regulated nurses, however; the practice of working more than one job is practiced worldwide by several other professions and occupational groups.[10,11] Most of the literature focuses on physicians[12-14] and non-health personnel.[15-18] Though each working profession has their own individualized roles and experiences; the researchers also found common reports such as burnout, poor health, and injury in these occupations.[16,18] Moreover, other occupations reported also reported similar benefits to working more than one job, such as gaining additional work experience, training, and financial security.[13-15,17,18]

Although care aides in LTC provide most of the direct resident care, I found no reports on the effects that working more than one job might have on residents in LTC. I did find evidence that when regulated nurses worked more than one job medical patient errors arose.[35,36] Though care aides in LTC do not typically administer medications, they can be tasked to administer non-high alert medication including oral and topical medications. Further research is indicated to identify any impact on resident care when care aides work more than one job. I did find that when regulated nurses worked more than one job, they had more absences from work. Absences from work (if unreplaced) decreases the ratio of care staff to people requiring care

which can affect care and patient safety. If replaced, other care staff may be called to extend their shift which may lead to further burnout and patient harm.[28,35,36] Both scenarios can have negative consequences on the quality and safety of resident care.

Care aides are largely unregulated, have high risk for burnout, injury, and are poorly paid.[37] While none of the studies I reviewed reported a negative impact on burnout of working more than one job, other studies examining burnout among care aides have reported that positive organizational contexts can improve quality of resident care, care aide job satisfaction and retention.[37]Similar findings were found in the regulated nursing articles where working more than one job was found to further reduce commitment to work, job dissatisfaction, absenteeism, and turnover among nurses.[27,31,36]

Since our review found no Canadian studies or reports in this area, I was unable to compare Canadian experiences to other countries. Most studies were conducted in African countries.

The one worksite policy

In 2020, there have been several articles discussing "shared staff", that is, care staff that work at more than one LTC home. Researchers have found that shared staff /staff working in multiple sites have the potential to spread COVID-19 in LTC homes.[22,38,39] The possible transmission from care staff poses a serious threat to the medically vulnerable population in LTC homes. Although the use of vaccine and antiviral medications can be effective in reducing the spread of *influenza* in LTC homes, emerging variants create potential concerns for vaccine effectiveness. Residents and health workers in LTC homes are at risk for COVID-19 transmission and severe outcomes, particularly residents who are over ages 65, have co-morbid conditions, and less effective immune systems.[40] At no time have we been in more urgent need of information about staff who work more than one job, than under COVID-19 pandemic conditions in LTC.

The COVID-19 pandemic has revealed the role of working multiple job at different sites in infection spread in LTC homes.[39] While many care homes managed well during this first phase of COVID-19, outbreaks have been severe in other care homes across the world with grim reports of care conditions and mortality.[39,41] Traditionally, care aides in LTC have been paid significantly lower wages and not receiving full-time roles or benefits such as paid sick leave than their counterparts in a hospital care setting. [38] In Canada, some provinces have mandated

that care aides work one LTC site only; however, the implementation of these mandates has varied considerably across provinces.[38,42] For instance, the British Columbia (BC) government increased health care provider wages by $4 an hour, given scheduling stability such as full-time equivalents (i.e., reduce PT and casual).[43] In Alberta, the government has increased care aides' wages by $2 an hour,[44] and facilities have made individualized plans to increase FTE (full-time-equivalent) for care aides working more than one job. However, the full time FTE was only provided to care staff who had an FTE at another institution -meaning that care aides who worked casual shifts were not given the ability to increase their FTE. Moreover, the wage increases varied amongst all LTC sites, depending on if they were privately owned or publicly funded and operated.

Restricting care aides to a single work site has resulted in an abrupt decrease in care aide staffing, that LTC homes were challenged with prior to the pandemic.[45] In Alberta, the provincial authorities have made some exemptions to the one site policy rule to allow for adequate staffing.[46] In comparison, the British Columbia Ministry of Health has initiated a centralized staffing approach that manages staff resources at the provincial level based on the weekly updated data of worksite preference reported by employees to strategically staff LTC.[43] This is due to the differences in the implementation between the provincial level and local context. For example, public not-for-profit and private for-profit homes had significantly higher proportions of care aides working at multiple LTC homes compared with voluntary not-for-profit (i.e., faith based) homes (30.6%, 26.8% vs 18.8%).[38] Although, the full implications of one worksite policies in LTC are not fully known,[45] efforts to study possible unintended consequences should be initiated as soon as possible.

Conclusion

This review provides preliminary insights of how working one job is affecting largely regulated nurses both positively and negatively. I identified that working more than one job can be beneficial as an additional source of income, and can add other employment benefits (i.e., a flexible schedule, new skills, and training). However, working more than one job can pose a risk for the physical and mental health of workers. Identifying motivations for working more than one job will be an important addition to the knowledge needed to inform policy/ decision makers to implement supports or changes that support care aides either to remain successfully in one job or to manage more than one job.

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Chapter 3. Paper 2- The impact of working more than one job on care aides who work in long term care

Introduction

Care aides (also known as personal support workers or nursing assistants) are the largest workforce in long-term care homes (LTC).[1,2] Care aides provide more than 90% of direct care and are central to quality of care and quality of life of residents.[1,3,4] Their essential jobs are physically, mentally, and emotionally demanding. Daily care tasks include bathing, feeding, transferring, providing emotional support, and advocating for resident needs.[1,4,5] As many as 30% of care aides in Canada[6] and approximately 19% in the United States (US)[7] work more than one job, often referred to as "dual" practice, or "moonlighting". However, there is reason to believe that this is a significant underestimate.[8,9] Underreporting may be attributed to stigma around working more than one job, as many employers believe that working multiple jobs can affect an employee's level of energy, dedication, and contribute to absenteeism, turnover, and poor work performance.[8,9]

Although working more than one job is a widespread phenomenon,[10-12] I located virtually no literature focused specifically on care aides working multiple jobs in LTC. However, research completed in other health occupations suggests that there are both adverse and positive outcomes when health care workers hold more than one job. The adverse outcomes include risk for burnout, poor health, and injury,[13,14] while the positive outcomes include better income, job training, and satisfaction.[13,15-17] Nevertheless, little is known about care aides who work more than one job in LTC and if working multiple jobs bestows benefits under some circumstances or has negative effects under others. A better understanding of the effects and the motivations for working multiple jobs would inform workplace policies to create conditions under which care aides do not need to work multiple jobs, or do not experience negative effects if they do.

Care aides are part of the broad nursing workforce in LTC homes and nursing generally is viewed as being inherently stressful because care workers are regularly confronted with suffering, grief, and death which can lead to burnout.[18,19] Burnout is usually defined as a syndrome of exhaustion, cynicism, and reduced efficacy.[20] Researchers have reported on the costly implications of burnout on healthcare organizations and individual workers. It can result in increased turnover and absenteeism and result in lower quality of care to residents.[21-23] Although

there is limited literature addressing the impact on care aides working multiple jobs on burnout, given the enormous responsibility care aides have for resident's needs, understanding the potential impact of care aide burnout on resident outcomes is integral to staff quality of work life and quality of care.[18,20,24]

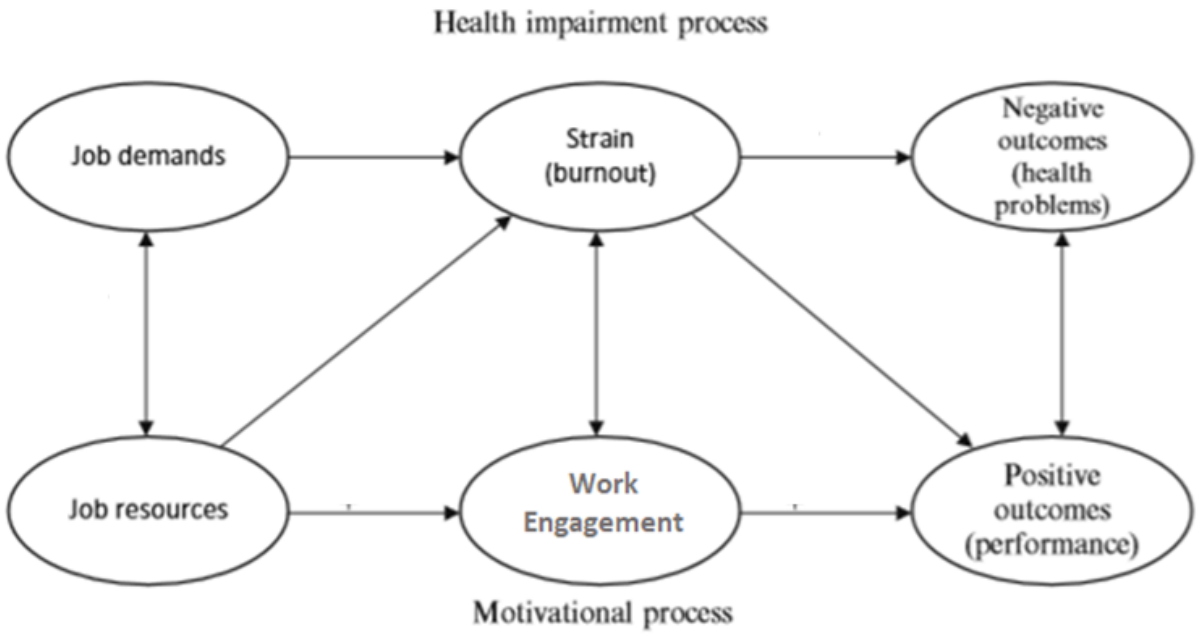
In comparison, work engagement studies have revealed that some employees, regardless of high job demands, do not develop burnout, but seem to find pleasure in hard work.[25] Engaged workers see themselves as competent in dealing with the demands of their job and have a sense of connection with their work activities.[26] Although I located no research on the impact that working multiple jobs has on care aide work engagement, several researchers have identified that care aide work engagement is a predictor of resident quality of care,[27] staff job satisfaction, mental health, and turnover.[28,29] Thus, creating a working environment in which care aides are highly engaged can help to improve quality of work life and quality of resident care.

