NO LONGER 'US AND THEM': INTEGRATING A RECREATION-BASED INTERVENTION AS AN INTERDISCIPLINARY CARE APPROACH IN RESIDENTIAL CARE SETTINGS

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DEDICATION

This research study, and the following data, were collected on the lands of Treaty 6 Territory and the Métis Nation of Alberta District 10. This thesis was written on Treaty 7 Territory, within the traditional lands of the Blackfoot Confederacy and the Métis Nation of Alberta District 1. As a guest of these lands, I offer my respect to all Indigenous people who've cared for this land past, present, and future.

Completing my graduate studies would not be possible without Dr. Caspar's exceptional mentorship, kindness, compassion, brilliance, empathy, and encouragement. Learning from you, over various opportunities, has been a complete honour and privilege. I'm unequivocally aware of how lucky I am to have captured so much of your time and educational energy. Your ongoing dedication, leadership, patience, and faith in me have significantly shaped my learning, outlook on education, professional development, and personal growth. The words 'thank you' will never fully capture what you've done and continue to do for me. I also offer my heartfelt gratitude to my committee members, Devan McNeill, Aimee Douziech, and Scott Rathwell, for their ongoing guidance. Your flexibility, time, responsiveness, and valuable feedback have strengthened the outcomes of this study. You've compassionately challenged me, and I'm undoubtedly fortunate.

To my partner, Austin, thank you for always helping me to find the humour and balance between my graduate studies and career. Thank you to my family and friends for helping me see the value of education, pushing me to enroll in my first diploma program, and cheering me on. I could not have done this without my community of support.

This thesis is dedicated to the research participants, whose time and effort brought this study to life. Your team accomplished so much together, and it was a joy to witness your deep respect for each other and the residents of this care home.

ABSTRACT

Recreation and leisure activities play a pivotal role in enhancing the holistic health for residents in residential care settings. Despite their proven benefits, these activities are often underutilized as an interdisciplinary care approach. The purpose of this study was to evaluate the effectiveness of the Feasible and Sustainable Culture Change Initiative (FASCCI) model on the integration of a recreation-based intervention (Tovertafel gaming console) as a routine interdisciplinary care approach in a residential care setting. Using an exploratory single-case, time series design, we assessed the impact of the FASCCI model training on outcomes across six-sequential time intervals (18-weeks total) by collecting baseline Tovertafel data (before the training) on two care floors and monitored its use post-training. Descriptive statistics and linear modeling were utilized to examine changes in Tovertafel use by interdisciplinary care team members from baseline across post-training intervals. Interviews (n = 7) and a feedback survey were also conducted to ascertain the participants' perceptions of the process for implementing practice changes using the FASCCI model. Tovertafel use by interdisciplinary team members increased significantly according to a positive linear trend ($F(1, 2) = 37.590$. $p<0.05$, $R^2 = 0.949$, $r=0.974$). Qualitative data indicated the application of the FASCCI model showed promise in breaking down interdisciplinary silos, and resulted in strengthened interdisciplinary relationships, holistic care provision, and shared decision-making. Quantitative and qualitative data demonstrated that it empowered nursing staff to view and utilize recreation as a means to assess resident needs and support daily care routines, leading to positive outcomes for the interdisciplinary team and residents.

Keywords: FASCCI Training Model, Tovertafel, Recreation-Based Interventions, Interdisciplinary, Therapeutic Recreation

CONTRIBUTIONS OF AUTHORS

The manuscript found in Chapter 2: No Longer 'Us and Them' represents a collaborative effort. I acknowledge the valuable contributions of Dr. Caspar, Dr. Kellet, and Kaitlyn Edwards. As thesis supervisor and principal investigator, Dr. Caspar provided essential guidance in our application of the FASCCI model. Dr. Caspar authored the FASCCI model training program, and thus, offered her expertise throughout the research process. Her insights were instrumental in ensuring the accurate and effective implementation of the model within this study. Dr. Kellet contributed his expertise on statistical analysis, and with permission from my thesis supervisor, completed the linear model used in this study. Kaitlyn Edwards, the co-investigator of this study, played a critical role in our research execution. Her contributions to data collection, participant recruitment, and overall agency coordination were invaluable to the success of this research study. With these contributions, I remain the primary author of the manuscript.

ETHICS STATEMENT

The work described in this thesis received research ethics approval from the University of Alberta Research Ethics Board, Project Name "EVALUATION OF THE EFFECTIVENESS OF THE FEASIBLE AND SUSTAINABLE CULTURE CHANGE INITIATIVE (FASCCI) MODEL ON THE UPTAKE OF THE MAGIC TABLE INTERVENTION IN A CONTINUING CARE HOME SETTING", No. Pro00134024, September 5th, 2023.

USE OF GENERATIVE AI

The use of ChatGPT (generative artificial intelligence) supported the development of this thesis by checking grammar and providing synonym recommendations (i.e., similar to the ‘Synonyms’ feature in Microsoft Word). ChatGPT was not used to compose new content or thoughts; rather, it was applied to diversify the author's existing writing.

Preface

This is a manuscript-based thesis submitted in partial fulfilment of the requirements for the degree of Master of Science (Health Science). The manuscript is titled, *No Longer 'Us and Them': Integrating a Recreation-Based Intervention as an Interdisciplinary Care Approach in Residential Care Settings*. This manuscript is suitable for publication in the Therapeutic Recreation Journal (TRJ). The TRJ is a respected journal published by Sagamore Publishing LLC for over 50 years (TRJ, 2025). This manuscript adheres to the page limitations established by the TRJ. The structure of this manuscript-based thesis is as follows: Chapter 1 provides a more comprehensive overview of the literature than can be offered in the manuscript, Chapter 2 presents the manuscript, and Chapter 3 provides a conclusion that discusses the study's outcomes along with a personal reflection on the learning process. The appendices include a copy of the semi-structured interview guide used during the study. They also contain learning objectives and multiple-choice questions written for the TRJ to meet its manuscript submission guidelines.

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LIST OF ABBREVIATIONS AND DEFINITIONS

ABBREVIATIONS

BPSD	Behavioural and Psychological Symptoms of Dementia
CTRS	Certified Therapeutic Recreation Specialist
FASCCI Model	Feasible and Sustainable Culture Change Initiative Model
HCA	Health Care Aide
LPN	Licensed Practical Nurse
PIT	Process Improvement Team
TR	Therapeutic Recreation

DEFINITIONS

Residential Care	Healthcare services including designated supportive living, home care, and long-term care. Supports differ for each setting but include assistance with medication, dressing, meal preparation, recreation, hygienic routines, and various other health-based services (Government of Alberta, 2024).
Culture Change	Also known as 'organizational culture' or the 'culture of care', these are the social behaviours of a team or organization, which influence the organization's emotional climate, behavioural norms, productivity, and overall effectiveness (Newton & Knight, 2022)
Holistic Care	Comprehensive care that considers the whole person (physical, cognitive, emotional, spiritual, environmental, economic, and social needs) (Ventegodt et al., 2016); care that recognizes the how the spirit and mind affect the physical body (Zamanzadeh et al., 2015)
Medical View of Health	A philosophy of care that focuses primarily on the treatment of disease and physical ailments. This view may not consider how social and environmental factors contribute to disability, health, recovery, and well-being (Smith-Carter et al., 2017)
Person-Centred Care	Method of engaging resident's in collaborative decisions regarding how their individual care is delivered (Calisi et al., 2016), and considers how the person's social history, life experiences, and values influence care preferences (Ekman et al., 2011).

Quality of Life	A subjective measurement of well-being that can be defined by a , “standard of health, comfort, and an ability to enjoy daily living” (Merriam-Webster Incorporated, 2022).
Recreation and Leisure	Leisure is commonly considered an individual’s free time activities, away from work or other obligations (Parr & Lashua, 2004). Whereas recreation is any activity or pursuit through which leisure may be experienced or enjoyed; recreation activities are often satisfying and structured (Cushman & Laidler, 1990).
Recreation-Based Intervention	Purposeful recreation or leisure activities that may be used to improve or maintain one’s social, spiritual, cognitive, physical, or emotional functioning (NCTRC, 2024).
Tovertafel	A recreational gaming system designed for seniors living with dementia. The games are projected from an overhead console onto any flat surface to turn the surface into an interactive touchscreen (Tover, 2024).

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CHAPTER 1: INTRODUCTION

This chapter provides an overview of the literature that informed the development of this study and subsequent manuscript. The first section, 'Care Culture', contextualizes the current issues and research in residential care settings. This introduces a discussion of the common care approaches employed by care professionals, the challenges they face, and the contexts that enable practice change. It then transitions to a discussion about the practice change model implemented in this study. Following this, the section titled 'Practice Change Initiative: Tovertafel' presents an overview of the literature surrounding the recreation-based intervention that the study participants used to integrate into their care routines.

CARE CULTURE

By 2046, the population of Canadians aged 85 and older will triple (Statistics Canada, 2022), and more than 1.7 million Canadians will be diagnosed with dementia (Alzheimer Society of Canada, 2025). Dementia is a progressive neurological condition that alters a person's memory, communication, visual perception, mood, and other behavioural and psychological symptoms (Alzheimer's Association, 2025). No two symptoms or cases of dementia are alike; each prognosis of dementia can have a profound impact on a person's and their carer's well-being (World Health Organization, 2025). As the condition progresses, approximately 42% of those with dementia aged 80 and older transition to living in residential care homes (Canadian Institute for Health Information, 2025).

