

Dance/Movement Therapy for Dementia Caregiver Resilience: A Mixed-Methods Study

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that this thesis may be made electronically available to the public.

Abstract

As Canada's population continues to age, more individuals will be living with neurodegenerative conditions such as dementia and caring for loved ones with these conditions. The Government of Canada estimates that in 2022-2023, over 400,000 people were living with diagnosed dementia, and close to 99,000 were newly diagnosed that year (StatsCan, 2025). Most individuals living with dementia are taken care of by a family member (romantic partner/spouse or adult child). However, individuals who step in to take on this role often become burdened and distressed due to the grief associated with the losses their loved one is going through (relational, physical, cognitive) and the compounded strains of caregiving. Once dementia emerges and continues to progress, the negative impact on caregivers' health and well-being is greater than on other caregiving groups (Kim & Schulz, 2008). Thus, it is imperative to explore how caregiver well-being can be maintained despite the ongoing losses with their loved one.

The majority of caregiver support programs which have been developed and evaluated are based on stress-process models, aiming to mitigate impacts of illness-related stress through learning communication skills, coping skills, and information about dementia (Schulz et al., 2020). While some of these programs have shown reductions in caregiver depression, most have minimal effect sizes (Schulz et al., 2020) and focus on reducing dysfunction (e.g., burden), rather than promoting holistic resilience factors (Palacio et al., 2020). Resilience literature suggests that taking a strengths-based approach to caregiver support may offer meaningful pathways to caregiver well-being, by promoting malleable factors such as positive affect, self-efficacy, and ways of coping (Palacio et al., 2020). Despite evidence of how the creative-arts therapies (CATs) such as dance/movement therapy (DMT) can promote positive aspects of well-being such as mood and coping in other populations, they remain underexplored for caregivers in their own

right (Irons et al., 2020). CAT programs which have been explored often include the caregiver as a co-facilitator of the activity, alongside their loved one with dementia, and thus they may experience burden rather than respite (Irons et al., 2020). Importantly, proposed therapeutic mechanisms of DMT inherently correspond to resilience factors for caregivers (Champagne, 2024), providing a rationale for how DMT may help caregivers to focus on their own needs and build resources. However, scant if any research has designed or evaluated the benefits of DMT for caregivers.

The purpose of this exploratory research was to design, facilitate, and evaluate the impact of a 6-session, theory-driven DMT program on resilience for dementia caregivers and to understand their experiences of this program. The objectives and activities in the DMT sessions were informed by resilience theories and previous work on DMT for resilience in other populations. A pretest-posttest convergent mixed-methods design was used. Outcome measures included caregiving burden, resilience, and psychological flourishing. Weekly quantitative measures of active creativity and DMT therapeutic factors were also distributed to consider therapeutic mechanisms of the program. Qualitative data was captured through post-session journal entries and semi-structured debrief interviews.

Online survey data was collected at two time points from 10 dementia caregivers (before and after the DMT program). Repeated-measures t-tests were used to examine the changes in caregiver burden and well-being from before to after the DMT program. Results indicated that caregiver burden was significantly reduced from baseline to follow-up, as expected. However, increases in benefit finding, resilience, and psychological flourishing were not statistically significant. Pearson correlations of key study variables indicated that higher resilience immediately following DMT caused significantly lower caregiver burden at follow-up and was

significantly associated with higher resilience at follow-up. Additionally, experiencing more DMT therapeutic factors was negatively associated with burden at follow-up, and positively associated with resilience and psychological flourishing at follow-up, with a medium effect size, but these correlations did not reach statistical significance.

Thematic findings from qualitative interviews and post-session journals revealed that the DMT program offered participants experiences of holistic engagement, liberation, and meaningful connection with others, which led to benefits of enhanced coping. Participants described their caregiving experiences as exhausting and overwhelming. They reported feeling constrained and that it was hard to find time for self-care. Participants contrasted their experiences in DMT with preexisting caregiver programs and emphasized how creative movement elicited benefits such as feeling “lighter” and empowered, gaining an attitude of acceptance, and emotional regulation. These findings suggest that DMT programs should continue to be designed and offered on a continual basis for dementia caregivers, for the unique ways in which movement provided a needed “release” and “liberation” which promoted experiences of emotional expression and improved coping.

Participants suggested that future iterations of the program should have more sessions, longer sessions to enable more deep processing and debriefing, and more social time. Together, the quantitative and qualitative findings suggest preliminary evidence of the potential for DMT to foster resilience factors and benefit caregiver well-being and coping. Participants in the present study emphasized their own surprise at how useful the modality of DMT was for their needs and urged for more DMT programs to be accessible to them.

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Dedication

For each of the incredible women who took participated in this project.

You inspired me with the depths of your sacrificial love, heartfelt expression, enduring strength, and resilience. Thank you for sharing your stories with your movements and with your words.

Your dancing, courage, smiles, laughter, and kind words will remain as some of my most cherished memories.

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“Though the dance may be fleeting, it can be filled with grace and purpose.” Rumi

Chapter One

1.1 Introduction

Neurodegenerative disorders such as dementia are associated with progressive cognitive loss and complications. The World Health Organization estimates that 24.3 million people are living with dementia, with 4.6 million new cases per year (WHO, 2006). As Canada’s population ages, a rapidly growing number of people will be living with and caring for individuals with dementia. Commonly, as an individual’s ability to perform daily tasks decreases, family members step in to informally care for their loved one. Yet, these spousal or adult child caregivers or ‘care partners’ often experience burden and negative health outcomes (Pinquart & Sörensen, 2011) as a result. Dementia caregivers in particular experience more caregiving burden and distress than other types of aging caregivers (Kim & Schulz, 2008).

Given the challenges of caregiving, intervention approaches have been explored which aim to buffer the negative impacts of caregiving distress. The majority of these intervention approaches have focused on cognitive forms of therapy and aim to reduce psychological dysfunction (Schulz et al., 2020). Yet, these traditional approaches (e.g., cognitive therapy, talk-support groups) have mixed quality and results (Schulz et al., 2020). Recent research advocates for a shift to the development and evaluation of interventions which elicit holistic aspects of growth and promote strengths-based outcomes for caregivers (e.g., Cheng et al., 2020) such as resilience (Harmell et al., 2011; Palacio et al., 2020; Zhou et al., 2021). In particular, resilience factors of self-efficacy (Kim & Knight, 2018), cultivating positive emotions (Ong et al., 2020), meaning-making (Ramsey, 2012), and social support (Wilks & Croom, 2008) have been highlighted as important to target in interventions for family caregivers.

The creative-arts therapies (CATs) offer a multifaceted approach to facilitating resilience, yet they are currently underexplored for caregivers for their own well-being. Some research has evaluated the benefits of CATs for individuals living with dementia, where caregivers also attended the activity. However, this research indicates that caregivers often felt burdened by co-facilitating the activity for their loved one (Irons et al., 2020). Broadly, dance/movement therapy (DMT) has been shown to reduce depression (Meekums et al., 2015), facilitate opportunities to engage in positive emotions, and enhance quality of life, self-efficacy beliefs and stress-management outcomes (Koch et al., 2019; Martin et al., 2018).