The **purpose** of this study was to describe the proportion of care aides working more than one job in a large cohort of 94 Canadian LTC homes and to assess the effects on care aide work engagement and burnout among those working multiple jobs in LTC compared to those working one job. Data used in this assessment were collected pre-pandemic (2017). Since collecting these data many Canadian LTC homes have implemented variations of a "one workplace policy" in an effort to reduce COVID-19 spread by staff working in multiple jobs.[30]

Theoretical Framing

I used the modified Job-Demands and Resource (JD-R) model,[31] (Figure 1) along with the current literature on care aides' quality of work life to assist me in selecting the independent and dependent variables for my research models. For this chapter I will be referring to one example (Figure 2). The JD-R states that occupations have unique sets of job requirements (demands) and job-related resources that precede burnout and engagement. This model identifies work demands and resources as possible antecedents of burnout, that may result in the deterioration of an employee's health and/or motivational processes.

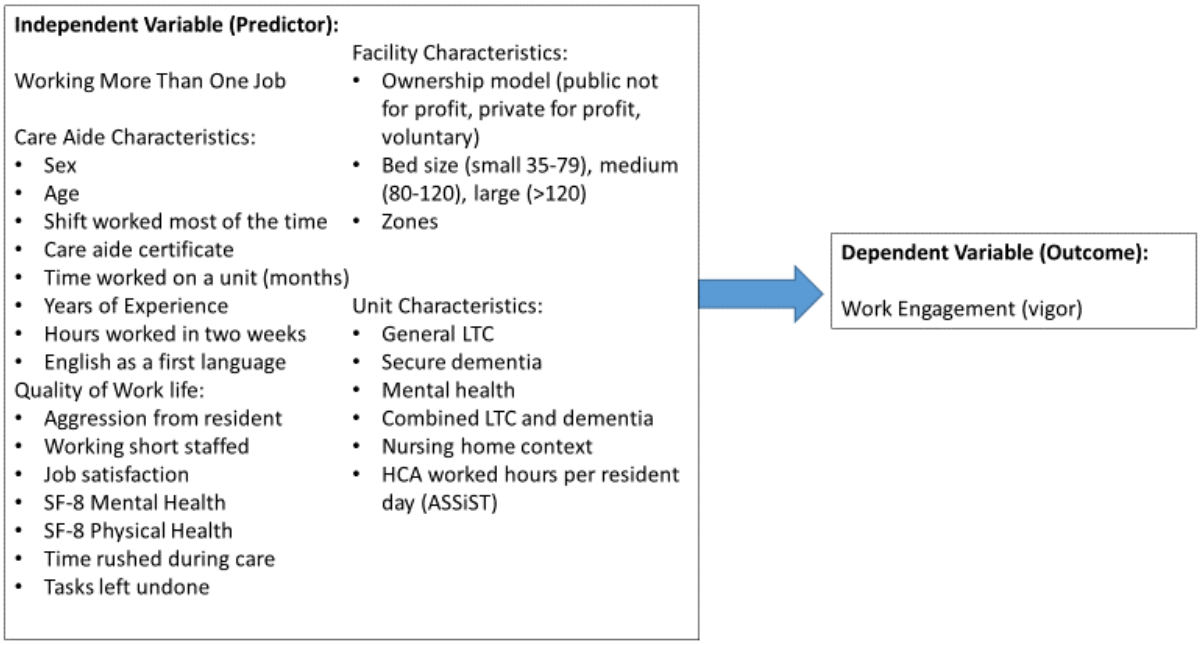
Figure 1: *The Job-Demand and Resource Model* [31]



In the model (Figure 1), job demands are physical, psychological, social, or organizational aspects of a job that may be associated with certain physiological and psychological costs. This includes work overload, conflicts, poor management, and job insecurity. In contrast, job resources support people in achieving work goals, they reduce job demands associated with physiological and psychological costs and stimulate personal growth and development.[31] In addition, job resources function in alleviating job demands (i.e., providing career opportunities, coaching, role-clarity, and autonomy). I hypothesized that working multiple jobs could function as both a job demand and resource. With working multiple jobs increasing job demands and increasing job resources resulting in an increase in burnout and work engagement.

In my research model (Figure 2), my dependent variables were (1) burnout using the short version of the Maslach Burnout Inventory (MDI)[32] and (2) well-being using the Utrecht Work Engagement Scale (UWES).[25] I ran a separate model for each dependent variable: first, for work engagement and its three sub-scales (vigor, dedication, and absorption), and second for burnout and its three sub-scales (exhaustion, cynicism, and efficacy).

Figure 2: *Research Model – Work Engagement (Vigor)*



Design

I conducted a secondary analysis of cross-sectional (care aide) survey data collected within the longitudinal research program, *Translating Research in Elder Care* (TREC). TREC is a research program examining the quality of LTC work environments (organizational context), staff quality of work life, and resident quality of care in LTC homes, since 2007.[18] Data were collected between May 1, 2017 and December 19, 2017.

Methods

Setting

Surveys were collected from a representative sample of 94 urban residential LTC homes across 3 western Canadian Provinces (Alberta, British Columbia, and Manitoba). Sites were randomly selected with stratification: a) facility size (small: <80 beds, medium: 80-120 beds, large: >120 beds), b) owner-operator model (public not-for-profit, voluntary not-for-profit, private for-profit), and c) health region (Edmonton and Calgary Zones in Alberta, Fraser and Interior Health Regions in British Columbia, Winnipeg Health Region in Manitoba).

Participants

A total of 4,158 care aide surveys were collected from care aides in 2017. Care aides were eligible to complete the survey if they (a) had been working in the facility for more than three months, (b) could identify a unit they worked on at least 50% of the time, and (c) worked at least six shifts a month on the unit.

Data collection

The TREC survey is a suite of instruments that includes previously validated scales (e.g., Job Satisfaction,[33] physical and mental health (SF-8),[34] MBI,[32] UWES,[25] and questions developed and validated by the TREC team (e.g., organizational context (Alberta Context Tool),[35] best practice use, tasks missed and rushed). Data were collected using structured computer-assisted personal interviews (CAPI).[36] The survey was administered to care aides from May 1, 2017 to December 19, 2017 by trained interviewers. Interviewers were trained in technical aspects of the CAPI process, as well as, interview techniques and troubleshooting.[36]

Measures

Theoretical and operational definitions, questions, and scales from the care aide version of the survey including response options, scoring, and psychometric properties are found in Table 2. The following text provides a summary of the measures used.

Independent variable. *Working more than one job* was the primary independent variable of interest. In the survey researchers asked the open-ended question "sometimes care aides work shifts in different care homes. Counting this care home (that we are in now) as one, how many care homes do you work in now?", the care aides provided a number. Because the distribution of responses was highly skewed, I dichotomized the variable to care aides who worked one job (reference group) and those who worked more than one job.

Dependent variables. I assessed six dependent variables total from the MBI subscale and UWES subscale. I used the short version (9-item) of the (MBI).[32] These 9-items comprise 3 items per subscale: exhaustion, cynicism, and efficacy. Exhaustion refers to feelings of strain, particularly chronic fatigue resulting from overtaxing work.[20] Cynicism refers to an indifferent or a distant attitude towards work and the people with whom one works with.[20] Finally, *low* efficacy refers to reduced feelings of accomplishment both in one's job and the organization.[20] That is, on the efficacy scale higher scores are better, whereas lower scores are better for exhaustion and cynicism. Responses were reported using Likert scales. The overall score for

each subscale was obtained by taking the mean of the 3 items within the scale. The original inventory has been reported to have good reliability (Cronbach-alpha just below or exceeding 0.70).[37]

I used the UWES-9 to assess work engagement; its three sub-scales are: vigor, dedication, and absorption. Vigor refers to having high energy levels and resilience in difficult circumstances.[25] Dedication includes a sense of significance and challenge, while absorption is characterized by concentration on one's work.[26] Responses were reported using Likert scales. *Higher values* of vigor, dedication, and absorption all indicate a greater degree of work engagement. The Cronbach- alpha range from 0.85 to 0.92.[38] Sub-scale scores were obtained by taking the mean of the items within a sub-scale. Each of these 6 subscale scores were entered in 6 separate regressions.