Staff of residential care homes are challenged to provide high quality care for people with dementia due to the varied symptoms of the disease (Statistics Canada,

2022). These symptoms include resisting care, anxiety, hallucinations, wandering, depression, and physical aggression (Cerejeira et al., 2012). Compared to other residents, those living with dementia are more often physically restrained (by using bed rails or wheelchair belts) and provided with powerful psychoactive medication (Canadian Institute for Health Information, 2025). The adverse effects of these medications include higher rates of "mortality, falls and/or fractures, and cardiovascular or cerebrovascular events" (Lapeyre-Mestre, 2016). These care approaches reflect the difficulty of consistently managing the behavioural and psychological symptoms of dementia (BPSD) (Canadian Institute for Health Information, 2025).

Non-pharmacological approaches, such as therapeutic recreation (TR) interventions, have been shown to effectively improve BPSD (Buettner et al., 2011; Buettner & Fitzsimmons, 2012; Loy et al., 2019; Genoe & Dupuis, 2011). TR interventions, including cognitive stimulation activities, sensory-based interventions, physical games, psychosocial clubs, and role-fulfillment activities, are structured as leisure and recreation experiences that engage residents in ways that promote personhood and quality of life (Buettner et al., 2014). Although this alternative exists, the literature demonstrates that people living in residential care often experience a lack of meaningful recreation activities (Fortune & Dupuis, 2021; Möhler et al., 2023), and recreation-based interventions are often only implemented by TR practitioners (Kolanowski et al., 2009).

Other healthcare disciplines have reported feeling unable to facilitate recreation-based interventions, perceiving these activities as difficult to integrate because of their demanding schedule to complete physical care (Stoddart et al., 2024). Shifting this perspective may require the healthcare system to focus more attention on promoting

meaningful experiences and addressing the interdisciplinary silos that frequently hinder collaborative practice (Dupuis et al., 2012; Fortune & Dupuis, 2018). Therefore, increasing the use of recreation as a primary intervention for BPSD may necessitate a shift in the valuation of leisure and recreation in healthcare settings.

Organizational culture, known as the unwritten social behaviours of an organization, establish and reinforce the daily practice routines of healthcare teams; these routines become difficult to unlearn or change (Newton & Knight, 2022; Shield et al., 2014). Some researchers assert that a positive organizational culture (flexible leadership, collaborative decision-making) influences higher organizational performance and care quality (Haunch et al., 2021; Rutten et al., 2021). Thus, an inflexible or rigid care culture can impede new change initiatives from being transitioned into direct care routines (Braedley, 2017; Caspar, 2020; Haunch et al., 2021).

Despite the existence of theories, models, and quality improvement frameworks aimed at promoting best practices, change initiatives are difficult to successfully implement in residential care homes (Dadich et al., 2021; Toles et al., 2021). Hempel and colleagues (2022) recommend using team learning and group problem-solving to strengthen the delivery of change initiatives. Furthermore, Wagg and colleagues (2023) propose that healthcare aides (HCAs, their equivalent in the US would be certified nursing assistants) can and should contribute to practice change efforts because they possess a unique position of being responsible for the majority of direct resident care. However, the literature indicates that HCAs encounter low levels of respect, time, communication, and collaboration (Bowers et al., 2003; Kemper et al., 2008) and are often overlooked or excluded from quality improvement efforts (Barry et al., 2005;

Hamann, 2014; Yeatts & Cready, 2007). This can be detrimental since empowering HCAs often improves their job performance and care quality (Brabant et al., 2007; Caspar et al., 2013; Norton et al., 2013), and enabling staff to take ownership of an initiative can strengthen the outcomes of the change (Aylward et al., 2003; Fossey et al., 2019; Stolee et al., 2005).

There is growing evidence demonstrating that the implementation of practice change requires a multilevel, systems approach (Brooker & Latham, 2015; Evans, 2017). A review of the literature specifies that the following organizational factors are significant in influencing the extent to which new initiatives are translated into care practice:

1. The presence of leaders and managers who embrace a leadership style of 'supporting and valuing staff' combined with being 'responsive to staff needs' and offering 'solution-focused approaches' to care decisions (Caspar & Davis, 2017; Kirkley et al., 2011; McGilton, 2010; Sjögren et al., 2017).
2. The cultivation and implementation of empowered workforce practices that enable and encourage collaborative decision-making and increase care staff's autonomy and self-determination (Caspar, 2017; Caspar & O'Rourke, 2008; Elliot et al., 2014; Grand et al., 2011).
3. The development of effective, supportive, and trusting teams (e.g., social support from colleagues and leaders, effective and open communication, a shared vision of care philosophy (Brooker & Woolley, 2007; Caspar, 2014; Leutz et al., 2009; Sjögren et al., 2017; Vikström et al., 2015).

These factors guided the development of the Feasible and Sustainable Culture Change Initiative (FASCCI) model—a model for change specifically developed to

support the successful implementation of person-centred care principles into everyday care practices. Researchers determine that training is necessary to enable staff to change their care practices to cultivate a holistic and relational focus (Rajamohan et al., 2019). Training of this nature must include collaborative decision-making and leadership training (Rutten et al., 2021; Sarakbi et al., 2022).

PRACTICE CHANGE INITIAIVE: TOVERTAFEL

The Tovertafel, a recreation-based intervention, is a gaming console equipped with an infrared light projector that transforms any tabletop into an interactive touchscreen to foster engagement and play among residents, families, volunteers, and staff (Castella, 2018; Kuipers, 2018; Le Riche, 2017; Su, 2018; Tover, 2024a). Tovertafel, meaning “Magic Table” in Dutch, was so-named after a resident living with dementia who tried the games and exclaimed, “This table is magic” (Castellano-Tejedor, 2022). The gaming console includes 30 interactive activities such as pushing beachballs, racing to pop bubbles, and playing cards (Tover, 2024a). Le Riche (2017) designed the Tovertafel after discovering that 90% of people living with dementia in residential care homes experience apathy. Thus, each Tovertafel game encourages players to reach with their arms, respond to prompts, and be socially interactive.

Several studies have shown the Tovertafel to provide positive outcomes for people living with dementia in residential care settings. Le Riche (107) found the games to significantly reduce residents' expression of apathy, anger, fear, and sadness while increasing their physical activity, social interaction, and happiness. Castella (2018) attributed these outcomes to the console's ability to stimulate a person’s mind-body connection through purposeful movement and concentration. This is significant since

meaningful engagement in leisure activities can slow the progression and symptoms of dementia (Anderiesen, 2017; Cheng et al., 2014; Saczynski et al., 2006). Others provide evidence that the Tovertafel can enhance the quality of visits between families and their loved ones, and help manage caregiver burnout (Good et al., 2019).

Smith & Mountain (2013) identified technology as a substantial tool for reducing caregiver burden, serving as an effective approach to providing respite within caregiving routines. Engaging residents in leisure activities is usually a responsibility shared between professional and informal caregivers; however, time constraints often impede carers from providing this support (Le Riche, 2017). Other researchers reported that the Tovertafel facilitates moments of joy between staff and residents (Beaton, 2021; Kuipers, 2018). According to four research studies, care staff perceive the console as a positive person-centred approach that can enhance their work-life conditions by enabling them to build relational bonds with residents (Castella, 2018; de Groot, 2022; Perion, 2021; Su, 2018). This is important, as research indicates that care professionals experience greater job satisfaction when provided with interventions that enhance residents' well-being (Braedley, 2017; Palm et al., 2021). Increasing the use of the Tovertafel, as an interdisciplinary care approach, may contribute to residents' meaningful leisure engagement, and increase staff morale (Perion, 2021; Talman & Gustafsson, 2020).

As Tovertafel's potential grows, some researchers are cautious about sustainability, considering the continued financial and time burden associated with training care staff to use new technology (Lazar et al., 2018; Smith & Mountain, 2013). Thus, the dissemination and mobilization of any technology-based initiative should keep ongoing integration in mind (Deeken & Rapp, 2022; Monville et al., 2022; Wiltsey-

Stirman et al., 2012). In this context, ongoing integration means continued long-term use of the Tovertafel console after the implementation stage ends (i.e., What happens after the novelty of a new technology wears off?).

Based on what is known about implementation science, sustaining the use of the Tovertafel following its initial implementation may be challenging (de Groot, 2022; Malecki, 2021). de Groot (2022) reported that the ongoing use of the Tovertafel relies on the care staff's perceptions of the gaming console as a feasible care approach. According to de Groot (2022), these perceptions depend upon staff having enough knowledge on how to use the console and being empowered to feel ownership in achieving its outcomes. Training, team engagement, and a sense of empowerment regarding the change initiative may enable care staff to effectively integrate the Tovertafel as part of an interdisciplinary care approach. Therefore, this study aimed to explicitly explore the contextual factors that enable the successful integration of the Tovertafel within interdisciplinary care practices. The following manuscript presents the outcomes of this investigation.