Research on mechanisms or therapeutic factors which explain why these outcomes are observed is beginning to emerge and is important for future intervention development and refinement. Koch (2017) described five domains of “active factors” which are present in the creative-arts therapies: hedonism: pleasure and play; aesthetics: art for beauty and authenticity; meaning-making: cognitive, affective, and transpersonal symbolizing; enactive transitional support; and generativity. Importantly, these therapeutic mechanisms of DMT inherently correspond to resilience factors which have been identified for caregivers. In 2024, Champagne proposed a comprehensive theoretical model in which resilience factors for dementia caregivers were explored for their innate correspondence to therapeutic mechanisms of DMT. Example DMT techniques to bring about these factors were proposed, such as authentic movement to facilitate the factor of aesthetics and bolster self-efficacy (Champagne, 2024). DMT is considered to be an “embodied and enactive approach” (Koch & Fischman, 2011) as it brings together schools of thought which emphasize the “meaning of the body for cognition, affect, and (inter-) action.” (p. 58).

Given the complex nature of caring for a loved one with dementia, being able to creatively and adaptively draw on a variety of resources is essential. By exploring DMT as a caregiver intervention, we can expand on what is known about how to reduce negative caregiving outcomes as well as possible means to facilitate positive outcomes, despite ongoing challenges. In the present study, drawing on the proposed model of caregiver resilience and DMT therapeutic factors (Champagne, 2024), I designed, facilitated, and explored the experiences and benefits of a 6-week DMT program for three groups of dementia caregivers with a convergent mixed-methods design. With pre-post quantitative data and qualitative data across multiple time points, I examined the impact of a theory-driven DMT program on caregiving burden, benefit finding, resilience, and psychological flourishing along with explorations of therapeutic mechanisms of DMT.

“The human capacity for burden is like bamboo – far more flexible than you’d ever expect it to be at first glance.” Jodi Picoult

Chapter Two

Literature Review

2.1 Introduction

As Canada’s population ages, no family will be untouched by dementia in the coming decades. Resulting from this is the urgent need for family members to act as informal caregivers for their loved ones. However, caring for a loved one with dementia is associated with negative impacts resulting from ongoing burden and distress (Schulz et al., 2020). Due to the multifaceted impact of dementia (cognitive, relational, emotional), dementia caregivers often experience more distress compared to other caregiving groups (Kim & Schulz, 2008). The expected increases of dementia in the foreseeable future signifies a need to improve support programs for caregivers, which can help them to cope with the unchangeable nature of what they are facing (Wrede et al., 2024). The dominant framework in caregiving support programs is the stress-process model, in which programs aim to target depression or anxiety indicators (Schulz et al., 2020).

Most commonly, caregiver support programs can be classified as psychoeducational or multicomponent, including information about dementia, skills training, and counselling. Yet systematic reviews indicate that overall, these studies lack quality and meaningful effect sizes (Cheng et al., 2020; Schulz et al., 2020). While some specific intervention approaches such as mindfulness-based therapy have shown promise for enhancing well-being (Cheng et al., 2020), researchers point out the need for more robustly designed interventions which target caregiver health more holistically, such as through integrating physical health and mental health (Schulz et al., 2020). Furthermore, the need for caregiver programs which aim to enhance strengths-based outcomes, rather than merely reducing negative outcomes has been emphasized by many

researchers (e.g., Cheng et al., 2020; Palacio et al., 2020). These strengths-based approaches would shed light on how caregivers can improve their psychological perspectives in response to their caregiving situation. Such programs would focus on building strengths, good health, and positive perspectives (Cheng et al., 2020). Important resilience factors which have been identified as beneficial to target in such interventions include positive affect, cognitive flexibility, and self-efficacy. Additionally, given the 10-20 year trajectory of dementia, evaluating new programs with a longitudinal approach is crucial to gain perspective on the benefit of programs as caregiver needs change and dementia progresses over time (Cheng et al., 2020).

Importantly, dance/movement therapy (DMT) has been shown to improve positive aspects of well-being ranging from positive mood to stress management capabilities (Koch et al., 2019). As a holistic and strengths-based modality, DMT is based on the premise that movement can foster emotional, social, cognitive, and physical integration (ADTA, 2022). Understanding therapeutic mechanisms of caregiver support programs is another identified research gap in traditional approaches (Cheng et al., 2020). Therapeutic mechanisms, which explain how/why an intervention has positive effects, of DMT include how movement can enhance body-mind synchrony, foster positive affective states, and support self-efficacy beliefs through aesthetic experiences (Koch, 2017). Despite how these mechanisms inherently correspond to resilience factors identified for caregivers, scant, if any research has explored how DMT could enhance caregiver resilience (Champagne, 2024).

Considering the high levels of caregiving burden among dementia caregivers and the lack of holistic and strengths-based programs to enhance caregiver well-being, the purpose of the study is to explore the potential benefits of a novel theory-driven DMT program in promoting well-being among caregivers, namely, reducing burden, and improving resilience and

psychological flourishing. Furthermore, understanding why DMT is associated with these benefits was explored by examining quantitative and qualitative reports of therapeutic mechanisms of DMT and asking participants about their experience of the program.

To have a thorough understanding of the complex challenges faced by dementia caregivers and the potential for DMT to meet these challenges in a comprehensive way, the related literature will be reviewed as follows: the chapter begins with an overview of caregiving in Canada and the significance of self-care and resilience to maintaining caregiver well-being. Then, preexisting interventions for dementia caregivers will be reviewed, followed by a review of DMT outcomes and processes. After explaining the rationale of this study, the chapter concludes with the research questions and hypotheses.

2.2 Caregiving in Canada

Informal caregiving by family members or friends is an indispensable feature of Canada's healthcare system, which will become more prominent in decades to come (Schulz et al., 2020). Accordingly, in 2025, the Canadian Centre for Caregiving Excellence released a National Caregiving Strategy to help prioritize what caregivers need most within the Canadian context, including policy solutions (Canadian Centre for Caregiving Excellence, 2024). Broadly, when an individual is diagnosed with an acute or chronic health challenge, there is often a "caregiving assumption" that their close relatives will step in to assist with care (Bailey & Harrist, 2018). The caregiving trajectory begins with the awareness of a health problem, which evolves over time and can lead to accumulative stress (Schulz et al., 2020). The COVID-19 pandemic raised awareness of gerontology issues such as the social isolation of older adults and compound strains placed on family caregivers (Savla et al., 2021; Wister & Cosco, 2020). Neurodegenerative conditions include Alzheimer's disease and other dementias, Parkinson's disease, cerebral palsy,

brain tumours, Huntington's disease, and multiple sclerosis. The two most common in Canada are dementia and Parkinson's disease (Gaskin et al., 2017). This review will focus on dementia caregiving, as that is the focus of the current study.