Adjustment variables. I adjusted each of the 6 models, using the following covariates:

a. Care aide characteristics – education, sex, age, country born in, and completion of formal health care aide training (possessing a care aide certificate).
b. Work-related characteristics – time worked as a care aide (years), time worked in the unit (years), and shift worked most of the time (day, evening, night).
c. Unit variables – the type of unit where the care aide worked, i.e., general long-term care, secure dementia, mental health, or combined long term care and dementia.
d. Facility variables – size: small (35–79 beds), medium (80–120 beds), and large (>120 beds), health region (five regions), owner-operator model: private for profit, public not for profit, or voluntary not for profit status, and low context nursing home.
e. Quality of work life variables – Job Satisfaction, aggression experienced on the last 5 shifts from residents, working short, tasks rushed, tasks left undone, physical, and mental health (SF-8).

Table 2: *Theoretical and operational definitions*

Table 2: Theoretical and operational definitions						
Variable	Theoretical Definition	Operational Definition	#Items	Scoring	Cronbach's α	Validity & Reliability
Independent Variable						
Working in more than one job in long term care	Working more than one job in long term care	Sometimes care aides work shifts in different care homes. Survey question: Counting this care home as one, how many care homes do you work in now?	1	An open-ended question. Coded as specified (e.g. worked 3 jobs were coded 3).	N/A	N/A
Working as a care aide	Working as a care aide	Survey question: Employed as a health care aide?	1	Yes or no.	N/A	N/A
Time worked on a unit (months)	Amount of time that was worked on a unit	Survey question: How long have you worked on this unit?	1	Marked by years and months.	N/A	N/A
Number of hours worked as a care aide in 2 weeks.	Number of hours worked as a care aide in 2 weeks	The total hours worked in two weeks are written by the care aide.	1	An open-ended question. Coded as specified (e.g. total hours worked were 45 and were coded as 45).	N/A	N/A
Facility Owner/ Operator type	Ownership type	Public not for profit, private for profit, or voluntary.	1	N/A	N/A	N/A
Facility Bed Size	Number of beds in a facility	Small is categorized by 35-79beds), medium is (80-120 beds) and large is (more than 120 beds).	1	N/A	N/A	N/A
Unit Type	Type of unit	The unit type can be categorized as general long-term care, secure dementia, mental health, or a combination of long-term care and dementia.	1	N/A	N/A	N/A
Sex	Either the male or female division of a species, especially as differentiated with reference to the reproductive functions	Survey question: What is your sex?	1	Participants who indicated they were male were coded as 1 and females coded as 2. Missing data were coded with a 9. In my study I	N/A	N/A

Table 2: Theoretical and operational definitions						
Variable	Theoretical Definition	Operational Definition	#Items	Scoring	Cronbach's α	Validity & Reliability
				will be recoding males as 0 and females as 1.		
Age	The length of time during which a being or thing has existed; length of life or existence to the time spoken of or referred to	1 item with 12 categorical response options was used in the TREC survey to indicate the age of the participant. Survey question: Please indicate your age group by checking one of the following: <20 years, 20-24 years, 30-34 years, 35-39 years, 40-44 years, 45-49 years, 50-54 years, 55-50 years, 60-64 years, 65-70 years, or >70 years.	1	This variable is coded sequentially, whereby a score of 01 is given to participants who respond <20 years and 02 is given to a response of 20-24, and so on. Therefore, scores for this variable can range from 01-12. Missing data were coded with 99.	N/A	N/A
English as a first language	First learnt language is English	Survey question: English as a first language? Yes or no.	1	Participants who indicated yes were coded as 1 and no's were coded as 2. Missing data were coded with a 9.	N/A	N/A

Table 2: Theoretical and operational definitions						
Variable	Theoretical Definition	Operational Definition	#Items	Scoring	Cronbach's α	Validity & Reliability
Shifts worked most of the time	A day, evening, or night shift that was mostly worked.	Survey question: What shift do you work most of the time?: (1) Day shift (any shift from 07:00 to 15:00) (2) Evening shift (any shift from 15:00 to 23:00) (3) Night shift (any shift from 23:00 to 07:00).	1	Participants who indicated days were coded as 1, evenings were coded as 2, and nights were coded as 3. Missing data were coded with a 9.	N/A	N/A
Education level	A degree, level, or kind of schooling	An 8-items relating to completed educational programs and year of graduation. Specifically, participants were asked to indicate yes or no for each of the following 4 levels of education: diploma/ certificate, bachelor's degree, master's degree, and PhD/PharmD.	1	Respondents who indicated yes (for any of the education levels) were coded with a 1, no was coded as a 2 and missing was coded as a 9. If they responded yes to a particular level of education, they then indicated the year of graduation (open-ended question). The year of graduation was coded as specified (e.g. graduated in 1990 was coded as 1990). If they answered no to a level of education, the year was coded as 8888 (not applicable), or if the year was	N/A	N/A

Table 2: Theoretical and operational definitions						
Variable	Theoretical Definition	Operational Definition	#Items	Scoring	Cronbach's α	Validity & Reliability
				missing (no answer given) they were coded as 9999.		
Years of Experience	Years of a particular instance of personally encountering or undergoing something	Survey question: How long have you worked in your current role?	1	Responses were captured as both the number of years and months in open-ended format as specified by the participant. Missing data for either months or years was coded as 99.	N/A	N/A
Work with challenging behaviors	Working with residents is sometimes challenging, and you may run into difficult behaviors in your work.	Survey question: In the last 5 shifts you worked did you experience the following from a resident? Yelling or screaming, verbal threats, hurtful remarks, or behaviors, being spit on, bitten, hit, pushed or pinched, repeated, and unwanted questions or remarks of a sexual nature, and sexual touching.	6	An answer of yes or no.	N/A	N/A
Working short	Fewer care aides than usual	Survey question: In the last month how often did you work short staffed?	1	More or less every day coded as 1, weekly coded as 2, monthly coded as 3, less often coded as 4, never coded as 5.	N/A	N/A

Table 2: Theoretical and operational definitions						
Variable	Theoretical Definition	Operational Definition	#Items	Scoring	Cronbach's α	Validity & Reliability
Employment status	Working hours	Survey question: What is your employment status on this [unit/facility]? Full-time, part-time, or casual (check one).	1	Participants who indicated that they worked full-time were coded with a 1, part-time coded with a 2, causal with a 3 and missing with a 9. For participants who identified themselves as working casual, they were also asked the open-ended question: "How many shifts, on average, do you work in a month?" The range for this question is from 6-30 (e.g. if the participant indicated that 6 shifts were worked, they were coded with a 6); participants who answered full-time or part-time to the first item were coded as 88 (not applicable) and missing data was coded as 99.	N/A	N/A

Table 2: Theoretical and operational definitions						
Variable	Theoretical Definition	Operational Definition	#Items	Scoring	Cronbach's α	Validity & Reliability
Job satisfaction	A global satisfaction measure that reflects affective components (i.e. ones' feeling about his/ her job)	1 item with 3 categorical response options was used in the TREC surveys. The item was as follows: "All in all, I am satisfied with my job", In general, I like my work, in general, I like working in this nursing home.	3	Mean of items on 5-point Likert scale (strongly disagree—strongly).		The MOAQ-JSS-3 is a reliable and construct-valid measure of global job satisfaction.[33] The scale was adapted for healthcare aides in nursing homes and pilot tested in an Ontario sample in 2014 and field tested in Year 1 of TREC 2.0 using methods previously developed and successfully applied in TREC 1.0.[39,40] The Ontario Validation work supported a single OCB-O factor. Reliability: Alpha 0.70
Time rushed during care	The feeling of being rushed when providing care	The feeling of having been rushed when carrying out necessary tasks for residents in the last shift.	7	The overall score is derived by the sum of the 7 items (1=yes) (2=no)	N/A	N/A
Time leaving care tasks undone	The amount of times not completing care tasks	Not providing residents with necessary care tasks due to a lack of time the last shift.	10	The overall score is derived by the sum of the 10 items (1=yes) (2=no).	N/A	N/A