CHAPTER 2: NO LONGER 'US AND THEM': INTEGRATING A RECREATION-BASED INTERVENTION AS AN INTERDISCIPLINARY CARE APPROACH IN RESIDENTIAL CARE SETTINGS

This chapter presents the manuscript written for the TRJ, adhering to their submission guidelines. In accordance with their guidelines, learning objectives (Appendix B) and multiple-choice questions (Appendix C) were developed and correspond with this chapter.

INTRODUCTION

With our global population aging, the urgency to improve the quality and provision of services in residential care settings (e.g., nursing homes, long-term care, assisted living) remains an international discussion (Prince et al., 2015). However, care quality alone often falls short in supporting the holistic health of residents living in care (Fazio et al., 2018; Rajamohan et al., 2019). Holistic care considers the whole person, beyond their physical health problems, as an approach to enhance care quality (Sassen, 2023). This approach challenges the long-standing medical view of healthcare in which success is measured by completing physical and medical tasks (Bourgault, 2023). As we respond to the needs of an aging population, there is a growing emphasis on culture change to prioritize residents' quality of life and living well (Dupuis & Alzheimer, 2008; Fortune & Dupuis, 2021; Koren, 2010).

When residents in care are involved in recreation-based interventions, the results have a profound positive influence on residents' quality of life and holistic health (Allen, 2014; Dupuis & Alzheimer, 2008; Mallidou & Tesleem, 2020). Recreation-based interventions incorporate a variety of techniques including music, animals, arts and crafts, games, dance and movement, sports, and community outings (National Council for Therapeutic Recreation Certification, 2024). Engagement in these activities can promote

health outcomes, life satisfaction, social inclusion, self-determination, and connection to personal identity (Dupuis & Alzheimer, 2008; Genoe & Dupuis, 2011; Huang et al., 2024; Menec & Chipperfield, 1997).

Recreation-based interventions are foundational to the approach to care by therapeutic recreation (TR) professionals. TR professionals implement a systematic process using leisure, play, and recreation activities as a primary tool to address the assessed needs of individuals living with chronic illness or disabling conditions, to achieve their highest level of quality of life and independence (Canadian Therapeutic Recreation Association, 2025). Importantly, there is ample evidence of TR professionals effectively using recreation as a non-pharmacological intervention to support the behavioural and psychological symptoms of dementia (BPSD) (Buettner et al., 2011; Buettner & Fitzsimmons, 2012; Loy et al., 2019; Genoe & Dupuis, 2011). These interventions do not have the negative side effects common to the psychoactive medication often used to manage BPSD (Fitzsimmons et al., 2014). Furthermore, recreation-based interventions often provide fast relief for BPSD, resulting in an immediate positive effect on the individual receiving care (Fitzsimmons et al., 2014).

Despite their potential ability to be at the forefront of non-pharmacological approaches, recreation-based interventions are often underutilized by other disciplines (Kolanowski et al., 2009). Stoddart and colleagues (2024) attributed this scarcity to the task-oriented nature of residential care, where the clinical focus is prominently on physical care, which is time-consuming, and care facilities are often not funded for adequate staffing ratios. Stoddart and colleagues (2024) found that even if care staff want to implement recreation-based interventions, they often find it challenging to do so given

the scope of their responsibilities. These interdisciplinary silos can pose challenges for teams to effectively communicate and advance care quality (Siddiqui, 2024). Perceptions of recreation may also hinder its provision, often due to interdisciplinary teams receiving limited training on the benefits of recreation within their care (Kolanowski et al., 2009; Peisah et al., 2014). In contrast, Fortune & Dupuis (2018) found that when care staff from other disciplines expanded their traditional roles to incorporate leisure into their care rountines, the outcomes were integral in transforming residential care facilities into more compassionate and person-centred communities, where residents' lives were celebrated. Thus, it's worth discussing how other disciplines could incorporate recreation-based interventions as another non-pharmacological care approach, given that TR professionals often have limited hours and may not be available during evenings or nights (Kinney, 2020).

For instance, one study found most full-time certified therapeutic recreation specifialists (CTRS) spend a weekly average of 23-hours on direct resident care (Kinney, 2020). Those hours are often shared across an average caseload of 108 residents, and thus, many residents engage in only 12-13 minutes of weekly recreation with a CTRS (Kinney, 2020). Given that 90% of residents experience apathy (Le Riche, 2017), 40% have dementia, many experience BPSDs (Caffrey, 2022), and the cases of dementia are expected to triple by 2050 (Alzheimer Society of Canada, 2025), it's evident that the complexity of care needed in residential care settings will continue to increase. Since recreation can assist in the caring process when these complexities are present, this study looks to reconsider how interdisciplinary teams use recreation-based interventions to support their care, recognizing this may require practice or culture change.

FASCCI Model for Change

It is widely recognized that providing education alone is rarely effective in producing changes in practice (Aylward et al., 2003; Caspar, et al., 2016; Kuske et al., 2007; Nolan et al., 2008), and, despite the highly standardized nature of residential care (e.g., regulatory compliance), staff in this sector continue to face challenges to consistently implement care quality initiatives (Castle & Ferguson, 2010; Corazzini et al., 2015; Estabrooks et al., 2020; Keefe et al., 2024). Thus, practice change requires more than the reliance of education, it requires a multilevel, systems approach—one that engages various staff members who have the potential to create change within their organization (Brooker & Latham, 2015; Evans, 2017; Pitsillidou, et al. 2021). This understanding guided the development of the Feasible and Sustainable Culture Change Initiative (FASCCI) model for change—an interdisciplinary training program designed to support the successful implementation of new initiatives into everyday care routines (Caspar et al., 2021). The FASCCI model is an evidence-based training program, which has successfully increased the provision of person-centred mealtimes in two previous studies (Caspar & Davis, 2017; Caspar et al., 2020; Caspar et al., 2021). These outcomes suggest this model merits further investigation, exploring change initiatives beyond mealtimes. Recreation-based interventions were chosen for this study, given their underutilization and the potential benefits to support residential care. Thus, the aim of this study was twofold: 1) assess the FASCCI model's impact on an interdisciplinary team's uptake of a recreation-based intervention; and 2) understand the team's perception of using FASCCI to enable practice change.

Recently, the FASCCI model has become available via an 8-hour online training found on the Relational Care Knowledge Hub (2024). The training workshop includes interactive breakout activities and guides participants through the FASCCI model's 12 implementation steps. See **Table 1.** These steps draw significantly from the *Model for Improvement* to provide an established framework for staff engagement and the means to evaluate, advance, and continually learn from changes that they make (Langley et al., 2009). Similar to the *Model for Improvement* (Langley et al., 2009), the FASCCI model uses the Process Improvement Team (PIT) approach to actively engage the participants to co-develop clearly defined aims, measures, and changes, and then implement these changes through Plan Do Study Act (PDSA) cycles (Caspar et al. 2020). As one of the most common and versatile quality improvement frameworks, PDSA cycles increase the likelihood of change because of their iterative nature to empower interdisciplinary teams to engage in formative and shared decisions (Cranley et al., 2020).

The FASCCI model adds two key features that are not included in the *Model for Improvement*. The first is the provision of responsive leadership training (Caspar et al., 2017b) to the PIT members, who in this study, are the study participants. The second feature is the application and assessment of three key factors that are necessary in ensuring the feasibility and sustainability of the change initiative. These include: 1) predisposing factors (e.g., effective dissemination of information regarding new practices), 2) enabling factors (e.g., conditions and resources required to enable staff members to implement new practices), and 3) reinforcing factors (e.g., mechanisms that reinforce the implementation of new skills) (Caspar et al., 2016).

Table 1. *FASCCI Model Implementation Steps*

Step	Name	Description
Step 1	Decide to Make a Change	All change initiatives must begin with the decision to make a change.
Step 2	Form the Team	A Process Improvement Team (PIT) is comprised of key stakeholders associated with the selected area of change (i.e., care staff members, family members, administrators, managers, and interdisciplinary care team members)
Step 3	Participate in Responsive Leadership Training	All PIT members participate in a day-long training session on responsive and supportive leadership skills (e.g., communication and team building strategies to improve information exchange, collaboration, and timely follow-up to concerns).
Step 4	Best-Practice Education	Educate the PIT members on current best practices associated with the selected area of change
Step 5	Create a Shared Vision	Following the education session, the PIT members actively engage in creating a shared vision associated with the area of change that they wish to make.
Step 6	Select Specific Changes in Care Practices	Ideas for changes in care practice come directly from the PIT members.
Step 7	Develop Strategies Associated with Three Key Intervention Factors	The PIT members select and enact the requisite predisposing, enabling and reinforcing factors that address the selected changes in care practice. This critical thinking on how to implement the change is essential to the success of the project.
Step 8	Establish Measures	Outcome measures and process assessments are used to determine if specific changes actually lead to improvements.
Step 9	Test Changes	Follow the Plan-Do-Study-Act (PDSA) cycle, used to test change in real work settings, by planning, testing, observing the results, and acting on what is learned. Several PDSA cycles are conducted throughout the change initiative.
Step 10	Conduct Weekly PIT Meetings	Meeting facilitators apply leadership skills as presented in the Responsive Leadership Training. PIT meetings last approximately 20 min and meeting minutes with follow-up action items are documented for each meeting. These minutes are shared with everyone on the care team.
Step 11	Celebrate and Communicate Successes!	Celebrating and communicating successes is essential to sustaining change efforts. Effective communication about the successes of the project help the change process become integrated into the work culture in positive ways.
Step 12	Implement Changes	After testing a change on a small scale, learning from each test, and refining the change through several PDSA cycles, the teams implement the change as a permanent way of providing person centred care on the unit.