Dementia is the most common neurodegenerative disorder in Canada and is a progressive syndrome which results from disease in the brain (Dening & Sandilyan, 2015). Alzheimer's disease is the most prominent, followed by vascular dementia, Lewy bodies, and frontotemporal dementia (Wong et al., 2016). Dementia has a multifaceted impact, as cognitive impairment influences one's ability to perform everyday tasks and engage relationally (Zhou et al., 2021). Given the progressive nature of dementia, caregiver mental health is largely impacted by their ability to accept these unchangeable circumstances (Wrede et al., 2024). Dementia caregivers can experience greater levels of physical burden and psychological distress, compared to other types of aging caregivers (Kim & Schulz, 2008) as they assist with daily living/self-care tasks, care coordination, and decision making (Bom et al., 2019). Transition of a spousal or parent-child relationship to a caregiving one can result in worsened relationship satisfaction which has consequences for personal well-being (Rippon et al., 2020; van Corven et al., 2022). Spousal caregivers may experience lower relationship quality compared to adult child caregivers (Rippon et al., 2020). Understanding the perceived needs of dementia caregivers is essential before reviewing traditional interventions which have been designed to meet those needs. Then, the potential for DMT to meet caregiver needs more holistically will be explored.

2.2.1 Dementia Caregiver Needs

In 2022, Kinchin et al. conducted a systematic meta-review of care partner needs of people with neurodegenerative disorders. Importantly, when an individual is diagnosed with dementia, their spouse may still be working part-time or full time and have their own physical

and mental health needs. Caregivers may have increased negative feelings, and decreased well-being, as care demands increase (Kinchin et al., 2022). Given the central role which family caregivers play in the healthcare system, understanding their needs is integral to maintaining their well-being, and subsequently, the wellness of their loved one with dementia. Additionally, by having a comprehensive understanding of caregivers' perceived needs, programs can be tailored to meet those needs (Kettner et al., 2017). Types of caregiver needs identified by Kinchin et al. (2022) fell into four categories: knowledge and information needs, physical, social, and emotional support needs, care partner self-care needs, and care recipient needs. When these needs are not adequately met, distress can compound. For example, if a caregiver does not know what to expect about the disease prognosis (information needs), they may feel more burdened.

Perceived needs differ based on disease trajectories, relationship type, ethnicity, sex, and age. As dementia progresses, caregivers reported needing support pertaining to processes around death and preparing to manage their grief and life after caring (Kinchin et al., 2022). Additionally, in later stages of dementia, caregivers may have more challenges enacting emotional coping strategies and perceive a decrease in resilience due to a lack of emotional and social support (Kinchin et al., 2022). Pertaining to relationship type, spousal care partners reported sadness in early to mid-stages, followed up anger, confusion, and feelings of uncertainty later. Grief increased in a linear fashion over time as the disease progressed (Kinchin et al., 2022). In contrast, adult children caregivers experienced guilt, anger, and frustration, followed by sadness and longing in later stages of the disease (Kinchin et al., 2022).

These findings align with a complementary systematic review of self-care needs and behaviours of dementia caregivers (Waligora et al., 2019). Waligora et al. (2019) explored the self-care needs of dementia caregivers, as well as the barriers and enablers to meeting these

needs. *Self-care* can be defined as goal-oriented, voluntary regulation of functioning which functions to maintain health and well-being (Orem, 1991). As such, understanding how dementia caregivers can successfully take care of themselves, while simultaneously taking care of their loved one is of great importance. Identified self-care needs included: sleep, social support and engagement, leisure activities, and taking a break from caregiving (Waligora et al., 2019).

Broadly, leisure activities can be protective for caregiver health and help to alleviate burden (Teahan et al., 2018; Yi Xu et al., 2019). Yet, caregivers may forgo their own activities because they feel restricted as a result of their caregiving role (e.g. Flynn & Mulcahy, 2013) or because they feel guilty for leaving their loved one (Waligora et al., 2019). Barriers to self-care which were identified included the polarization of gender roles (e.g., female caregivers connect their identity to caring and feel obligated to fulfill gender standards), self-sacrificing, and burden of caregiving (Waligora et al., 2019). Enablers for self-care included acknowledging the personal consequences of caregiving and learning to balance self-care needs with the needs of their loved one with dementia. Together, these reviews underline the complex needs which dementia caregivers have on an ongoing basis (Kinchin et al., 2022; Waligora et al., 2019). Finding ways to access resources to meet the complex needs of their loved one while also ensuring self-care is attended to is integral to promoting caregiver resilience.

Risch et al. (2023) recently proposed a model of care-related beliefs with four domains for dementia caregivers, including: dysfunctional caregiving standards, dysfunctional dementia beliefs, functional self-care-related beliefs and functional acceptance-related beliefs. *Functional self-care related beliefs* (FSC) are the ways in which caregivers maintain social connections through continuing to engage in their own leisure and respite activities (Risch et al., 2023). In 2024, Wrede et al. found that FSC buffered the effect of both severity of dementia and caregiving

duration on depression and anxiety, by reducing subjective caregiver burden. Additionally, *functional acceptance-related beliefs* (FAC) which have to do with learning to manage unchangeable suffering, also impact caregiver depression (Wrede et al., 2024). FAC were found to predict lower depression and anxiety, and buffered the effects of subjective caregiver burden on depression (Wrede et al., 2024). Together, these findings suggest the importance of finding ways to promote self-care and acceptance beliefs for dementia caregivers.

Much research has documented the negative impact of caregiving on health outcomes (e.g., depression). As such, traditional approaches to caregiver interventions have focused on reducing this dysfunction (e.g., Cheng et al., 2020). Researchers have pointed out a lack of strengths-based or growth-trajectory approaches (Teahan et al., 2018) to caregiver programs. The traditional types of interventions which have been designed and evaluated to meet caregiver needs will be reviewed here. Then, an alternative paradigm will be described, with a focus on resilience. The resilience literature will inform how DMT, a creative-arts therapy, may holistically meet caregiver needs in ways which traditional approaches are lacking.

2.3 Traditional Intervention Approaches for Caregivers

In their chapter on caregiving, Coon (2012) suggested that there are three overarching types of empirically based treatments for family caregivers: psychoeducational skills-based training, psychotherapy/counselling, and multicomponent. The majority of these interventions aim to reduce negative outcomes such as burden, depression, negative appraisal of events, and negative affective states (Coon, 2012). Yet some have targeted protective factors, such as positive affective states and self-efficacy (e.g., Tang et al., 2016). More recent systematic reviews reiterate that *stress-process models* are still the dominant framework for interventions among caregivers of older adults (Schulz et al., 2020). Interventions based on these models aim to teach

adaptive strategies to mitigate impacts of illness-related stress, enhance communication skills between caregivers and their loved one, connect caregivers with other resources, and provide social support (Schulz et al., 2020). Outcome measures typically include negative psychological indicators (e.g., depression, anxiety), coping skills, social support, and factors related to the person with dementia such as problem behaviours and institutional placement (Schulz et al., 2020). Despite an increasing volume of primary empirical articles and systematic reviews, Schulz et al. (2020) stressed the overall lack of quality within these intervention studies. While some studies such as those on cognitive-behavioural therapy (e.g., Kwon et al., 2017) showed reductions in caregiver depression, the majority of psychosocial interventions had minimal effect sizes and limited success (Schulz et al., 2020; Teahan et al., 2018).