Table 2: Theoretical and operational definitions						
Variable	Theoretical Definition	Operational Definition	#Items	Scoring	Cronbach's α	Validity & Reliability
SF-8 Mental Health[34]	Psychological well-being and satisfactory adjustment to society and to the ordinary demands of life.	Respondent perception of mental health in last 4 weeks and rating items on 5- or 6-point Likert scale completed using algorithm obtained by scale developers. Scores are presented as a summary from (0%–100%).	8	Scoring of items on 5- or 6-point Likert scale completed using algorithm obtained by scale developers. Scores are presented as a summary from (0%–100%).	Cronbach alpha is >0.76 for all 8 sub-scales.[34]	The SF-8 scale is based on the larger SF-36 scale, which has known reliability and validity. SF-36 Reliability & Validity Reliability: Reliability: Cronbach alpha is >0.76 for all 8 sub-scales.[34] Validity: Content as derived from pre-existing questionnaires. Factor analysis has validated the existence of eight scales which fall int either physical or mental health components.[34,41]
SF-8 Physical Health[34]	The general condition of the body or mind with reference to soundness and vigor	Respondent perception of physical health in last 4 weeks and rating items on 5- or 6-point Likert scale completed using an algorithm obtained by scale developers. Scores are presented as summary from (0%–100%).	8	As above	As Above	As above

Table 2: Theoretical and operational definitions						
Variable	Theoretical Definition	Operational Definition	#Items	Scoring	Cronbach's α	Validity & Reliability
Nursing home Context	A measure of organizational context for use in complex healthcare settings. It assesses individual healthcare provider's perceptions of organizational context	Measured with the Alberta Context Tool (ACT) which contains 58 items that constitute eight unique dimensions of organizational context: leadership, culture, evaluation, social capital, informal interactions, formal interactions, resources, and organizational slack (time, space, staffing).[35]	58	Scoring of the eight dimensions were scored on different scales. Leadership, culture, evaluation, social capital, and organizational slack (time, space, staffing) were score on a 5-point scale (1-strongly agree, 2 disagree, 3 neither agree or disagree, 4 agree, 5 strongly agree). Formal and informal interactions were scored using the 5-point Likert scale (1-never, 2 rarely, 3-ocassionaly, 4-frequently, and 5-alsmost always). And resources were scored using a 6-point Likert scale (1-never, 2-rarely, 3-occasionally, 4-frquently, 5-almost always, and 6-not accessible)	Cronbach alpha is >0.70.	Reliability: the care aide version has a Cronbach alpha is >0.70. Validity: confirmatory factor analysis along with bivariate associations between the ACT concepts and instrumental research utilization.[42]
Dependent Variables						

Table 2: Theoretical and operational definitions						
Variable	Theoretical Definition	Operational Definition	#Items	Scoring	Cronbach's α	Validity & Reliability
Burnout	A negative psychological condition that results from work-related stress. Exhaustion-. a state of extreme physical or mental fatigue. Cynicism- an inclination to believe that people are motivated purely by self-interest, skepticism. Efficacy- the ability to produce a desired or intended result.[25]	A shortened version (9-item) of the *Maslach Burnout Inventory* General Survey (MBI) is used to measure this variable.[32] These 9-items comprise 3 elements or sub-scales: exhaustion, cynicism, and efficacy.	9	Likert scale: never (0) sporadic (1), now and then (2) regularly (3), often (4) very often (5) and daily (6) Missing data were coded 9. Scoring: sub-scale means	Cronbach-alpha ranging from 0.88 to 0.90.[37]	The overall score is derived by taking the mean of their 3 items within the scale. Higher values of exhaustion and cynicism and lower values of efficacy indicate a greater degree of burnout. The original inventory has been reported to have good reliability (Cronbach-alpha ranging from 0.88 to 0.90).[37]
Work Engagement	A positive, fulfilling work- related state of the mind that is characterized by vigor, dedication, and absorption Vigor- physical strength and good health Dedication- the quality of being dedicated or committed to a task or purpose. Absorption- the process or action by which one thing absorbs or is absorbed by another.[25]	*Work Engagement:* Measured using the UWES scale A personal process in which people associate themselves with their work roles and engage in task behaviors that promote a connection to work.[26] This 9-item measure has 3 sub-scales (3 items per subscale): vigor, dedication, and absorption.	9	Likert scale: never (0) sporadic (1), now and then (2) regularly (3), often (4) very often (5) and daily (6) Missing data were coded 9. Scoring: sub-scale means	Cronbach alpha ranging from 0.85 to 0.92 (median = 0.92).[38]	Reliability Cronbach alpha ranging from 0.85 to 0.92 (median = 0.92) have been reported.[38] Stability coefficients: In Australia and Norway the UWES-9 was administered twice with an interval of 1 year. Stability coefficients were 0.64 and 0.73 for Australia and Norway respectively.[38]

Data Analyses

I used the Statistical Package for Social Sciences (SPSS version 22.0) for Windows version 20 for the analyses. All analyses were conducted within the secure virtual environment (the University of Alberta's Health Research Data Repository). I report both confidence intervals and p values.

Descriptive statistics (e.g., range, mean, standard deviations, frequency counts, proportions) were used to describe care aide demographic information and survey variables. Analyses were performed to assess assumptions of normality, linearity, and homoscedasticity.

I used independent *t*-tests to test the difference between the work engagement and burnout means in two separate groups of care aides: one who work more than one job and one who do not. This was used to test the continuous variables. I used the Fisher's exact and chi-score test to compare categorical variables.

I used mixed-effects linear regression models with random unit- and facility-level intercepts to account for the clustered nature of the data, as care aides are nested in units, and units within LTC homes. Meaning that care aides working together on specific units may have the tendency to answer the same way.

Findings

Descriptive and bivariate findings

In the sample, 1101 (26.5%) of care aides worked more than one nursing home. The *majority of are aides who worked in multiple LTC homes spoke English as a second language* 864 (78.5%) and 647 (58.5%) were between ages 30-49. Care aides working multiple jobs worked an average of 83.5 hours in two weeks compared to 65.4 hours for care aides who worked in one LTC home. Two of the UWES sub-scales, vigor, and dedication, had statistically significant bivariate associations with care aides working multiple jobs, that is when care aides worked more than one job it was associated with higher levels of vigor and dedication. Two of the MBI sub-scales, exhaustion and efficacy also had a statistically significant bivariate association with working multiple jobs. That is when care aides worked more than one job it was associated with a lower level of exhaustion, and a higher level of efficacy.

All the variables in Table 3 were included in the multilevel regression analyses. Descriptive findings in Table 4 further show that 2.3% (n= 97) of care aides work more than

three jobs in LTC, 0.3% (n= 11) work in more than four jobs in LTC, and 0.1% (n=4) work five jobs in LTC. In addition, in Table 5, I report that 64.5% of care aides who worked multiple jobs worked in lower context nursing homes and in large, private for-profit nursing homes.

Table 3: *Descriptive statistics for care aides working in one vs. more than one nursing home*

Table 3: *Descriptive statistics for care aides working in one vs. more than one nursing home*			
Demographics	**Working one job in LTC**	**Working more than one job in LTC**	**P (χ^2 or t test)**
Sex: *			
Female	2737 (89.6%)	972 (88.5%)	0.305
Missing	2 (0.1%)	3(0.3%)	
Shifts worked most of the time: *			
Day (any shift from 0700-1500)	1537 (50.3%)	496 (45.0%)	**0.003**
Evening (any shift from 1500-2300)	1153 (37.7%)	480(43.6%)	
Night (any shift from 2300-0700)	365 (11.9%)	125 (11.4%)	
Missing	-	-	
Care aide certificate*	2867 (93.8%)	1025(93.2%)	0.428
Missing	-	1(0.1%)	
English as a second language *	1870 (61.2%)	864 (78.5%)	**<0.001**
Missing	1(0.03%)	-	
Age *			
<20 years	4 (0.1%)	4 (0.4%)	**<0.001**
20-29 years	316 (10.3%)	91 (8.3%)	
30-39 years	653 (21.4%)	241 (21.9%)	
40-49 years	911 (29.9%)	406 (36.9%)	
50-59 years	812 (26.6%)	272 (24.7%)	
60-69 years	346 (11.3%)	87 (7.8%)	
>70 years	13 (0.4%)	0 (0.0%)	
Missing	-	-	
Years of experience as care aide **	145(110.7)	119(93.7)	**<0.001**
Missing	-	-	
Time worked on this unit (years) **	72 (73.1)	62(62.6)	**<0.001**
Missing	-	-	
Average hours worked in 2 weeks **	65.4(16.9)	83.5(27.2)	**<0.001**
Missing	-	-	
Quality of Work Life	**One Job in LTC**	**More than one Job in LTC**	**P (χ^2 or t test)**
Working short staffed: *			
Yes	2500 (82%)	900 (81.8%)	0.896
Never	551 (18.1%)	201 (18.3%)	
Missing	4(0.1%)	-	
Aggression from residents**	3.3(1.6)	3.1(1.7)	**0.002**
Missing	2(0.1%)	-	
UWES: Vigor**	5.3(1.0)	5.5(0.9)	**<0.001**
Missing	-	-	
UWES: Dedication**	5.6(0.7)	5.7(0.7)	**<0.001**
Missing	2(0.1%)	-	
UWES: Absorption**	5.8(0.5)	5.8(0.4)	**0.004**
Missing	4(0.1%)	-	
MBI: exhaustion**	2.7(1.7)	2.5(1.7)	**0.019**