Tovertafel: A Recreation-Based Intervention

Many residents in care lack opportunities for meaningful recreation activities (Fortune & Dupuis, 2021; Möhler et al., 2023). For this study, the Tovertafel or “Magic

Table" was the recreation-based intervention selected to be integrated into the interdisciplinary team's care routine. The Tovertafel is a gaming console with an infrared light projector that turns any table surface into an interactive touchscreen and enables residents, families, volunteers, and staff to connect through play (Castella, 2018; Kuipers, 2018; Le Riche, 2017; Su, 2018; Tover, 2024a). Mounted on the ceilings, the projector can be detached and shared between different floors within the same facility. The console has 30 games (e.g., music making, soccer, or popping bubbles, etc.), and encourages players to reach with their arms, respond to prompts, and be socially interactive (Tover, 2024a). Previous studies indicate that playing with the Tovertafel can provide positive outcomes for people living with dementia by encouraging mind-body connection, concentration, happiness, and increase the quality of visits for families and volunteers, with minimal reliance on staff's time (Castella, 2018; Good et al., 2019; Le Riche, 2017; Pozniak, 2021). Additionally, Steiner and colleagues (2023) found for the Tovertafel games to benefit the quality of life for residents in care, as well as benefiting the quality of resident and care staff interactions.

The participating residential care home purchased the Tovertafel as part of their vision to improve the quality of care for residents in this home. As such, they aimed for the entire interdisciplinary team to use the Tovertafel games with residents. To achieve this goal, the TR professionals provided in-service education to other disciplines and administrators encouraged interdisciplinary use. Despite these efforts, after owning the Tovertafel for over a year, only TR professionals utilized the intervention. This highlighted how, despite significant effort, care members (e.g., nursing, TR, pastoral care) often operate in isolation from other disciplines. Consequently, the console was not

successfully integrated as an interdisciplinary intervention, and the games were infrequently played with residents. It is for this reason that the organization participating in this study selected the Tovertafel as the intervention to integrate into practice. No existing Western Canadian studies have explored the uptake of the Tovertafel, nor has a study evaluated FASCCI's impact on practice changes associated with recreation-based interventions. This study aims to fill this knowledge gap.

THEORETICAL FOUNDATION

The transformational leadership model (Bass & Avolio, 2006) provided a beneficial foundation for examining the outcomes of the FASCCI model training. According to the transformational leadership model, meaningful and innovative culture change is shaped by four separate processes: 1) inspirational motivation (creating a shared team vision), 2) idealized influence (modeling values and behaviours aligned with the vision), 3) individualized consideration (inspiring meaningful personal growth and engagement), and 4) intellectual stimulation (enabling individuals to find creative solutions) (Bass & Avolio, 2006, p. 6-7). Transformational leadership also encompasses these three principles: 1) people are trustworthy and purposeful, 2) everyone has a unique contribution to make, and 3) complex problems are handled at the lowest level possible (Bass & Avolio, 1994, p. 2). Based on these principles, transformational leadership posits that the individuals who are impacted by a change initiative should be trusted to make the decisions necessary to facilitate that change.

Organizational culture, known as the unwritten social behaviours of an organization, is cultivated within every workplace environment and is largely influenced by leadership practices (Bass & Avolio, 1994; Marquis & Huston, 2017). Leaders who

"change their organization by first understanding it" operate under transformational leadership (Bass & Avolio, 1994, p. 1). Transformational leaders, who learn the values and needs of their care team and motivate them towards a shared goal, are proven to positively shift care culture by creating cohesive teams that trust (Bass & Avolio, 1994). These aspects strengthen interdisciplinary communication and team morale, resulting in care members feeling empowered to facilitate change within their organization (Bass & Avolio, 1994; Siddiqui, 2024). Consistent with transformational leadership, the training activities embedded in the FASCCI model galvanize various care disciplines to deepen their understanding of individual values, before empowering them to create a shared vision for their change initiative. By aligning the FASCCI model's implementation steps with the core principles of transformational leadership, one can assess how each element of the FASCCI model contributed to positive practice change by fostering active leadership amongst the study participants.

METHODS

We used an exploratory single-case, time series design to examine the processes and outcomes associated with practice change. This design enables researchers to examine an intervention that has seen minimal or no prior investigation, and evaluate how the intervention impacts a real-life situation (Yin, 2009). We collected both quantitative and qualitative data while maintaining little or no control over the care facility's conditions (Yin, 2012). As such, we collaborated with the organization's staff, who were simultaneoulsy research participants and decision-makers on the PIT, thereby enabling them to have control over the study's direction.

Multiple methods were used to assess the acceptability of the practice change initiative among study participants. Yin (2006) recommends mixed method designs whenever a single study integrates multiple forms of data (participant interviews, Tovertafel data, feedback survey). Using a time-series design, we assessed the impact of the FASCCI model on the use of the Tovertafel across two care floors over the study duration of 18-weeks, divided into six sequential 3-week data intervals. We conducted an anonymous feedback survey and semi-structured interviews to gauge participants' perceptions of applying the FASCCI model to create change and held weekly meetings with participants to monitor implementation fidelity.

Setting and Sample

This study was conducted in a residential care home located in Western Canada that provides various levels of care to 128 senior residents with 92 living in memory care, and 36 receiving 24-hour onsite personal care provided by licenced practical nurses (LPN) and HCAs. This site was selected based on partner engagement and their interest in making change. The organization shared one Tovertafel console among its four care floors, rotating it monthly. Each floor had a designated Tovertafel gaming room and a different mix of residents and staff.

Tovertafel data was collected from two memory care floors—Floor A and B. Both floors were home to approximately 23 residents, most of whom were living with either a physical disability, mental health diagnosis, or mild to moderate dementia. HCAs provided most of the direct resident care and were supervised by LPNs. The decision on which floors to include in the study was made by the site's CTRS and clinical supervisor. Floor A was selected to participate in the study based on the care staff's schedules and the

number of residents on that floor. Floor B was included because the Tovertafel moves monthly, and this floor aligned with the site's rotation schedule. Only Floor A staff members participated in the FASCCI training day and joined the PIT. However, PIT members decided to include Floor B in the study to evaluate their effectiveness of using the FASCCI process for spreading change to other areas of the organization.

Ethics approval was granted by the University of Alberta ethics review board (Pro00134024). Following approval, the lead author invited residents, staff members, and family members from Floor A to attend a study information meeting. During the meeting, participants were invited to take part in the study, informed of their rights as study participants, and informed that taking part in the study would entail participating in the FASCCI training and becoming active members of the PIT.

Unfortunately, only two individuals were recruited following the information meeting. Potential recruits informed us they did not want to participate due to time concerns and workload constraints. Thus, we revisited our recruitment strategy and decided to follow-up the recruitment meeting with processes consistent with snowball sampling to recruit participants. Snowball sampling is a recruitment technique that involves asking current research participants to help identify other potential participants (Parker et al., 2019). This approach notably increased participant interest.

In total, nine representatives from the interdisciplinary team were recruited to take part in this study and form the PIT. Following recruitment, the PIT was comprised of one HCA, two LPNs, one CTRS, one recreation assistant, one clinical supervisor, two volunteers, and one pastoral care staff. Unfortunately, we were unsuccessful in our attempts to recruit residents and family members, despite significant effort. All PIT

members provided informed consent to participate in this study and were informed of their rights as participants. Of note, after the FASCCI training day and throughout the project, no participants withdrew from this study.

FASCCI Implementation Overview

Following recruitment, the PIT members gathered to participate in the FASCCI training day, with breakout activities facilitated, in partnership, by the lead author and the recruited on-site CTRS. Dr. Caspar, the author of the FASCCI model, recommends completing the training over one-full day or two-half days (Caspar et al. 2020). Due to the organization's scheduling needs, participants completed the training in one-full day. The FASCCI model encourages the inclusion of best-practice education for the selected change initiative (Caspar et al. 2020). Thus, we incorporated Tovertafel best-practice information available online (Tover, 2024b).

After the training day, participants began weekly 30-minute meetings to monitor outcomes of their selected change strategies and collaborate on solutions to any barriers preventing successful implementation. This element of our implementation strategy helped to ensure that the FASCCI model was consistent with the principles of the transformational leadership model (i.e., intellectual stimulation, individualized consideration, idealized influence, inspirational motivation). Weekly PIT meetings were implemented on Floor A for 6-weeks. Afterward, the console moved to Floor B for 3-weeks, during which PIT meetings paused on Floor A, and PIT members focused on spreading the change to Floor B. The console then returned to Floor A for another 3-weeks, and PIT meetings resumed. Floor A PIT meetings continued independently after the study, self-initiated by the PIT members.