Mindfulness and physical activity have been identified as potentially beneficial caregiver interventions, due to their health-promoting effects in other populations (Schulz et al., 2020). However, the research on these interventions also has poor to moderate methodological quality, making conclusions difficult to draw (Schulz et al., 2020). Schulz et al. (2020) proposed that research should focus on identifying best practices to integrate physical activity alongside other components of caregiver interventions. Mind-body approaches which integrate mental and physical health may be best suited for understanding older-adult resilience (Ong et al., 2010).

In their systematic review and meta-analysis of nonpharmacological interventions for informal dementia caregivers, Cheng et al. (2020) reiterated similar findings as Schulz et al. (2020) and highlighted important gaps in the intervention research. They suggest that developing programs which target mental health as well as physical health are important for caregiver holistic health promotion over time. Furthermore, they argue for a paradigm shift from programs

which focus solely on alleviating negative outcomes, to strengths-based programs which focus on building positive factors, related to resilience over time (Cheng et al., 2020).

In a review of resilience in informal dementia caregivers, Palacio et al. (2020) suggested that interventions need to be designed which identify resilient coping strategies, increase awareness about positive aspects of caring, encourage meaning-making, and are applied early in the illness trajectory. These suggestions align with Bonanno et al. (2015) who suggested that interventions should focus on factors which are realistically malleable, such as positive affect, ways of coping, and flexibility. Additionally, outcome variables outside of psychological dysfunction (depression, anxiety, stress) have scarcely been explored in caregiver interventions (Cheng et al., 2020; Won et al., 2024). Palacio et al. (2020) suggested that future research should include “other psychological aspects that could contribute synergistically to resilience and positively influence well-being such as optimism, personal growth, and spirituality in terms of the identification of personal meaning in relation to the experience of illness in the caregiver” (p. 656). Literature on resilience in the context of informal dementia caregiving will now be reviewed. After reviewing resilience models and factors for caregivers, the rationale for exploring DMT will be drawn out.

2.4 What is Resilience?

In the last decade, resilience has emerged as a concept of health related to caregiver outcomes, alongside peaked interests in related topics such as successful aging, wisdom, and adjusting to dementia (Hayslip Jr. & Smith, 2012; Palacio et al., 2020). While researchers emphasize that no single agreed-upon definition of resilience exists (Herrman et al., 2011; Mayordomo et al., 2016; Wister & Cosco, 2020), *resilience* can be defined as a multifaceted construct which has to do with having competence for, an outcome of, or a process of effective

coping in response to risk or adversity (Herrman et al., 2011; Mayordomo et al., 2016). The word ‘resilience’ originates from the Latin word ‘resilire’ which means to spring back (Resnick, 2020). Resilience has been conceptualized in three main ways in the psychological literature: as a trait, outcome, and/or as a process/process-outcome (Zhou et al., 2021).

As a trait, “resilient” individuals possess static, inherent qualities of grit and self-reliance (Wister & Cosco, 2020) which enable them to maintain psychological homeostasis following a stressor (Feder et al., 2010). Trait conceptualizations of resilience have been critiqued for pathologizing individuals who do not meet specified criterion (Luthar et al., 2000; Shim, 2015), and for discounting the impact of environmental systems (e.g., family) and change which occurs over time (Wister & Cosco, 2020). When conceptualized as an outcome, a ‘resilient’ individual is one who presents a lack of psychological dysfunction despite experiencing acute or chronic adversity (Zhou et al., 2021). Outcome-based approaches are still common but are critiqued for equating resilience to avoiding extreme psychopathology outcomes (Bonanno et al., 2015).

Accordingly, researchers have more recently come to view resilience as a dynamic *process* or process-outcome, in which someone is able to effectively access and utilize internal (e.g., coping skills) and external (e.g., family support) resources to manage adversity over time (Bonanno et al., 2015; Wister & Cosco, 2020; Zhou et al., 2021). As a process, an individual’s capacity to be resilient emerges and changes with each new challenge faced (Bonanno et al., 2015; Herrman et al., 2011). Specifically, given the progressive nature of dementia, “adaptation to caregiving is an on-going process that involves effectively navigating multiple caregiving stressors at multiple system levels in both the short- and long-term” (Bailey & Harrist, 2018, p. 9). By viewing resilience as a *process-outcome*, there are more possibilities to change a cause-outcome sequence through intervention approaches which target protective factors for caregivers

(Reich et al., 2010). Resilience models for family caregivers will now be reviewed before specific resilience factors are described.

2.4.1 Resilience Models

Many models and theories of resilience have been created and tested within psychological literature. Broadly, Bonanno et al.'s (2015) model of psychological resilience is useful pertaining to how it accounts for change over time. According to Bonanno (2015), before one can consider how to promote resilience, "the crucial first question is always "Resilience to what?" (Bonanno et al., 2015, p. 141). In their model of psychological resilience, four "temporal elements" are described as essential in the resilience process: baseline or pre-adversity adjustment, the actual aversive circumstances (acute or chronic), post adversity resilient outcomes, and predictors of resilient outcomes measured over time. This model highlights the importance of considering the nuances of each caregiver's experience, which is uniquely shaped by the nature of their loved ones' disease, its trajectory, as well as how they were functioning prior to the diagnosis. Among cancer caregivers, these four temporal elements were identified in a recent study. Predictors of resilient outcomes included caregiver flexibility, positive attitude, and meaningful relationships (Opsomer et al., 2022). Yet the authors propose adding "repertoire of coping strategies" to the model, which could be moderators in the resilience process, between baseline adjustments, resilience predictors, and resilience outcomes.

More recently, Zhou and colleagues (2021) developed a unifying model of resilience in dementia caregiving. They reviewed the literature on caregiver resilience from the past twenty years and emphasize that due to the variation in how resilience has been conceptualized (trait, outcome, or process/process-outcome) it is challenging to draw conclusions. Of the fifty-seven articles included, 62% defined resilience as a process and as an outcome, 9% conceptualized

resilience as only an outcome and 7% viewed resilience as only a trait. As a process-outcome, caregivers' self-perceived capacities or resources (e.g., coping strategies) to address challenges over time were measured, yet only three of the studies used a longitudinal approach (Zhou et al., 2021). In their comprehensive model, Zhou et al. (2021) proposed that personal traits and environmental resources influence the resilience process, which leads to personal growth and/or adversity outcomes. Overall, these resilience models emphasize the multifaceted nature of resilience for caregivers, in which the ability to draw on a variety of resources can facilitate resilience over time amidst high care demands. A review of factors which can promote resilience for caregivers will now be given.