Table 3: *Descriptive statistics for care aides working in one vs. more than one nursing home*			
Missing	6(0.2%)	4(0.4%)	
MBI: cynicism**	2.7(1.6)	2.7(1.6)	0.725
Missing	16(0.5%)	7(0.6%)	
MBI: efficacy**	5.4 (0.9)	5.5(0.8)	**<0.001**
Missing	4(0.1%)	1(0.1%)	
Job satisfaction**	4.2(0.6)	4.3(0.6)	**<0.001**
Missing	3(0.1%)	-	
SF-8 mental health**	51.6(8.7)	52.7(8.0)	**<0.001**
Missing	3(0.1%)	3(0.3%)	
SF-8 physical health**	48.8(8.4)	50(7.6)	**<0.001**
Missing	3(0.1%)	3(0.3%)	
Average no. care tasks rushed **	3(2.7)	2.6(2.7)	**<0.001**
Missing	1(0.03%)	-	
Average no. care tasks left undone**	1.6(2)	1.4 (1.8)	**<0.001**
Missing	1(0.03%)	-	

* Numbers are N (%)

** Numbers are mean (standard deviations)

Table 4: *Frequencies of care aides working in one or more nursing home*

Table 4 *Frequencies of care aides working in one or more nursing home*	
Number of Nursing Homes Worked in	**Frequency (Percentage)**
1	3055 (73.5%)
2	989 (23.8%)
3	97 (2.3%)
4	11 (0.3%)
5	4 (0.1%)
Total	4158

Table 5: *Facility and unit characteristics between nursing homes and for care aides working in more than one nursing home*

Table 5: *Facility and unit characteristics between nursing homes and for care aides working in more than one nursing home*		
Facility Characteristics	**Nursing homes N (%) / Mean (SD)**	**Care aides working >1 job N (%) / Mean (SD)**
Ownership model		
Public not for profit	19(20.2%)	248 (22.5%)
Private for profit	41(43.6%)	498 (45.2%)
Voluntary	34(36.2%)	355 (32.2%)
Missing	-	-
Size (beds)		
small (<80)	21(22.3%)	135 (12.3%)
medium (80-120)	36(38.3%)	343 (31.2%)
large (>120)	37(39.4%)	623 (56.6%)
Missing	-	-
Zones		
Edmonton Zone	20(21.3%)	301(27.3%)
Calgary Zone	15(16%)	257(23.3%)
Interior Health Zone	16(17%)	127(11.5%)
Fraser Health Zone	27(28.7%)	264(24.0%)
Winnipeg Zone	16(17%)	152(13.8%)
Missing	-	-
Unit Characteristics	**Nursing homes N (%) / Mean (SD)**	**care aides working > job N (%) / Mean (SD)**
Type of unit		
Secure dementia	49(14.5%)	150 (13.6%)
Non-secure dementia	14(4.1%)	55 (5.0%)
General LTC	228(67.3%)	737 (66.9%)
Secure mental health/ psychiatrics	3(0.9%)	10 (0.9%)
Other	45(13.3%)	143(13.5%)
Missing	-	-
Staffing (ASSiST) for HCAs HCA hours per day*	1.9(0.6)	1.8(0.7)
Missing	-	-
Staffing (ASSiST) for LPNs LPN hours per day*	0.5(0.3)	0.5(0.3)
Missing	-	-
Staffing (ASSiST) for RNs RN hours per day *	0.3(0.2)	0.3(0.2)
Missing	-	-
High nursing homes contexts	167(49.3%)	381(35.5%)
Low nursing home contexts	145(42.8%)	693(64.5%)
Missing	27 (8%)	27(2.5%)

* Numbers are mean (standard deviations)

^ASSiST (a Scheduled Shifts Staffing measure) that reflects HCA, LPN, and RN worked hours per resident day, a number derived from the TREC survey[43] and validated in administrative data.[44]

Multilevel Regression findings for care aide work engagement sub-scales

In the linear mixed model, none of the burnout sub scales were associated at statistically significant levels with care aides working multiple jobs. For work engagement, the subscale vigor was negatively associated at a statistically significant level, that is, as care aides worked more jobs, they did not have high energy levels, resilience, or work persistence. The mean difference of the vigor scores between those who work more than one job and those who work in one is 0.08 (95%CI: 0.01-0.14, p=0.017). This was not the expected direction I hypothesized. The full results are found in Table 6.

Table 6: *Multilevel regression analysis of work engagement and burnout*

Table 6: Multilevel r*egression analysis of work engagement and burnout*						
	Work Engagement Coefficient [95%CI]			Burnout Coefficient [95%CI]		
Model	Vigor	Dedication	Absorption	Exhaustion	Efficacy	Cynicism
Working more than one job	-0.077 (-0.014--0.140)*	-0.001 (-0.049-0.048)	0.020 (-0.014-0.054)	0.003 (-0.104-0.111)	-0.014 (-0.078-0.050)	-0.108 (-0.226-0.011)
Facility Covariates						
Facility zone						
Edmonton Zone	0.142 (0.051-0.233)*	0.068 (0.000-0.137)*	0.017 (-0.031-0.646)	-0.248 (-0.404-0.091)*	0.157 (0.054-0.260)*	-0.641 (-0.832-0.450)*
Calgary Zone	0.095 (0.001-0.189)*	0.056 (-0.013-0.126)	0.016 (-0.033-0.065)	-0.131 (-0.293-0.031)	0.186 (0.079-0.293)*	-0.392 (-0.591-0.194)*
Interior Health Zone	0.141 (-0.002-0.286)	-0.020 (-0.129-0.090)	0.015 (-0.062-0.091)	-0.338 (-0.585-0.090)*	0.014 (-0.144-0.173)	-0.634 (-0.930-0.338)*
Fraser Health Zone	0.080 (-0.003-0.163)	0.030 (-0.033-0.092)	0.037 (-0.006-0.080)	-0.215 (-0.358-0.071)*	0.135 (0.041-0.230)*	-0.260 (-0.436-0.084)*
Winnipeg Zone	Ref	Ref	Ref	Ref	Ref	Ref
Ownership model						
Ownership model: public not for profit	-0.061 (-0.141-0.018)	-0.037 (-0.096-0.023	-0.030 (-0.071-0.012)	0.021 (-0.116-0.159)	-0.035 (-0.125-0.056)	-0.048 (-0.218-0.121)
Ownership model: private for profit	0.021 (-0.042-0.083)	0.048 (0.002-0.095)*	0.016 (-0.016-0.048)	0.034 (-0.073-0.141)	0.005 (-0.066-0.076)	0.082 (-0.050-0.213)
Ownership model: voluntary	Ref	Ref	Ref	Ref	Ref	Ref
Size						
Bed size: small (<80)	0.050	0.057	0.014	0.006	-0.001	0.006

Table 6: Multilevel r*egression analysis of work engagement and burnout*						
	(-0.033-0.134)	(-0.006-0.120)	(-0.030-0.058)	(-0.140-0.149)	(-0.094-0.090)	(-0.167-0.180)
Bed size: medium (80-120)	-0.028 (-0.091-0.035)	0.026 (-0.021-0.073)	0.021 (-0.012-0.054)	0.027 (-0.082-0.135)	0.015 (-0.056-0.087)	0.064 (-0.069-0.197)
Bed size: large (>120)	Ref	Ref	Ref	Ref	Ref	Ref
Unit covariates						
Unit type						
Secure dementia	0.044 (-0.078-0.165)	0.049 (-0.044-0.142)	0.020 (-0.045-0.085)	-0.112 (-0.320-0.096)	0.088 (-0.040-0.217)	-0.046 (-0.292-0.200)
Non-secure dementia	0.022 (-0.137-0.180)	0.066 (-0.055-0.187)	0.041 (-0.043-0.127)	-0.062 (-0.333-0.209)	0.136 (-0.033-0.307)	-0.092 (-0.416-0.232)
General LTC	0.052 (-0.063-0.166)	0.040 (-0.048-0.127)	-0.002 (-0.063-0.060)	-0.042 (-0.234-0.156)	0.051 (-0.071-0.175)	-0.103 (-0.337-0.130)
Secure mental health/ psychiatric	-0.009 (-0.309-0.292)	-0.011 (-0.243-0.221)	-0.007 (-0.169-0.155)	-0.441 (-0.949-0.067)	-0.051 (-0.357-0.256)	-0.403 (-1.001-0.195)
Other	Ref	Ref	Ref	Ref	Ref	Ref
Unit level staffing						
Percentage of HCA hours per day	0.000 (-0.002-0.002)	-0.001 (-0.003-0.001)	-0.000 (-0.002-0.008)	-0.002 (-0.007-0.002)	-0.001 (-0.003-0.002)	-0.004 (-0.009-0.001)
Unit context						
Low nursing home context	-0.030 (-0.089-0.029)	0.011 (-0.034-0.056)	0.017 (-0.014-0.049)	-0.138 (-0.238-0.037)*	-0.024 (-0.087-0.039)	-0.129 (-0.249-0.008)*
High nursing home context	Ref	Ref	Ref	Ref	Ref	Ref
Care aide characteristics						
Sex (female)	-0.070 (-0.151-0.011)	-0.168 (-0.231-0.105)*	-0.091 (-0.1350.047)*	0.127 (-0.001-0.265)	-0.069 (-0.151-0.014)	0.134 (-0.018-0.286)
Age						
<20 years	-0.587 (-1.312-0.13)	-0.396 (-0.958-0.165)	-0.117 (-0.510-0.274)	0.275 (-0.950-1.499)	-0.061 (-0.795-0.672)	-0.836 (-2.190-0.518)
20-29 years	-0.417 (-0.891-0.056)	-0.260 (-0.627-0.107)	0.086 (-0.170-0.342)	0.066 (-0.734-0.865)	-0.077 (-0.556-0.402)	-0.350 (-1.23-0.534)
30-39 years	-0.346 (-0.814-0.121)	-0.220 (-0.582-0.142)	0.086 (-0.169-0.336)	-0.066 (-0.855-0.723)	-0.096 (-0.569-0.376)	-0.336 (-1.208-0.538)
40-49 years	-0.256 (-0.720-0.207)	-0.187 (-0.546-0.173)	0.100 (-0.151-0.351)	-0.053 (-0.836-0.730)	-0.003 (-0.472-0.466)	-0.180 (-1.046-0.685)
50-59 years	-0.181	-0.189	0.125	-0.034	0.069	-0.232