Measures and Analytics Approach

Participant Interviews

We concluded the study with semi-structured interviews with PIT members (n = 7) to gain insight into their experiences with applying the FASCCI model to effect change and to evaluate the outcomes of using a recreation-based intervention as an interdisciplinary care approach. Two PIT members did not participate in the interviews due to scheduling challenges.

The development of our interview guide (Appendix A) was guided by the work of Yin and colleagues (2016), who asserts using semi-structured interviews enables researchers to respond iteratively with participants, creating trust and reciprocity. The interviews began with general questions such as, "Please elaborate about your experience with this project so far," followed by more specific questions, such as, "What are the strengths and limitations of the FASCCI training?"

Microsoft Word was used to manage and group the interview data into categories through content analysis (White & Marsh, 2006). Data were coded through line-by-line analysis of each participant's interview and then categorized. The decisions regarding how the data were to be categorized were not predetermined. Rather, they evolved from a review of the transcribed interviews, triangulated with the detailed notes taken during the PIT meetings, feedback survey, and Tovertafel data. The interview data were crucial in analyzing and explaining, from the participants' perspective, what was working and what was not regarding the outcomes of implementing the FASCCI model to produce change.

Tovertafel Data

To assess the uptake of the Tovertafel as an interdisciplinary approach, we monitored the total time the gaming console was used on Floor A and B. Data were collected over 18-weeks total (12-weeks on Floor A, 6-weeks on Floor B). See **Figure 1.** The data were automatically stored on the gaming console and recorded as total minutes played. We also monitored the number and types of staff who used the Tovertafel before and after the training day. Descriptive statistics and linear modeling were used to evaluate the significance of changes to console use over time (e.g., increasing, decreasing, or stable usage). Data were analyzed using Excel for Microsoft 365 and IBM SPSS Statistics package 29.

Feedback Survey

The FASCCI model has a built-in WordPress survey to evaluate participants' perceptions of the training. Participants provided feedback using QR codes, which automatically populate during the training, and are completed once. The survey included a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*, with questions such as, "I felt engaged and interested during the training session" and "The content in the modules helped in our planning for this project." Responses were exported from WordPress into an Excel spreadsheet for analysis.

Implementation Fidelity Assessment

Consistent with recommendations by Slaughter and colleagues (2015), we documented fidelity to our implementation strategy by reporting: adherence (i.e., was the implementation of the FASCCI model consistent with how the model was written), dose (i.e., how many change factors were implemented and how many PIT members

participated in the FASCCI training), and participant responsiveness (i.e., were the study participants engaged in selecting and evaluating the Tovertafel change strategies). Slaughter and colleagues (2015), further describe treatment fidelity as the extent to which an implementation strategy or program is delivered as designed, or in this case, the extent to which we implemented the FASCCI model as it was intended. This enables other researchers or clinicians to evaluate the conditions or strategies which may have influenced our results (e.g., what may have affected the PIT members' ability to create change). Further, this approach enhances internal and external validity by enabling others to recreate or translate our findings into practice (Slaughter et al, 2015).

RESULTS

Interview Data

Our interview questions focused on the PIT members' perceptions of applying the FASCCI model process to implement the practice change, as well as their perception of participating in the recreation-based intervention. When we asked participants to elaborate on their experience with this project, they underlined the positive benefits of engaging in the FASCCI model because it facilitated greater relationships among the interdisciplinary team, which they believed directly benefitted the residents' quality of living.

Participating in the Recreation-Based Intervention: Interdisciplinary Perspectives

Participants explained how dismantling interdisciplinary silos directly benefitted resident care because recreation-based intervention became a shared responsibility. For example, one participant (TR) stated:

> The most important outcome of this whole project has been improved relationships among our [interdisciplinary] team and being more engaged with residents by increasing involvement in purposeful leisure, because they're the ones who benefit from this change.

Interdisciplinary collaboration also increased the available approaches staff turned to in their daily care provision. This included nursing and pastoral staff using play as a catalyst to better assess and understand residents' care needs. For example, a participant (LPN) explained:

> There were things I didn't pay attention to—now I'm paying attention. When playing with them, we learn all this helpful information about the resident's interests, what makes them happy, and it helps us with our care to find out their person-centred needs. They are not robots. They are not programmed. They're individuals. The best way to attend to their care needs is to achieve things that makes them happy. This initiative has been helpful in ways I didn't expect.

PIT members stated that play provided a new method to facilitate cross-cultural connection with residents. For example, one participant (LPN) shared:

> A resident recently lost his wife of 50-years, he comes from Italy and I'm from Africa—we both know soccer. Soccer is a Tovertafel game, so we started playing soccer. That was one of the few things that took his sad hours away. Instead of asking him not to cry or giving him medication, we've started playing together.

According to PIT members, holistic care approaches challenged the conventional views of what was previously acceptable for care staff. Prior to the study, they felt 'unable' to sit with residents and play a Tovertafel game. They now advocated that

recreation-based interventions strengthened care planning and care quality. For example, a participant (LPN) stated:

> We had a resident who'd been refusing a shower, and we were playing the gardening game. When the game was done, I asked, what do you do after gardening? The resident said, 'shower!' She then went for a shower, and I was shocked! Now in the care plan, we determine that every time on a shower day, we say, 'Hey, let's go play gardening'.

Nursing staff showed a strong sense of pride and accomplishment when reporting they were using the Tovertafel to better respond to the BPSD often expressed by the residents living on the memory care floor. One participant (HCA) stated, "Now if we notice a resident is starting to escalate, we'll use it as a de-escalation. This has been over the moon. I love it. I love it."

Others explained how utilizing recreation-based interventions enabled care members to see residents more holistically. For example, one participant (LPN) explained:

> This is a non-pharmacological way of care. Unfortunately, here, we jump to provide medication. Now we take the person who is agitated to the game room, and you realize that it's benefiting the person, and we see the person.

This resulted in PIT members re-reconsidering their care role from one that is generally task-oriented to one that is more interactive and relational. For example, one participant (HCA) reported, "We need to be person-centred; what I love about this is that it's not only about the task-oriented focus all the time."

This shift in perception has given all staff 'permission' to experiment with integrating other meaningful activities and approaches into their care routine. For example, one participant (TR) stated:

> Residents are telling me that nursing came to their room and started drumming with them, painting their nails, or sitting with them out in the sunshine. The littlest culture differences are going on and nursing is involved in such a different way; there's much more staff interaction. This is spreading to all staff and making them look at different ways to engage the residents beyond the Tovertafel.

Use of the FASCCI Model: Interdisciplinary Perspectives

Many of the PIT members were initially hesitant to participate in the FASCCI model training, resisting change and feeling they "wouldn't have time" and already had "too much" to do. Interestingly, it was these very participants who eventually became leaders in this project and who were paramount in ushering the change outcomes. Thus, we wanted to learn what shifted for these participants. They explained that the FASCCI training cultivated strong buy-in by galvanizing the team to feel empowered, connected, and ready to make change. The PIT's sense of motivation and dedication was noticed by colleagues throughout the organization. For example, one participant (clinical supervisor) stated:

> I was not optimistic coming into this project, but it has gone better than I expected. The staff who chose to participate, absorbed the information, and followed the FASCCI process. It's fully exceeded any of the expectations I had. At first, I was thinking I might need to encourage staff involvement, but since doing the training, the changes I have seen are phenomenal, the staff are

> educating others on how to use the Tovertafel tool, they're explaining the benefits to others, and they're engaging the residents.

Participants were then asked to evaluate the limitations of the FASCCI model, and all participants indicated there were no limitations. The majority of participants suggested it would be beneficial if more staff participated in the training day, and they recommended other organizations to learn about and participant in the FASCCI model process. For example, one participant (TR) reported:

> This model is still not well-known or practiced throughout different organizations. So, advocate for it more and continue to show examples of where it's worked in different care homes, bring in more people. It did so much for our team.

Following this, we asked the participants to evaluate the strengths of the online training. All participants spoke of how applying the FASCCI model had increased interdisciplinary collaboration and strengthened their relationships. For example, a participant (HCA) stated, "We got to sit the team together, have one goal, joke together, and walk together towards patient-centred care." Participants further explained how the FASCCI model process broke down interdisciplinary silos and reduced the 'us' and 'them' mentality, which was felt before the study. For example, one participant (TR) explained:

> The team building brought our team closer together. Now it's not just me, it's not just you, but it's the whole team. Our day-to-day conversations aren't surface level anymore, our relationships go deeper than that. Without this training, we might not have achieved that.

PIT members also spoke positively about the practical nature of the FASCCI model training content and the interactive breakout activities. For example, one participant (TR) stated:

> It was interesting how we built outcome scales with the model. It was nice and simple, it wasn't confusing. We had weekly meetings, and check-ins with each other, the model explained itself as it goes. No one can learn that much from watching a video all day. So, the icebreakers really helped because you need to put it into practice.