Risk and protective factors have to do with aspects of experience which hinder or foster positive adaptation to a chronic stressor. Resilience is thought to occur when risk can be managed and protective factors are activated effectively (Palacio et al., 2020). Protective factors which are modifiable (unlike age) and can aid in adjustment (Black & Lobo, 2008; McCubbin & McCubbin, 1993) will be highlighted here, for their utility in designing a resilience-promoting intervention. These factors can be classified as individual and environmental (Herrman et al., 2011; Kim & Knight, 2018; Teahan et al., 2018). While environmental supports such as faith communities are recognized as important resilience resources (Wilks & Croom, 2008; Wong et al., 2018), resilience factors related to individual well-being (self-efficacy, positive affect) and coping (cognitive flexibility and meaning-making) will be explored in the present research.

2.4.2 Dementia Caregiving Resilience Factors

2.4.2.1 Self-efficacy

Within dementia caregivers, having a greater sense of self-efficacy has been associated with greater life satisfaction (Kim & Knight, 2018) and can mitigate negative effects of stress on

health (Harmell et al., 2011). *Self-efficacy* has to do with one's subjective sense of their ability to carry out a task or goal (Bandura, 1997). Given illness trajectories of ten to fifteen years depending on the type of dementia, caregivers are expected to acquire new context-specific skills over time. Thus, supporting their ongoing sense of self-efficacy in a variety of domains is of utmost importance. A recent review suggests that self-efficacy can be significantly improved by psychosocial interventions such as cognitive behavioural therapy and mindfulness for dementia caregivers (Tang et al., 2016). However, authors recommend that future research could explore different modes of intervention which are more clearly developed based on theoretical structures (Tang et al., 2016).

2.4.2.2 Engaging in Positive Affective States

Frederickson's *broaden and build theory* posits that engaging in positive emotions such as joy, interest, inspiration, and hope, broadens cognitive and action tendencies, thereby fostering resilience (Fredrickson & Braingan, 2001; Ong et al., 2020). *Broadening* refers to how experiencing positive emotions enable individuals to see beyond the stressor, fostering more creative solutions, and *building* refers to replenishing of coping resources which may have been depleted (Fredrickson, 2013). For example, joy "creates the urge to play and get involved" (Fredrickson, 2013, p. 4). This readiness to engage builds resources through experiential learning. Furthermore, being inspired motivates one to excel themselves, facilitating a desire for personal growth (Fredrickson, 2013).

Importantly, positive emotions are often experienced with other people, and social bonds can be formed over a shared funny moment or savouring a pleasant experience (Fredrickson, 2013). Additionally, engaging in humour and the creative-arts can cultivate present-moment experiences of positive emotions, which may enhance resilience (Hayslip Jr. & Smith, 2012;

Resnick, 2020; Walsh, 2012). Finding ways to authentically cultivate positive emotions is of particular importance for dementia caregivers, as negative emotions such as anger and despair can lead to detrimental physical health and mental-health outcomes. Systematic reviews indicate that disengaged coping strategies, such as denial and suppressing negative emotions may mediate the relationship between perceived caregiving burden and depression (Gilhooly et al., 2016; Khalaila & Cohen, 2016; Teahan et al., 2018). As such, researchers have pointed out a need for interventions which aim to increase the experience and expression of positive affect to reduce negative impacts of caregiving (Verstaen et al., 2018).

2.4.2.3 Cognitive Flexibility and Reappraisal

Cognitive flexibility is related to creative thinking, openness, awareness, and an active/engaged way of coping (Hayes et al., 2012). Being ready to create a new structure amidst loss can be psychologically rewarding (Black & Lobo, 2008; McCubbin & Patterson, 1983) and engaging in positive emotions may be a pathway to this broadening of thought (Fredrickson, 2013). Among dementia caregivers, greater flexibility of thought patterns has been associated with greater life satisfaction and less distress (Kishita et al., 2020; Lappalainen et al., 2021). Being willing or flexible to acceptance-related beliefs has also been found to impact the extent to which subjective burden was translated into symptoms of depression among dementia caregivers (Wrede et al., 2024). Moreover, according to recent systematic reviews, dementia caregivers who utilize active coping strategies such as problem-solving, emotional expression, and cognitive reframing may have lower distress and depressive symptoms (Palacio et al., 2020; Teahan et al., 2018).

According to Brandstadter & Renner's (1990) dual-process model of coping, one may adopt assimilative or accommodative strategies to ongoing stressors. Whereas *assimilative*

strategies pursue goals through modifying life circumstances to accord with personal preferences (Boerner & Jopp, 2007), *accommodation* is the adjustment of goals in the face of constraints. (Brandtstädter & Renner, 1990). In the context of incurable, progressive illness such as dementia, accommodative processes are supposedly more activated. Caregivers must learn how to accept the reality that their loved ones' dementia cannot be changed or reversed (Wrede et al., 2024). Accordingly, accommodative coping strategies may include positive reappraisal of emerging loss. For example, as dementia progresses, caregiving spouses may experience ambiguous loss of former intimacy patterns and learn to cope by redefining the relationship (Bailey & Harrist, 2018). Being able to find benefits or positives to ongoing challenges (e.g., making a difference in someone's life) can reduce burden (Heo, 2014). A related construct, *benefit finding* – perceived personal growth after a challenge (Kim et al., 2007), has been associated with greater relational well-being for both members of couples coping with Parkinson's, another neurodegenerative condition (Mavandadi et al., 2014). Authors suggest that intervention approaches which aim to promote positive reappraisal and existential approaches such as meaning-making should be further developed (Mavandadi et al., 2014). The creative-arts therapies present unique pathways to promote cognitive flexibility (Potash et al., 2025) through engaging “sense of mastery, embodied imagination, and artistic agency” (De Witte et al., 2021, p. 18), yet they remain under-explored for dementia caregivers.

2.4.2.4 Meaning-making

Finding a way to make sense of or meaning out of stressors one is facing is integral to staying resilient. Meaning-making is an integral component to eudaimonia and the promotion of flourishing psychology (Chen et al., 2024). Recent interest is growing for how meaning-making can enhance well-being in the context of dementia caregiving. Generally, seeking spiritual

guidance (e.g., divine power or wisdom) amidst chronic stress is a common pathway to meaning among older adults (Wong et al. 2018). Meaning-making of the adversity which one is facing is important because it can facilitate resilient outcomes (Ramsey, 2012; Walsh, 2012), whereas a lack of meaning is associated with apathy, rage and despair (Hellman et al., 2018), leading to compounded distress for caregivers over time.

Walsh (2012) emphasizes the ongoing, dynamic process by which one can find strength to endure challenges, such as caregiving. “Resiliency is fostered through active meaning-making efforts to reach some acceptance of their lives, putting past traumas and inescapable missteps into perspective” (Walsh, 2012, p.169). Some researchers have suggested that intervention approaches such as acceptance and commitment therapy which support caregivers’ coping repertoires could be beneficial (Rickardsson et al., 2022). Coming to acceptance reflects a willingness to adapt to inevitable changes which cannot be reversed, and being willing to experience one’s emotions rather than avoid them (Allen et al., 2018).