Table 6: Multilevel r*egression analysis of work engagement and burnout*						
	(-0.642-0.280)	(-0.545-0.168)	(-0.125-0.374)	(-0.812-0.743)	(-0.397-0.535)	(-1.091-0.628)
60-69 years	-0.164 (-0.626-0.297)	-0.142 (-0.500-0.216)	0.123 (-0.127-0.372)	-0.163 (-0.943-0.617)	0.013 (-0.54-0.480)	-0.221 (-1.083-0.641)
>70 years	Ref	Ref	Ref	Ref	Ref	Ref
Shift worked most of the time						
Day (any shift from 0700-1500)	-0.012 (-0.948-0.718)	0.012 (-0.053-0.762)	-0.001 (-0.046-0.044)	0.096 (-0.045-0.237)	0.903 (-0.006-0.175)*	-0.159 (-0.3150.003)*
Evening (any shift from 1500-2300)	-0.032 (-0.117-0.512)	0.016 (-0.049-0.081)	0.005 (-0.041-0.050)	0.083 (-0.059-0.225)	0.031 (-0.054-0.116)	-0.139 (-0.296-0.019)
Night (any shift from 2300-0700)	Ref	Ref	Ref	Ref	Ref	Ref
Education and experience						
Care aides with a certificate	-0.070 (-0.175-0.035)	0.068 (-0.013-0.149)	-0.027 (-0.083-0.030)	0.024 (-0.154-0.202)	-0.022 (-0.129-0.085)	-0.056 (-0.253-0.141)
English as a second language	0.073 (-0.134,-0.012)*	0.029 (-0.018-0.076)	0.066 (-0.033-0.098)*	-0.238 (-0.341-0.136)*	0.007 (-0.055-0.069)	-0.413 (-0.527-0.299)*
Years of care aide experience	-0.004 (-0.0090.000)*	-0.001 (-0.005-0.002)	-0.000 (-0.002-0.002)	-0.003 (-0.011-0.004)	-0.003 (-0.007-0.001)	0.000 (-0.008-0.008)
Time worked on the unit	-0.006 (-0.0120.001)*	-0.003 (-0.007-0.001)	-0.000 (-0.004-0.001)	0.008 (-0.001-0.017)	-0.006 (-0.011-0.000)*	-0.003 (-0.013-0.007)
Average hours worked in 2 weeks	0.000 (-0.001-0.002)	0.000 (-0.000-0.001)	0.000 (-0.007-0.006)	0.002 (-0.000-0.004)*	0.001 (-0.000-0.002)	0.000 (-0.002-0.003)
Working short staffed						
Yes	-0.003 (-0.070-0.065)	0.014 (-0.087-0.067)	-0.015 (-0.051-0.022)	0.256 (0.141-0.370)*	0.041 (-0.027-0.110)	0.205 (0.079-0.333)*
Never	Ref	Ref	Ref	Ref	Ref	Ref
Quality of work life						
Aggression from residents	0.012 (-0.004-0.028)	0.006 (-0.006-0.019)	0.001 (-0.007-0.010)	0.051 (0.024-0.078)*	0.005 (-0.011-0.021)	0.058 (0.028-0.088)*
Average number of care tasks rushed	-0.011 (-0.022-0.000)	0.000 (-0.009-0.009)	0.006 (-0.000-0.012)	0.046 (0.027-0.065)*	-0.007 (-0.018-0.050)	0.001 (-0.020-0.022)
Average number of care tasks left undone	-0.036 (-0.051-0.021)*	-0.022 (-0.034-0.010)*	-0.026 (-0.0340.017)*	0.048 (0.023-0.074)*	-0.016 (-0.0310.001)*	0.047 (0.018-0.075)*
Job satisfaction	0.462	0.456	0.159	-0.506	0.226	-0.397

Table 6: Multilevel r*egression analysis of work engagement and burnout*						
	(0.418-0.506)*	(0.422-0.490)*	(0.135-0.182)*	(-0.580-0.432)*	(0.182-0.270)*	(-0.479-0.315)*
SF-8 physical health	0.017 (0.014-0.020)*	0.006 (0.004-0.008)*	0.004 (0.002-0.006)*	-0.059 (-0.064-0.053)*	0.004 (0.001-0.008)*	-0.025 (-0.031-0.019)*
SF-8 mental health	0.024 (0.020-0.027)*	0.013 (0.011-0.016)*	0.008 (0.006-0.010)*	-0.055 (-0.060-0.050)*	0.010 (-0.068-0.133)*	-0.035 (-0.041-0.029)*

* Indicates statistical significance

Discussion

In this study I described the proportion of care aides who worked in more than one job in LTC homes, their characteristics, and effects that working more than one job may have on work engagement and burnout. The descriptive findings show that more than 25% of care aides work in multiple LTC homes, and of those 25% there are groups of care aides who work three, or even more jobs in LTC. Previous studies from TREC have also reported similar percentages of care aides working in multiple jobs,[6] however, percentages of care aides working in three or more jobs in LTC have not previously been reported. Since the beginning of the COVID-19 pandemic, there has been an increase in literature reports regarding individuals working multiple jobs in LTC. My findings were consistent with two recent studies completed in the US describing the proportions of care aides working multiple jobs and their demographic characteristics. These are that second job holders were found to be younger and fewer having obtained some college or more education.[45,46] My descriptive analysis also identified that 64.5% of the care aides who worked multiple jobs worked in low context nursing homes which previous literature has described as affecting care aide job satisfaction and levels of burnout.[18,29] This is not a finding that I was expecting but may be explained by the literature. If a nursing home scores low on organizational context because of leadership (one of the ACT scales), short staffing (the OS-staffing subscale on the ACT) or do not have enough resources (the resources sub-scale on the ACT) these factors may result in care aides wanting to work at another job in LTC.

Impact of working more than one job on burnout

In my bivariate analysis, two of the three MBI sub-scales (exhaustion and efficacy) had statistically significant bivariate associations with working more than one job. Working multiple jobs was associated with a lower level of exhaustion, and a higher level of efficacy. However, in

my multilevel regression analysis, I found no significant associations between care aides working more than one job and any of the MBI sub-scales. Although I located no previous or new research reports on care aides working multiple jobs and burnout, my findings can be explained in part by the literature. We know that pre-pandemic care aides faced several occupational stressors – caring for increasingly high numbers of residents with increasing health and social care complexity, higher rates of dementia, and doing this with very limited educational preparation and no increases in staffing resources to match rising resident needs.[47,48] Under COVID-19 conditions, care aides are faced with new and sometimes extreme stressors including, the fear of becoming ill, fear of spreading to one's family, the need to isolate and be unavailable for work knowing their workplace would be short staffed, being ostracized for working in a COVID positive home, etc. – all of which can lead to anxiety, depression, and other mental health challenges.[49] In addition, these stressors can reasonably be expected to contribute significantly to burnout. Thus, researchers who have pre-pandemic baseline measures are ideally positioned to assess the impact of the pandemic on burnout and the one worksite policy.