We asked participants to describe the most important next steps for their practice change initiative. The PIT members spoke about sustaining the Tovertafel changes by continuing the PIT meetings and the FASCCI process after the study was complete. For example, one participant (LPN) reported:

> The idea is not to do this project for a couple of weeks, and it's done. If we claim that it's benefited the residents and the families, then we should still have PIT meetings and see how many hours we are using the Tovertafel.

Another participant (pastoral care) emphasized the importance of continuing the FASCCI model process to ensure the long-term success of their change in practice. For example:

> We need to keep going with the Tovertafel project for a little longer to ingrain it as more of a habit. I worry about the sustainability. So going forward, it would be beneficial to have another round of the FASCCI process to duplicate what we've done to get even more of a hold on it.

We were informed by many participants their intent to integrate another change initiative into their workplace, such as improving the residents' mealtimes experience. For example, one participant (TR) explained, "We're wanting to make another change, like mealtimes, because we've seen the benefits of changing our current routine, how much time it's been given back to us and residents."

Participant interviews show a positive reception of advancing interprofessional teamwork and relational aspects of care. These insights underscore the transformative impact of the FASCCI model on interdisciplinary perspectives of recreation-based care approaches.

Changes in Tovertafel Use

Tovertafel uptake increased immediately following the introduction of the FASCCI training day with all time intervals demonstrating improvement from baseline. It's important to note that all staff were aware of the study before Baseline A and Baseline B data collection, minimizing the risk that the observed uptake was solely due to increased attention to the Tovertafel following training.

Minutes of Tovertafel Use on Floor A and B

See **Figure 1.** Baseline A data demonstrated that, prior to the FASCCI training, the Tovertafel was used for 147 minutes over the 3-week period (averaged 7 minutes per day). Immediately following the FASCCI training day, the console was used on Floor A for 559 minutes over the 3-week period (Interval 1 averaged 26.6 minutes per day). The change strategies continued for an additional 3-weeks, where the Tovertafel was used 901 minutes (Interval 2 averaged 42.9 minutes per day). The Tovertafel then moved to Floor B for 3-weeks before returning to Floor A, where Floor A used it for 775 minutes

(Interval 3 averaged 36.9 minutes per day). During Interval 3, some planned TR sessions with the Tovertafel were cancelled due to staff shortages within their department. Internet connection difficulties between the building and the Tovertafel also prevented the console from being used for approximately five days of Interval 3 (i.e., the console worked for 16 days). Thus, we calculated the Tovertafel's daily use across 16-days to determine daily average minutes and this daily average was utilized to project the total number of minutes for the full 21-day interval. Baseline Floor B data demonstrated that the Tovertafel was used 150-minutes over the initial 3-week period (averaged 7.1 minutes per day). After integrating the FASCCI strategies on Floor B, Interval 1 demonstrated a significant increase of 1011 minutes (averaged 48.1 minutes per day).

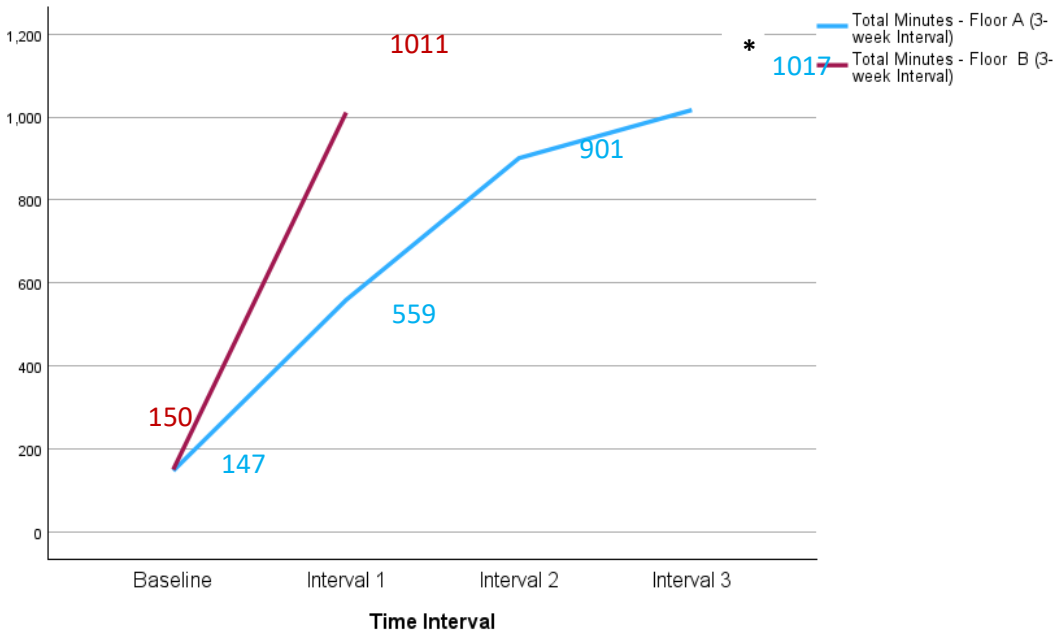

Figure 1. *Minutes of Tovertafel Use by Study Time Interval for Floor A & B*

Note. *Tovertafel connection issues persisted for 5 of the 21 days during Interval 3 on Floor A. Thus, we first calculated the mean daily use based on 16-days of use during this 21-day interval. The total minutes for Interval 3 were then projected for Floor A by replacing the 5 missing days of data with mean daily minutes for this time interval (16-day total minutes + 5(mean daily minutes).

Although based on a relatively small number of data points, the increase in Tovertafel minutes of use from baseline to the third post-training interval on Floor A followed a linear trend ($F(1, 2) = 37.590$. $p<0.05$, $R^2 = 0.949$, $r=0.974$). Therefore, there was a strong positive association between the passage of time post-training and the number of minutes the gaming console was utilized in each 3-week interval that passed after training. Following implementation on Floor B, the number of minutes of gaming console use jumped rapidly in post-training Interval 1 to levels of usage that took three post-training intervals to achieve on Floor A. We believe this indicates that the PIT was successful in their goal to spread the change to other areas of their organization.

Implementation Fidelity Assessment

Assessment of Adherence

We assessed adherence by the extent to which the model was implemented as written by documenting the fulfillment of the FASCCI model's implementation steps. Steps 1-8 of the model were completed during the training day. We fulfilled step 4 by utilizing the best-practice instruction presented on the Tovertafel website (e.g., creating a daily gaming routine, involving families and staff, facilitation strategies). Additionally, PIT members spent one-hour in the gaming room to play with the Tovertafel. While there, two residents who lived on Floor A overheard the PIT members engaging with the Tovertafel and entered the room to join the staff in spontaneous play. The residents' positive response to playing with staff via the Tovertafel was significant in building PIT members' motivation to increase the uptake of the gaming tool.

After engaging with the Tovertafel, the PIT selected their change vision (step 5), which was "To increase person-centred care by encouraging an environment where staff,

volunteers, and family actively used the Tovertafel by teaching others how it could benefit their workday, support family and volunteer visits, and enhance resident quality of life through play." They collaboratively decided their change strategy was "To increase Tovertafel awareness by training families, volunteers, and staff to become comfortable and confident using the console." PIT members then selected predisposing, enabling, and reinforcing factors they deemed necessary for their successful implementation of this strategy (step 7). **Table 2** shows the selected strategy and the factors they developed for it. The training day ended with PIT members co-developing two goal attainment scales to measure the progress of their strategy (step 8).

Table 2. *Practice Change Factors for the Selected Strategy*

Selected Tovertafel Strategy: To increase awareness of the Tovertafel by training staff, family members, and volunteers 92% (12/13) of the following changes were successfully integrated into practice during the study.	
Predisposing Factors	1. Each PIT member will explain the purpose of the Tovertafel to all staff in their department, volunteers, and resident family members. 2. Ensure all staff are aware that they can access and implement the Tovertafel tool during their regular shift, and this is supported by leadership. 3. Nursing staff will add Tovertafel discussion into daily shift change report. 4. Post about the Tovertafel to the organizations website and newsletter to encourage families and volunteers to learn about using this tool. 5. Recreation staff will invite care staff to join existing Tovertafel programs to increase peer learning. 6. Add Tovertafel to new staff and volunteer orientation binder.
Enabling Factors	1. Nursing staff will complete their regular charting in the Tovertafel room to encourage residents to sit and engage with the gaming console. 2. All staff will document in the client's chart each time the Tovertafel is used to monitor the client's response. 3. Print Tovertafel infographic posters about gaming levels
Reinforcing Factors	1. PIT members will all "lead by example" by ensuring they use the Tovertafel. 2. The agency will handout 'points' for each time any staff uses the Tovertafel with residents. The staff with the most 'points' each month wins a prize. 3. Acknowledge family, volunteers, and staff who use the Tovertafel by thanking them by sharing their success on the bulletin appreciation board. 4. Create award certificates to PIT members during the end-of-study celebration.

One week following the training day, PIT members began weekly meetings to complete PDSA cycles where they evaluated their progress using the goal attainment scales. It was here, and throughout the remainder of the study, where Steps 9-12 of the model were implemented. The selected strategy and its requisite predisposing, enabling, and reinforcing factors were reviewed and analyzed at every meeting. For instance, during our second PDSA cycle we found that, even though all PIT members were invested in the change, some forgot to use the Tovertafel and educate others about the initiative. In response to this, the PIT members then reviewed, in detail, the factors that were either enabling or impeding the strategy from being implemented.