A recent systematic review explored qualitative studies on meaning-making in the context of dementia caregiving (Chen et al., 2024). Meaning-making has emerged as a useful strategy for caregivers and is related to reduced caregiving burden as well as enhanced adaptability to changes (Chen et al., 2024). Results indicate that caring for a loved one with dementia can be made sense of through strategies such as adaptive coping, shifting perceptions of loss and growth, balancing expectations of care, and improving self-efficacy (Chen et al., 2024). The meaning-making process is a recursive one, which includes phases of meaning creation, meaning appraisal (assimilative and accommodative strategies), and integrating appraised meanings into identity (meaning adherence) (Chen et al., 2024). The authors suggest that interventions which aim to enhance family caregivers’ abilities to cope with dementia

through meaning-making would support caregiver empowerment and resilience. Some approaches which have been explored include narrative therapy and cognitive-behavioural therapy (CBT), but more robust evaluations of theory-driven programs which foster meaning-making are needed (Chen et al., 2024).

Importantly, metaphors and symbols of meaning can be created, explored and shared through artistic expressions, which can aide in coping with challenges such as caregiving (Ramsey, 2012). Artistic self-expression can contribute to maintaining or reconstructing a positive sense of identity and meaning (Allen et al., 2018). While symbolic expression can promote a sense of cohesion, more research is needed which investigates interventions designed to foster meaning-making for caregivers (Palacio et al., 2020). Allen et al. (2018) suggested that more programs need to be created which draw upon the creative-arts to provide opportunities for processing discomfort in creative and meaningful ways.

The traditional intervention approaches for caregivers have now been reviewed. An evident gap within these approaches is a lack of strengths-based modalities which foster positive experiences for caregivers, rather than merely trying to reduce negative experiences (Cheng, 2020). In response to these critiques, exploring caregiver well-being through the lens of resilience enables a strengths-based approach which targets protective factors. Research indicates that when dementia caregivers are able to effectively draw on resilience factors, such as positive emotions, cognitive flexibility, and meaning-making, they can maintain well-being over time, despite the ongoing challenges they face (Zhou et al., 2021). Presently, there is a lack of intervention approaches which have been explored which are: a) *holistic*: engaging physical and mental health simultaneously (Cheng et al., 2020; Schulz et al., 2020); and b) *strengths-based* (Cheng et al., 2020), designed to promote positive experiences for caregivers. Dance/movement

therapy (DMT) is a unique therapeutic modality which emphasizes body-mind synchrony and provides opportunities for resilience factors to be experienced and enacted upon. How DMT enacts change (therapeutic mechanisms) innately correspond to the resilience factors identified above for caregivers. Now, a rationale for why the creative-arts therapies such as DMT are a promising alternative to the traditional approaches will be given.

2.5 Creative-Arts Therapies

Fundamentally, creative activities have relevance for individuals in a state of adaptation or adjustment. *Creativity*, as defined by Csikszentmihalyi is “any act, idea or product that changes an existing domain, or that transforms an existing domain into a new one.” (Csikszentmihalyi, 1996, p. 28), which can be associated with emotional expression and cognitive flexibility (Irons et al., 2020). While creativity includes a plethora of processes, Creative-Arts Therapies (CATs) can be defined as “the creative use of the artistic media (art, music, drama and dance/movement) as vehicles for non-verbal and/or symbolic communication...in order to achieve personal and/or social therapeutic goals appropriate for the individual” (Karkou & Sanderson, 2006, p. 46). CATs are unique for the therapeutic mechanisms they enact, by approaching body, mind, action, and perception as a unified whole (De Witte et al., 2021; Martin et al., 2018).

Among caregivers, some creative-arts interventions have been investigated, but DMT remains under-explored. Findings from review articles on CATs among older adults in general, and/or for people living with dementia and their caregivers reveal some important findings and gaps. Irons et al. (2020) conducted a systematic review of CATs for people with dementia (PwD) and their family caregivers. Seventeen studies were included, and all programs were for both the PwD and their caregiver to attend together. Music-based interventions were the most common

and some interventions combined art with music. Irons et al. (2020) found that barriers to participation (e.g., caregiver frustration at partner), belonging, acquiring new skills, meaning-making, and perceived caregiver growth (Irons et al., 2020) were themes. Importantly, Irons and colleagues (2020) emphasized that caregivers were implicitly considered “co-facilitators” in these interventions, supporting the PwD while also engaging in the activity themselves. This type of caregiver burden led to many dyads dropping out, which reflects a need for programs which relieve caregivers of their responsibilities (Irons et al., 2020). This relates to other research which found that caregiver well-being can be optimally supported when caregivers participate in two thirds joint activities, and one-third activities without their spouse/parent with the neurodegenerative disease (Prado et al., 2020). Irons et al. (2020) concluded their review by stating that compared to music and art, there is a paucity of research on dance interventions for informal caregivers and that pilot studies are needed to understand how DMT may best benefit this population (Irons et al., 2020).

In 2024, Watt et al. conducted a systematic review of group-based creative-arts interventions to support family caregivers for a variety of diagnoses. Like the findings of Irons et al. (2020), Watt et al. (2024) found that most creative-arts programs were offered for dyads (caregiver and individual with the diagnosis) to attend together. Furthermore, they reiterate that most of these programs have either been music or visual-art based, with no dance/movement studies mentioned or included in their review. They propose that when groups are designed for caregivers in which only caregivers participate, this can be a meaningful form of respite, yet this design remains uncommon (Watt et al., 2024). Watt et al. describe how benefits of caregiver-only creative-arts groups can include overcoming isolation, sharing the whole caregiver journey in the context of creation expression, whereas dyadic interventions focus more on the arts connecting

partners (Watt et al., 2024). Importantly, the benefits for caregiver-only interventions may also have a positive impact on the dyad relationship, after caregivers have a meaningful respite (Watt et al., 2024). Overall, the authors argue that studies with qualitative methodologies showed stronger positive impacts compared to quantitative ones, due to small sample sizes. The authors suggest that future caregiver-only interventions should be designed to be more intentionally therapeutic, and should be facilitated by creative-arts therapy professionals (Watt et al., 2024).

More broadly, Dunphy et al. (2019) examined CATs for depression in older adults. Again, music-based interventions were the most common, followed by art-based interventions, then dance-based interventions (DBIs), and drama therapy. Despite a lack of DMT studies, the dance-based interventions which were included showed an amelioration of depressive symptoms. Additionally, Martin et al. (2018) conducted a systematic review of CATs for stress management and prevention. This review is relevant in the context of caregiving, because caregivers are frequently described as being at risk of developing their own health issues as a result of the stress associated with caring for a family member with a neurodegenerative condition (Teahan et al., 2018). Art interventions were significantly associated with reduced stress and anxiety and increased positive mood, and music interventions were associated with reduced stress and anxiety (Martin et al., 2018). All studies analyzing DMT or dance-based interventions found significant reduction of stress signs and increased coping abilities in participants (Martin et al., 2018). Four dance-based intervention studies reported decreases in anxiety levels and negative affect. Martin et al. (2018) concluded their review by suggesting that the quality of evidence for CATs for stress management outcomes is quite high. However, the authors suggested that the empirical exploration and validation of therapeutic mechanisms which explain how these outcomes come about is an essential task for future research.