The literature and my guiding theoretical model (JD-R) suggest that working multiple jobs would be considered a job demand, thus increasing burnout. However, my findings do not support this hypothesis. There are several possible explanations. First is that the JD-R model may not be suited for the long-term care setting, a field in which few investigations to date have focused, particularly regarding work engagement and its determinants. Second, the JD-R model may not be suited for our study group of care aides. This is due to the very specific work practices, behaviors, and work conditions that care aides encompass that may alter their perceptions of job demands and resources. Third, I may have operationalized the JD-R model sub-optimally, or it may be that working multiple jobs may not be perceived by care aides as either a job demand or resource. Further work is warranted to explore any relationship between working multiple jobs and burnout.

Impact of working more than one job on work engagement

In my bivariate analysis two of the three work engagement sub-scales (dedication and vigor) were positively associated with working more than one job; however in my multilevel regression analysis only one of three work engagement sub-scales, vigor (i.e., high energy levels,

resilience, and work persistence) was negatively associated with working multiple jobs. This finding of decreased vigor does not support my hypothesis. The literature search does not yield any research reports on care aides working multiple jobs and its association with work engagement. However, the literature published during the COVID-19 pandemic highlights that the primary reason care aides work multiple jobs were for financial reasons[45,46] a resource not previously discussed in the JD-R model.

My finding could again be related to how I operationalized the JD-R model or that working multiple jobs is not a job demand or resource. In addition, the low vigor scores could also be explained by differences between the two groups in the average hours worked in a two-week period as care aides working multiple jobs worked an average 84 hours compared to those who worked at one LTC home. Further, how the 80 work hours were distributed, whether they were full 8-hour shifts, or 12-hour shifts is unknown. Further work is warranted to explore any relationship between working multiple jobs and work engagement.

Strengths & Limitations

The study has several strengths. First, I had a large sample of 4156 care aides working exclusively in LTC homes sampled from a stratified random sample of 94 nursing homes. Previous studies have not included LTC or have reported samples in other health settings that were a mix of care aides and other staff, with sub analyses not conducted. I controlled for the clustering effect of care aides within care units in the analyses. Data collection used a rigorous in-person structured interview process with real-time data quality assessments. Care aides were asked directly about working more than one job in LTC. The inferential statistics are an addition to previous reports that have been largely descriptive.

This study also has limitations. First, survey responses are susceptible to biases such as social desirability and recall bias, although recall bias was reduced by asking aides to report on their most recent shift for most questions and social desirability bias was mitigated by carefully training interviewers and observing skews of the data. The findings are cross-sectional and therefore I cannot draw causal inferences. The sample of care aides were from urban nursing homes from three western Canadian provinces and therefore may not be generalizable beyond this population. My secondary dataset meant that I could not operationalize all of the variables of interest in the JD-R model that I used. Finally, while we asked care aides if they worked more

than one job, we didn't ask why they work more than one job or what their full-time equivalents were. Future studies should attempt to understand care aides' reasons for working multiple jobs.

Future studies

These data were collected prior to the COVID-19 pandemic and provide a baseline of care aides working in more than one job in LTC. Since then, many provinces in Canada have restricted care aides from working in more than one LTC home to prevent the spread of disease. This study provides a baseline against which comparisons can be made.

Conclusions

In this study, I explored the prevalence and factors associated with working more than one job among care aides. I found that more than 25% of care aides in this sample work more than one job in LTC. My findings suggest that working more than one job may affect care aides' work engagement, specifically vigor, i.e., the high energy levels and resilience care aides have in difficult circumstances. Further exploration assessing different staff and resident outcomes should be studied. During COVID-19 there have been restrictions on care aide's ability to work more than one job in LTC homes. Future studies that plan to examine this phenomenon in LTC may encounter multiple different practices some of which may be enduring. Thus, careful assessment of what has changed during and post COVID will be necessary in order to examine holding multiple jobs in LTC more in greater detail.

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Chapter 4: Summary, Contributions, and Future Goals

This chapter contains a summary of my findings, contributions this thesis makes to research, knowledge, and policy. It also summarizes limitations. The final section highlights my future goals.

Summary of the Findings

The purpose of my thesis was to identify the prevalence and characteristics of working more than one job among care aides in long term care homes (LTC), and to determine if care aides who work in more than one job in LTC report effects on two work life outcomes – compared to care aides who work one job. My integrative literature review (paper #1, chapter 2) identified troubling gaps in the available research on care aides working more than one job. I found no Canadian or international research or reports on care aides working more than one job in long term care. The papers that were available in other health settings focused on regulated nurses, and only one was focused exclusively on care aides. However, this one paper studied care aides in a home care setting, and it did not provide details on the characteristics of care aides working in multiple jobs.[1] Although the care aide research is limited, (paper #1, chapter 2) revealed that there were both benefits and adverse effects when nurses worked more than one job. As COVID-19 continues to spread across the world, policy and decision makers must soon assess and decide on future policies and procedures related to care aides working more than one job as it relates to public health measures to prevent the spread of communicable diseases.

My empirical paper (paper #2, chapter 3) describes the proportion of care aides working more than one job, their common demographic characteristics, and identifies if there are effects on care aide's work engagement and burnout when they work more than one job in long term care in comparison to care aides who work one job. Using a version of the Job Demand and Resource model (JD-R),[2] I generated findings that described the characteristics and work-related outcomes of care aides working more than one job. I determined that over 25% of care aides in our sample worked in more than one LTC home, most were ages 30-49, had obtained less education, and worked an average of 83.5 hours in two weeks compared to care aides who worked 65.4 hours in one job in LTC. My findings while not for the most part reaching statistically significant levels, can be explained in part by the literature. That is, that there may be potential benefits of working more than one job, a finding not suggested by the JD-R model.

Implications for Research

First, the integrative literature review contributes to the literature as this was the first review to my knowledge that investigates care aides working multiple jobs in LTC. In addition, reports in the literature do not differentiate between the different ways people can work multiple jobs. For example, do people who have more than one job work in a full-time capacity and a casual one, or if they work in two part time jobs, or several casual jobs, etc. For future research, it is then important for researchers to clearly operationalize *working more than one job*. My literature review also contributes to research as it identifies both benefits and adverse effects when health care providers worked in multiple jobs. Future researchers should then investigate additional variables affecting a care aides' decision to work multiple jobs (i.e., financial necessity, variety, lowering physical demands as they age, etc.).

Second, my empirical findings contribute to the body of research by adding the prevalence of care aides working more than one job and their common characteristics. I found that across all zones 64.5% of care aides who worked more than one job were in LTC homes with a less favorable work environment (organizational context) as measured by the Alberta Context Tool.[4] Future research should seek to understand why most care aides working multiple jobs are located in less favorable organizational contexts as the work environment is modifiable, and if improved may yield other important benefits to staff and residents.[5] Although not all of my findings were statistically significant, my research offers some preliminary insights regarding the effects on care aides when they work multiple jobs in LTC. Further research is needed to assess comprehensively whether there are in fact, effects on care aides and resident quality of care when care aides work more than one job.

Contribution to Knowledge

My thesis contributes to knowledge in two ways. First, the integrative literature review revealed gaps in the literature about care aides working multiple jobs in LTC. Specifically, when this type of research was done in other settings there were issues of adequately defining "working more than one job", and little exploration had been done about either the adverse or positive effects of working multiple jobs, but especially about possible positive effects. Research on the effects of working more than one job is confined largely to the impact on staff, but it is important for future research to explore the impact (positive or negative) on resident care.

Second, my findings regarding the prevalence of care aides working more than one job were consistent with previous research studies from TREC's earlier waves of survey data,[3] however, this is the first time percentages of care aides working in two, three, or more jobs in LTC are reported. Moreover, this is the first study to my knowledge to explore and report the effects on care aide work engagement and burnout when they work multiple jobs.

Contribution to Theory

The theoretical framework that I chose to use for my research was the Job Demand and Resource Model. I used this framework as a guiding model for my study and to substantiate my choice of variables used in the analyses.

Although my results were mixed, my study still contributed to theory, but in limited ways. From the JD-R model,[2] I hypothesized working more than one job to be a job demand and a job resource. I was expecting that when care aides worked in multiple LTC homes they would have an increase in burnout due to additional work demands, but also have an increase in work engagement as working multiple jobs provides them additional job resources (i.e., financial resources). I did find that when I controlled for individual, unit, and facility variables working more than one job was negatively associated with one of the six sub-scales I assessed, specifically the work engagement variable – vigor (i.e., high energy levels, resilience, and work persistence). That is, as care aides worked in more than one job there was an association with less vigor.

In addition, this study contributes to the JD-R model by testing the applicability in a long-term care setting with care aides as the research group of interests. This is the first study of which I am aware to utilize the JD-R model to examine care aides working more than one job in LTC. My results do not predict the cause-and-effect relationship between the JD-R variables of burnout and work engagement, but future studies may benefit from this preliminary work.