As a result of this analysis, PIT members were enabled to assess challenges to (and deviations from) the selected change in care practice, and then collaboratively identify creative solutions to address those challenges via PDSA cycles. This resulted in the PIT organizing an award system, with staff earning points (a reinforcing factor), each time they used the Tovertafel with residents. After additional PDSA cycles, this resulted in a competition to determine who would win the most points each month. Meeting minutes, created by the PI, charted the progress of these and minutes were distributed to all PIT members.

To adhere with the design of the FASCCI model, an end-of-study celebration (one-hour pizza luncheon with a peer recognition ceremony) was held by the PI and the on-site CTRS, during which, award certificates were provided to participants to honour their role in creating change. During this celebration, PIT members discussed how to sustain the initiative and further spread it across every floor in their organization.

Assessment of Dose

To assess dose of our implementation strategy, we monitored the quantity of change factors integrated by the PIT members. A review of the records kept during each meeting demonstrated that 92% (12 out of 13) of the selected Tovertafel change factor strategies were successfully implemented and sustained throughout the study. The one strategy that was unsuccessfully implemented was the addition of Tovertafel instructional handouts into the new staff and volunteer orientation binder. The PIT determined adding this content could potentially overwhelm newcomers. Instead, they agreed to include the Tovertafel into the new staff and volunteer orientation tour, considering it a more feasible and sustainable long-term practice.

We also assessed dose by monitoring the amount of PIT members who participating in and received the FASCCI training. All PIT members (n = 9) attended the FASCCI training, with two members needing to momentarily leave to assist other staff with resident care and then returning to the training.

Assessment of Responsiveness

We documented responsiveness by examining the participants' level of engagement in the change process and the extent to which they influenced making change. PIT members actively engaged in, and expressed enjoyment of, the training. Our interpretation is supported by survey data gathered during training, with Likert scale questions such as, "I felt engaged and interested during the training session" and "I will be able to use the information and skills I learned", See **Figure 2.** Based on these data, 100% of participants expressed agreement with the effectiveness of the training, which is suggestive of a positive overall reception.

We also assessed responsiveness by keeping detailed records of the number of participants at the FASCCI training day and the subsequent weekly PIT meetings. Additionally, we recorded the number and length of PIT meetings that occurred through the study. Following the training day, six PIT meetings occurred over the course of the study on Floor A, all were observed by the PI. These meetings lasted an average 30-minutes each and were held on a weekly basis on a set day, time, and location in the care home. Meeting attendance was variable, with an average of 67% (n=6) of members present at each. Throughout the study, no meetings were cancelled due to insufficient attendance.

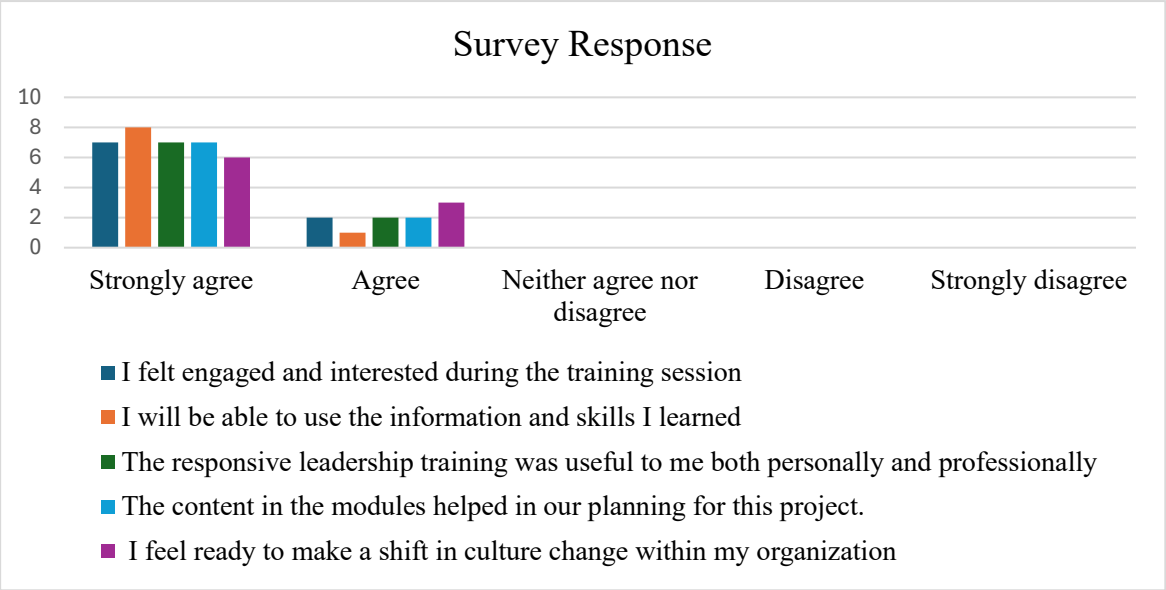

Figure 2. *Survey Data from FASCCI Training Day*

We monitored the number and types of staff using the Tovertafel before and after the training. During Floor A and B baseline observance, the same three staff (one CTRS and two recreation assistants) used the Tovertafel on each floor. By the study's end, 11

staff (two LPNs, five HCAs, one pastoral care staff, one clinical supervisor, and the three-recreation staff) and two volunteers consistently used the console and were actively teaching others to apply the approach within their routine. In the 12-weeks following the training, one HCA was documented to have used the Tovertafel 19-times, and one LPN used it 11-times, demonstrating a substantial shift in the way these professionals incorporated a recreation-based intervention into their care.

DISCUSSION

This FASCCI model offers a promising method for interdisciplinary teams to successfully integrate a Tovertafel intervention into routine practice, which resulted in recreation and play becoming a more widely accepted and valued care approach. The observed outcomes can be attributed to the FASCCI model's capacity to break down interdisciplinary silos, thereby fostering a deeper sense of engagement and connection among staff and residents. The cultivation of stronger care staff relationships, reciprocity, and collaborative decision-making achieved this outcome. Without the FASCCI model training, the realization of these outcomes may not have been possible. It is important to emphasize that simply acquiring a Tovertafel console, without the implementation of the FASCCI model training, would not suffice in replicating the outcomes of this study. The FASCCI model training can be applied to facilitate positive change across a wide range of interdisciplinary initiatives and is not confined to transforming care practices solely for the Tovertafel or other recreation-based interventions.

Many participants who were initially hesitant became leaders on the PIT, showcasing the FASCCI model's continued ability to galvanize a team and dismantle interdisciplinary isolation (Caspar & Davis, 2017; Caspar et al., 2020; Caspar et al.,

2021). Participant feedback, combined with Tovertafel data, suggest this training enabled them to challenge the 'way things have always been done' by working together towards a common goal. As a result, participants were empowered to implement the change factors they developed during the training day. This finding supports the transformational leadership theory because it highlights how moving interdisciplinary staff towards a common vision can result in empowerment and commitment to change. This shift in care culture enabled staff to experiment with other recreation activities (e.g., drumming, painting nails, outside visits) to assess resident needs, learn their life stories, build cross-cultural connection, or at times, as a non-pharmacological approach to manage BPSD. Our results show that recreation-based interventions, including the Tovertafel, enabled the interdisciplinary team to pay attention to a holistic range of resident needs.

Our findings underscore the significance of change initiatives that empower staff, offer praise and acknowledgement, and involve collaborative decision-making with all levels of staff. This aligns with transformational leadership, as the FASCCI model implementation steps ensured the principle "complex problems are handled at the lowest possible level" was present throughout the study. This not only reinforces the importance of each implementation step in driving positive change but also demonstrates how the FASCCI model could leverage transformational leadership within residential care settings. We found these approaches essential in increasing the use of the Tovertafel games and shifting the participants' perspective of how to best provide care. This is consistent with de Groot (2022), who identified that empowering staff to take ownership of achieving Tovertafel outcomes with residents is crucial for sustained implementation of the recreation game.

It is unknown if the significant linear trend of increasing minutes of Tovertafel use over time would continue in future post-training intervals beyond Interval 2, as data collection was suspended after one post-training interval on Floor B. Alternately, it is possible that Floor B possessed unidentified qualities that enabled more rapid uptake of the intervention than Floor A. However, we can say with certainty that both floors experienced significantly increasing usage over time following training, which adds additional support for the benefits of FASCCI training in the implementation of practice change (Caspar & Davis, 2017; Caspar et al., 2020; Caspar et al., 2021).

Some limitations of the case study should be noted. First, due to the short study duration, we were unable to evaluate if the changes strategies were sustainable over a longer period. Future studies should extend the follow-up period to provide more robust evidence of the FASCCI model's long-term effectiveness. Second, we did not include an assessment of resident health outcomes or quality of life, as collecting resident data was beyond the scope of our study. We acknowledge that including resident quality of life and health outcomes would contribute to future research on this important topic. Third, given that the assessors were not blind to the study, there is a risk of positivity bias and social desirability in our findings. Finally, the perspectives of residents and family members regarding the processes and the outcomes of the initiative were not explored. It should be noted that family members and residents were actively invited to participate in this study, but recruitment was unsuccessful. Despite these limitations, this study makes an important contribution to the literature exploring the implementation of practice change interventions in healthcare settings.