2.5.1 Art and Music Therapy for Caregivers

Art therapy and music therapy have been explored in the context of dementia; however, most of these programs have been designed for couples to attend together (Irons et al., 2020; Watt et al., 2024). For example, it is suggested that art produced by people living with dementia may help their caregivers to understand their partner more and promote communication (Guseva, 2019; Wang & Li, 2016). Yet, art therapy approaches commonly focus on outcomes of behaviour modification and symptom reduction, rather than personal enrichment, pleasure, or fun (Beard, 2011). Music therapy may provide opportunities for couples coping with dementia to experience reminiscence as songs represent a shared experience (Irons et al., 2020).

García-Valverde et al. (2021) investigated therapeutic song writing for dementia caregivers. The authors describe how the majority of research on caregiving has focused on burden and stress, but there is a growing interest in growth and self-care (García-Valverde et al., 2021). This caregiver intervention had four stages: respite or distancing from caregiver's identity (being meaningfully absorbed, experiencing flow), exploration/expression of feelings and emotions (social integration, co-creativity) transformation and new meanings, and empowerment/sense of achievement. Quantitative improvements were seen in self-esteem, quality of life, and reduced anxiety for caregivers (García-Valverde et al., 2019). Qualitatively, group therapeutic song writing generated empowerment and emotional connection (García-Valverde et al., 2021). These findings provide initial support for how engaging in CATs may benefit caregivers when they are not expected to co-facilitate the activity for their loved one.

2.6 Dance/Movement Therapy

DMT has traditionally been defined by the American Dance Therapy Association as the psychotherapeutic use of movement to promote the emotional, social, cognitive, and physical

integration of the individual (ADTA, 2022). People have used dance throughout history to cope with illness and stress (Hanna, 1995) and there is evidence of dance since the “supposed beginning of recorded time” (Gray & Fagnoli, 2022, p.1). Dance is seen to have evolved as a form of interpersonal communication which includes imitation and synchrony (Basso et al., 2021). Arriving at a concrete definition of dance is difficult (Basso et al., 2021) since dance serves a wide range of purposes within different cultural contexts. Essentially, *dance* can be described as a multifaceted and intrinsic movement form which emerges as early as infancy (Basso et al., 2021).

During the 1950s, modern dancers began to apply dance for therapeutic purposes and various streams and theoretical models of DMT have developed since then (Gray & Fagnoli, 2022). DMT is a holistic approach which can foster resilience through embodied opportunities to create, engage in coping skills, connect with others, and practice emotional regulation (Serlin, 2020; Wengrower, 2015). In Canada, the field of DMT is in its early stages, of developing certification and educational platforms. The Dance Movement Therapy Association of Canada (DMTAC) recently released the definition of DMT for Canada as a discipline in which dance is used purposefully within therapeutic relationships to support development, holistic health, and well-being. Dance is integrated safely and ethically “to communicate co-created verbal and non-verbal narratives, to address cognitive, emotional, physical, and psychosocial challenges” which “allows for new experiences of the self and the rehearsal of adaptive coping behaviours” (DMTAC, 2022 para. 1). Now, a review of outcomes associated with DMT will be given, along with preliminary studies which consider dance for caregiver well-being. The intention of this section is to outline *what* relevant outcomes for caregivers have been shown to result from DMT

interventions. Then, the following section will describe *how* DMT enacts change, by considering therapeutic mechanisms.

2.6.1 DMT Outcomes

A substantial body of research has documented the positive psychological and physiological outcomes of DMT, ranging from increased positive affect and stress management, to decreased depressive symptoms (e.g., Koch et al., 2019; Martin et al., 2018). Fundamentally, DMT is a modality which benefits mental and emotional well-being. Through bodily gestures and movements, aspects of the self can be revealed and transformed (Basso et al., 2021).

Dancing also provides opportunities for embodied cognitive appraisal, which can impact coping and stress management outcomes (Koch, 2017) and dancing to rhythmic music can elicit positive psychological states akin to flow (Csikszentmihalyi, 1996). In a meta-analysis of dance-based interventions (DBI) on mental/emotional outcomes, significant decreases in anxiety and significant increases in perceived quality of life and positive affect were found (Koch et al., 2014). In an update of this review, sensitivity analyses revealed that the type of DBI significantly moderated results. Dance interventions (adapted dance, dance-exercise) showed more increases in psycho-motor skills, whereas DMT showed more decreases in depression and anxiety, and increases in quality of life, positive mood and interpersonal skills (Koch et al., 2019).

In the context of neurodegenerative diseases, most of the research on DMT has focused on the benefits of dance for the individuals diagnosed with dementia. For example, Ho et al. (2020) completed the first randomized control trial of DMT for people living with dementia. Individuals with mild dementia were randomly assigned to one of three groups: DMT, exercise, or wait-list control. Negative mood, depression, and loneliness significantly decreased after the 12-week DMT intervention, and these effects were sustained one-year later. The exercise group

showed no significant changes on any outcome measures. Thus, it is proposed that DMT may offer a sense of social connection, emotional expression, and functional skill development which goes beyond aerobics (Ho et al., 2020).

While minimal, some pilot studies have explored dance-based interventions for people living with neurodegenerative conditions and their caregivers to attend together, yet most of these interventions were not DMT. For example, Hill et al. (2018) designed a multi-modal program with some DMT techniques in which three couples explored their strength and resilience to navigate dementia together (Hill et al., 2018). Additionally, Casey et al. (2020) examined a group movement program for couples coping with dementia, which involved cognitive stimulation, body awareness, and social engagement. Caregivers reported personal improvements in mindfulness, enjoyment of movement techniques, and social support, but also that trying to adapt for their partner was challenging (Casey et al., 2020). Additionally, a community dance class for people living with dementia and their caregivers was shown to provide psychological benefits including flow and social engagement (Petts & Urmston, 2022), based on feedback from three interviews. However, none of these dance-based programs were DMT, or designed intentionally to meet the needs (e.g., self-care) of caregivers apart from their loved one with dementia.

More recently, Fontanesi & Newman-Bluestein (2024) described the potential impacts of DMT to support caregivers and people living with Alzheimer's and other dementias. They discussed the potential for DMT to alleviate feelings of aloneness and offer emotional support for caregivers (Fontanesi & Newman-Bluestein, 2024) and suggest that future research should explore how creative-movement can contribute to resilience and emotional expression in the context of neurocognitive care. Ultimately, there is scant, if any research on dance-based

interventions in which family caregivers do not attend the activity with their partner/parent with dementia (Irons et al., 2020; Watt et al., 2024). Engaging in activities with their loved one with dementia may be conceptualized as self-care behaviour, but dementia caregivers also report needing respite and finding time to invest in their own health (Waligora et al., 2019). Taken together with the reported benefits of DMT in other populations for emotional, mental, and physical health, empirical research on whether DMT could benefit caregiver resilience is warranted. Resilience as an outcome of DMT has been explored in other populations. This research will briefly be reviewed before therapeutic mechanisms of DMT are explored.