Possible Policy Implications

My literature review provides a partial picture of why individuals work more than one job and highlights some motivations for working more than one job. As care aides are the front-line workers in LTC homes, understanding the motivations, benefits, and adverse effects behind why care aides choose to work multiple jobs is important when considering policy changes that may affect the status quo – at least pre-pandemic. Of course, major policy changes have been implemented to enforce one worksite policies during COVID-19. However, as restrictions lessen

and policies are re-evaluated, decision-makers should consider more than infection control in their deliberations. With a "post COVID" wave of data collection being planned by TREC in late 2021 and qualitative interviewing currently in progress, we will be able to assess some of the impacts of the one worksite policy and may be able to point to unintended consequences of the policy.

My empirical study provides policy and decision makers information about the prevalence and characteristics of the workforce that is working multiple jobs. This information may enable policy makers to implement a more individualized intervention. It may also be suggestive that the effects on staff may not be negative or as negative as I anticipated (i.e., on burnout and work engagement).

My thesis findings, especially if translated into more accessible brief reports, may contribute to conversations with policy and decision makers as they assess the impact of the one worksite policy.

Limitations

Integrative review. I only included studies published in English. Most of the studies I reviewed were conducted in Africa, a continent with significant differences in all realms from Canada. They must therefore be interpreted with caution.

Empirical study. This study was cross-sectional and was limited to western Canadian LTC homes, thus my results should not be generalized beyond these settings. No claims of causality can be made. In survey research, survey responses are susceptible to biases such as social desirability and recall bias, although recall bias was reduced by asking care aides to report on their most recent shift for most questions and social desirability bias was mitigated by carefully training interviewers and observing skews of the data. Second, the relatively low amount of explained variance suggests that there are still factors/variables that need to be included in my regression models. Third, using a secondary dataset meant that I could not operationalize all of the variables of interest in the JD-R model. Finally, while we asked care aides if they worked more than one job, we didn't ask why they work more than one job or what their full-time equivalents were. This should be done in future work, as well as exploring care aides' reasons for working multiple jobs.

Future Goals

My future goals are to continue contributing to nursing both academically and practically. I plan on continuing my research with the TREC team. I am specifically interested in the newest collected survey data (2019-2020) that was completed immediately pre-pandemic. It was modified to allow care aides to state why they work more than one job. In the future I would like to run my empirical analyses on this data wave to see if the findings differ from my thesis. I also hope to participate in TREC's ongoing research that is focused on re-surveying care aides and homes about the impact of COVID-19 in LTC. I am interested in finding out more about the impact COVID-19 has had on care aides and the care of the residents. Further, I would like to implement TREC's recommendations for the care team and residents within my nursing home.

As a Director of Nursing of a LTC home, I have and will continue to use evidence-based knowledge in my LTC home. At this time, I recognize that many decisions at the front lines are made based on antidotal, experiential, and tacit information. My Master's program and this thesis work has given me new knowledge and skills to consider when implementing new policy and practice changes. In the future, I will try to better evaluate the outcomes of the policy and practice changes that I initiate at my LTC home and continue to share them with other decision makers.

Pre-COVID, we were one of the first homes to institute policies to help mitigate disease transmission risk, ahead of provincial and regional recommendations. We worked diligently to change the culture of presenteeism – the feeling of obligation to come to work when sick. During COVID we recognized that this would place the entire resident and staff populations in our home at risk. We are currently collaborating with the care providers unions to implement coverage for sick leave and benefits to help reduce this obligation. I believe these benefits could especially help the lowest wage workers such as care aides. Similarly, the increase in care aide wages can help to mitigate risk to the care workers, residents, and families by limiting the potential for cross site work and thus reduce spread of highly infectious viruses. However, without permanent wage increases, this policy will financially penalize care workers who also work elsewhere. Last, we continue to advocate for weekly rapid COVID testing to identify risk of COVID- 19 and protecting the care staff and residents. I believe this is foundational and will help mitigate some risks if care workers would be allowed to work multiple jobs in LTC again.

Conclusion

This thesis contributed to: (a) knowledge about care aides working more than one job in LTC, (b) an understanding about the effects working more than one job may have on care aides, and (c) the importance of future research on this topic as it relates to COVID-19 and infectious like diseases. This thesis is the foundation from which future interventions can be developed and tested to improve the quality of care and quality of life for vulnerable LTC residents. I have achieved my overall purpose and have identified several areas for future research. My thesis contributes to research and to what is known about care aides working more than one job in LTC homes. Importantly, completing this thesis research has enabled me to grow in my understanding of the role research can play in better decision-making.

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Appendix A: Preliminary Data Analysis

Step 1: Data request

I completed a data request to the TREC data team, which involved providing a rationale, background, and objective for my proposed research. Using the JD-R model as well as literature on workplace burnout and engagement I selected my variables for the data request in conjunction with creating mock table on what I believed the models would look like. This allowed me to critically think about what variables I believed would influence other and how it would impact my models. When the data request was approved, I spent time comparing the data to my mock tables and conceptualizing how they were the same or different.

Step 2: Assessing data quality

These data have already undergone rigorous quality control measures such as standardized interviewer training, a standardized interviewer protocol and standardized interviewer manuals. I assessed the data quality by checking for completeness and errors. I completed this by following steps (as per the KUSP cleaning protocol):

a) Check for errors in skip patterns (as per the master codebooks) to identify any existing systematic errors
b) Check for 'out of range' and 'wildcard' values by running frequencies on all included variables. Obtain frequency tables and graphs (histograms, bar charts, etc. as appropriate) for all included variables. Obtain distributions of each variable (minimum and maximum values, mean, standard deviation, and skewness).
c) Check for consistency in the variables
d) Check for missing data and conduct missing pattern checking. Obtain a frequency list for 'missing', 'not applicable', and 'not available' responses. If > 10% of the sample is missing, further exploration will be conducted.

Step 3: Preliminary assessment and descriptive analysis

Prior to running regression analyses, I ran descriptive statistics, specifically, measures of mean/median, standard deviation or interquartile ranges, frequencies, and percentages, as well as, checking for outliers on all selected variables by using box plots or histograms for the continuous variables. In addition, I performed independent *t*-tests to test the difference between the work engagement, and burnout means in two separate groups of care aides: one who work more than

one job and one who do not. When the normality assumption was violated, I ran alternative methods (i.e., Mann-Whitney test). I checked the relationship between my outcomes and continuous independent variables by using correlations coefficients. I also looked at the percentages of care aides for each of the multiple job's categories (i.e., 1, 2, 3, 4, and 5 jobs). I created crosstabs by regions, ownership models, facility size, and care aide characteristics. Furthermore, I assessed for any violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. To assess for multicollinearity among the independent variables, I checked the Variance Inflation Factor (VIF) and tolerance in linear models using the method described by Hair. If VIF value exceeding 10, or by tolerance less than 0.1 then there is a problem with multicollinearity. For linearity and homoscedasticity, I checked the residuals versus the independent variable and the residuals versus fitted value plots after I ran the mixed-effects linear regression. When the normality assumption was violated, I ran alternative methods (i.e., Mann-Whitney test). The continuous variables adhered to the normality assumptions. Box plots showed outliers for all continuous variables. The variables met normal distributions based on their plots. All the continuous variables passed the Kolmogorov-Smirnov normality test; thus, I used the means and standard deviations. For the continuous variables independent t-test were run for the two groups of care aides working in one job and those working in more than one job. Independent T-test was performed based on the result of the Levene's Test for equality of variances. The 2-tailed p-value was reported.

Appendix B: Pre-described Protocol

Descriptive statistics, specifically, measures of mean/median, standard deviation or interquartile ranges, frequencies and percentages, as well as, checking for outliers on all selected variables by using box plots or histograms for the continuous variables were used to describe care aides working more than one job and those who worked on job in long term care. Cronbach's alpha coefficient was used to report reliability of the scales. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Statistical significance was assigned at the $p < 0.05$ level.

The analyses were conducted using IBM SPSS version 22.0 within a secure virtual environment (the University of Alberta's Health Research Data Repository). I used mixed-effects linear regression to account for the clustered nature of the data. This was necessary because care aides are nested in units, and units within facilities. The regressions were of the basic form:

$$Y_i = \alpha + \beta_1 working\ more\ than\ one\ job + \beta_2\ care\ aide\ demographics + \beta_3\ care\ aide\ quality\ of\ worklife + \beta_4\ facility\ characteristics + \beta_5\ unit\ charactersitcs + \pi_{0i} + \pi_{1i} * Facility + \epsilon_{ij}$$

$$\pi_{0i} = \gamma_{00} + \xi_{0i}$$

$$\pi_{1i} = \gamma_{10} + \xi_{1i}$$

$$\epsilon_{ij} = random\ measurment\ error\ for\ individual\ i\ on\ occasion\ j$$

$$\xi_{0i} = random\ unit - level\ intercept\ for\ individual\ i\ in\ each\ unit$$

$$\xi_{1i} = random\ facility - level\ intercept\ for\ individual\ i\ in\ each\ facility$$

i=1-6

Y_1=work engagement (vigor)

Y_2=work engagement (dedication)

Y_3=work engagement (absorption)

Y_4=burnout (exhaustion)

Y_5= burnout (cynicism)

Y_6= burnout (efficacy)