Similar to Fortune and Dupuis (2018), our findings highlight the use of recreation-based interventions in the culture change movement aimed at improving holistic care, where residents' lives can be celebrated beyond physical care needs. Fortune and Dupuis (2021) also advocated for TR professionals to promote recreation as a collective responsibility, one that is integral to residents' flourishing and living well. Our outcomes support this view, showing that recreation became a valued approach among the interdisciplinary team, not just TR professionals. This project enabled the interdisciplinary team to embrace a shared identity. As a result, PIT members expressed high team morale and satisfaction from contributing to a more relational care environment that prioritized resident quality of life and personhood.

CHAPTER 3: CONCLUSION

The final chapter is divided into two sections. The first section provides a summary of the study outcomes and offers an additional recommendation not captured in the manuscript due to the TRJs page limitations. The chapter concludes with a personal reflection on my research experience. This section discusses key learning moments and my reflections about the impact of research activities on academic identity and professional development.

OUTCOMES

The FASCCI model positively influenced interdisciplinary staffs' perception of TR as a valued care approach. The FASCCI training, with its emphasis on team learning and responsive leadership, facilitated evidence-based practice and promoted the adoption of a recreation-based intervention as an interdisciplinary tool.

Our findings determine that strong leadership is crucial in driving meaningful practice change. Fortune and Dupuis (2021) identified TR professionals as key leaders in culture change, noting TR's strength-based principles align with the culture change values of supporting residents' preferred routines by fostering choice and self-determination. This research aligns with our findings; partnering with the recruited organization's TR professionals to co-facilitate the FASCCI training demonstrated that they are well-positioned to be agents driving culture change. Given their potential to transform care environments, it is recommended that other TR professionals engage in the FASCCI training as PIT Coordinators. By assuming this leadership role, they could help foster a more flexible, person-centred environment for both residents and staff.

REFLECTION

Relationship with Research

In the years leading to my graduate studies, I dismissed the idea of pursuing a thesis-based master's program. Instead, I was waiting for the University of Lethbridge to develop a course-based TR master's to further my education. A course-based program seemed tangible for my intellectual and creative skillset, a familiar challenge in which I felt confident in my ability to succeed. In contrast, a thesis seemed impossible for *me*. My academic and professional identity disconnected from quantitative or mixed methods design, and even the 'softer' qualitative inquiry appeared daunting and unrealistic.

As someone who saw myself as 'unacademic' during my adolescence and young adulthood, my TR diploma and undergraduate studies helped me confront and overcome these self-limiting beliefs. Yet, when it came to conducting research as part of a thesis, familiar feelings of self-doubt and imposture syndrome resurfaced. At the core of these doubts was fear: fear of failure, fear of disappointing the educators and colleagues I respected, and, perhaps worst of all, fear of working in education yet struggling with research activities or scholarly writing. Research is often considered the pinnacle of academic achievement, having the highest professional value in post-secondary education. Thus, I feared pursuing this path would expose my inadequacies, confirming an underlying fear that I wasn't fit to teach or capable of *that* type of success.

Reflecting on my learning from a macro perspective and comparing the outcomes of this study, I recognize that I adopted the 'us and them' mentality expressed by our interdisciplinary research participants. I 'othered' myself in academia, limiting myself due to my fear of failure. Dismantling these personal perceptions about research has been

essential. Ultimately, it was the support of the mentors and educators around me, who encouraged me to believe that I *could* do this—and do it well.

Hidden Barriers to TR Research

Recreation therapists face numerous barriers when it comes to engaging in research activities. Commonly discussed hurdles include time limitations, insufficient funding, cost-benefit analysis, research literacy, and access to journal articles. However, I believe fear and perception are underacknowledged research barriers in the TR field, warranting further discussion.

The idea that fear, particularly the fear of failure, acts as a deterrent to research is not new. Cooper and colleagues (2023) described this as research anxiety, which they found to significantly inhibit undergraduate students from exploring research opportunities in their careers. They also reported a strong mentor-mentee relationship to lessen this anxiety by nurturing the student's self-efficacy and research persona. Similar to my experience, the presence of strong mentors and leaders seemed to instill a sense of resiliency, helping me to overcome self-limiting beliefs. Cooper and colleagues (2023) also found that females, particularly those with higher undergraduate grade point averages, experience the most research anxiety among their peers. Considering that the National Council for Therapeutic Recreation Certification (NCTRC, 2019) found 88% of its members to be female, the potential for research anxiety in TR is probable. This highlights the importance of post-secondary educators to continue fostering supportive relationships between students and recreation therapists. Such support may help new scholars overcome their fears and build confidence in their ability to contribute meaningfully to research.

Forward Research Identity

The social interactions with those around us help to shape our understanding of what it means to engage in research. In social constructivism, our viewpoints are developed through relationships and subjective experiences (Creswell & Poth, 2018). These subjective experiences develop our biases, fears, and greater understanding of our world (Creswell & Poth, 2018). One of the most profound realizations of my thesis journey was learning that research isn't only about scholarly writing or grasping abstract philosophical assumptions—it's also about making real, tangible change. This shift in perspective would not have been possible without these strong mentor-mentee relationships.

This project led to meaningful change, not only for the participants and residents of the care facility but also in reshaping my perception of research. As I develop my research identity, I've come to discover that intervention research requires facilitation skills, responsive leadership, adaptability, and importantly, relationship building. These are cornerstone skills that recreation therapists naturally possess, making them well-situated to engage in research. In my role as a TR educator, I am positioned to shape the social norms that influence students' perceptions of research, empowering them to contribute to research as change agents, using their innate skills to drive this change. Thus, what I carry forward from this journey is a commitment to reminding recreation therapists and students that they *can* engage in research—and they *can* do it well.

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APPENDIX A: SEMI-STRUCTURED INTERVIEW GUIDE

1. Please elaborate about your experience with this project so far.

2. What are the strengths and limitations of the FASCCI training?

3. Please tell me what you think were the most important outcomes of this project.

4. Are the Tovertafel strategies continuing to be delivered? If not, why not?

5. What do you think are the most important next steps in this project?

APPENDIX B: MANUSCRIPT OBJECTIVES

Objective 1:

After reviewing this article, readers will identify where and how to access resources that will assist them in leading practice change initiatives.

Objective 2:

After reviewing this article, readers will gain knowledge of how to apply three key factors that enable practice change (i.e., predisposing, enabling, reincorcing).

Objective 3:

After reviewing this article, readers will gain increased increased knowledge on how to implement practice changes in therapeutic recreation.

APPENDIX C: MANUSCRIPT MULTIPLE CHOICE QUESTIONS

Objective 2

Question 1: Which of the following is NOT among the three intervention factors that enable practice change?

a) Reinforcing factors

b) Predisposing factors

c) Enabling factors

d) Implementation factors

Objective 1

Question 2: What does the FASCCI model stand for?

a) Feasible System for Care Change Initiatives

b) Feasible and Sustainable Culture Change Initiative

c) Focused on Sustainable Culture Change Initiatives

c) Flexible System for Community Change Ideas

Objective 3

Question 3: According to the study, the recreation-based intervention enabled the interdisciplinary team to…

a) Experiment with other non-pharmacological care approaches

b) All of the above

c) Pay attention to a holistic range of resident needs

d) Help manage BPSD

Objective 1

Question 4: On which website can you access the FASCCI model training?

a) Therapeutic Recreation Centre of Excellence

b) Recreation Care Knowledge Hub

c) Relational Care Knowledge Hub

d) None of the above

Objective 1

Question 5: Which recreation-based intervention did the participants in this study select to integrate into their care routines?

a) Tovertafel gaming console

b) Drumming and painting nails

c) Person-centred mealtimes

d) FASCCI Model training

Objective 3

Question 6: According to the study, what is a common barrier to change initiatives in healthcare?

a) Lack of funding and innovative equipment

b) Insufficient training materials

c) Staff resistance due to being overburdened with daily tasks

d) Poor technological infrastructure and enabling factors

Objective 3

Question 7: Which of the following was NOT a reported outcome as a result of participating in this study?

a) Interdisciplinary staff strengthened their professional relationships

b) Staff felt empowerment and ready to make change

c) After the FASCCI training, staff were unsure of how to develop practice changes for the Tovertafel

d) Care workers changed their perspective on how to best provide care

Objective 2

Question 8: PIT members earn points each time they implemented the Tovertafel with residents. This exemplifies which intevention factor?

a) Implementation factor

b) Reinforcing factor

c) Enabling factor

d) Predisposing factor

Objective 3

Question 9: What approach was NOT essential in increasing the uptake of the Tovertafel intervention?

a) Reciprocity and empowering staff

b Following recreation programming protocols

c) Praise and acknowledgement

d) Collaborative decision-making

Objective 3

Question 10: Prior to the study, the recruited organization wanted to change their Tovertafel practices because:

a) Only therapeutic recreation staff used the console

b) Only volunteers used the console

c) No staff used the console

c) Residents did not enjoy the console