2.6.1.2 DMT as a Resilience-Building Intervention. Broadly, DMT has been described as a “Whole Person” approach which fosters resilience by enabling individuals to transcend their situation and imagine/embody new ways to move forward (Serlin, 2020). DMT is thought to promote resilience on multiple levels simultaneously: physical (kinesthetic intelligence, non-verbal processing), psychological (practicing self-regulation, emotional expression), social (forming and sustaining attachments with the group members), and spiritual (authentic expression) (Serlin, 2020). Serlin (2012) created a creative-arts therapy toolkit for caregivers experiencing compassion fatigue. Suggested DMT techniques to foster resilience included: mobilizing body resources, mirroring movement, and exploring Laban’s structures of space, time, weight, and flow (Serlin, 2012). Props (e.g., bouncy balls, scarves) may be useful to explore the physicality of resilience and to develop capacity for adjusting to change (Serlin, 2012). Furthermore, Wengrower (2015) described how dance therapists can promote resilience factors within the session (Wengrower, 2015). Specifically within DMT, facilitators can prompt participants to identify body-places for distinct emotions such as anxiety or levels of energy, widen the movement profile to engage in coping skills (e.g., grounding), regulate and actualize

sense of being, monitor rest and arousal, and symbolically try out new ways of framing a challenging situation (Wengrower, 2015).

Empirically, DMT has been explored for promoting resilience in other adult populations including parental caregivers and individuals living with chronic pain. Aithal et al. (2020) investigated resilience enhancement in DMT for six mothers with a child on the autism spectrum in India. DMT was justified as an opportune approach for parental caregivers as it offers a space for embodied care, respite, and vitalizing movement experiences. Themes explored in DMT included: narrating personal stories, co-creation, building relationship through movement, and body rhythms (Aithal et al., 2020). Results from this pilot study indicated that therapeutic factors included peer support, kinesthetic empathy, physical engagement, and music. Specific outcomes which led to resilience included self-efficacy beliefs, cognitive adaptation, positive affect, and emotional regulation. The authors suggested that future research consider the utility of DMT for other types of caregivers (Aithal et al., 2020).

Additionally, Shim (2017) proposed a model of DMT for building resilience among individuals living with chronic pain. Through a grounded-theory, mixed-methods design, two catalysts for resilience and five DMT mechanisms were identified. The catalysts were “loosening-up” and “broaden and build.” Shim (2017) found that movement elicited a range of positive emotions including joy and hope, and a sense of playfulness which helped participants to be absorbed in the moment (Shim et al., 2017). The five mechanisms through which DMT fostered resilience were: activating self-agency, connecting to others, enhanced emotional well-being (emotional management, generating positive emotions), reframing (articulation and embodied reappraisal), and connecting to the self (mind-body integration and autobiographical integration). Furthermore, in 2022, Shim et al. published specific DMT techniques to bring about

resilience. For example, creating an embodied narrative may lead to increased sense of self-coherence and authentic movement can activate moment-by-moment awareness and decision-making skills which could lead to increased sense of mastery (Shim et al., 2022). These techniques and mechanisms will be explored for their applicability to dementia caregivers.

2.6.2 DMT Processes

As reviewed above, a substantial body of research documents positive psychological and physiological outcomes of CATs broadly and DMT specifically (e.g., Koch et al., 2019; Martin et al., 2018). Yet research on therapeutic mechanisms in CATs is just beginning to emerge (De Witte et al., 2021). In their recent scoping review of CAT mechanisms, De Witte et al. (2021) clarified that a *mechanism of change* is a theory-driven sequence of events or processes which explain how or why therapeutic change occurs (De Witte et al., 2021), whereas *mediators* statistically account for a causal relationship between X and Y variables. De Witte et al. (2021) called on researchers to more clearly articulate and test candidate mechanisms and/or mediators in intervention studies to establish evidence-based practices within the creative-arts therapies.

Various therapeutic mechanisms have been proposed throughout the history of DMT, such as Schmais (1985) who identified synchrony, expression, rhythm, vitalization, integration, cohesion, education, and symbolism as central to the healing, or therapeutic change which can occur in DMT. More recently, Koch (2017) proposed a model of embodied aesthetics with five clusters of factors within CATs: hedonism, aesthetics, symbolism, enactive transitional support, and generativity (Koch, 2017). Similarly, results from De Witte et al.'s (2021) systematic review suggest that embodiment (body-mind integration), concentration (creating something tangible), and symbolism (metaphors, self-expression) are therapeutic factors unique to the CATs, which “go beyond” the cognitive psychotherapies (De Witte et al., 2021). Notably, these therapeutic

mechanisms of DMT correspond meaningfully to the resilience factors identified for caregivers (e.g., self-efficacy, engaging in positive affective states, cognitive flexibility, meaning-making), which are important to try and bolster in an intervention setting.

In 2024, Champagne synthesized how the five factors described by Koch (2017) innately correspond to identified resilience factors for dementia caregivers. Champagne (2024) proposed how resilience could be promoted through these active factors (Koch, 2017) with specific movement activities in DMT. See *Table 1* below for a summary of this model, with DMT mechanisms listed beside the resilience factors they relate to, with example DMT techniques to bring about each of these factors. Broadly, these resilience factors cohere to two categories: well-being (positive emotions, self-efficacy) and coping (meaning-making, cognitive flexibility, perceived support or “adaptive” coping strategies).

Table 1: Comprehensive Model of Caregiver Resilience and DMT Mechanisms

Resilience Factor	DMT Therapeutic Factors	Example DMT Techniques
Positive affective states Cognitive flexibility	<i>Hedonism</i> : pleasure and play	Movement improvisation, using DMT props
Self-efficacy	<i>Aesthetics</i> : art for beauty and authenticity	Authentic movement, co-creation
Self-efficacy Cognitive flexibility	<i>Generativity</i> : art for creation, self-efficacy, leaving something behind	Embodying personal themes in movement
Meaning-making Social support Sense of mastery	<i>Meaning-making</i> : cognitive, affective, and transpersonal symbolizing	Symbolic movement: movement metaphors, mirrored movement
Creation and rehearsal of active coping behaviours	<i>Enactive Transitional Support</i> : art for test-acting in times of change	Rhythm and ritual in DMT

The first therapeutic factor described by Koch (2017) is *hedonism: pleasure and play*, which relates to how DMT can foster positive affective states which are experienced as pleasurable (Koch, 2017). Movement improvisation with DMT props can promote playfulness, cognitive flexibility, and the experience of positive emotions (e.g., joy). Champagne (2024) explained how this factor corresponds with the resilience factor of cultivating positive emotions, which is integral for dementia caregivers. Next, the factor of *aesthetics: art for beauty and authenticity* represents how DMT facilitates opportunities for participants to produce something perceived as beautiful and authentic, in turn reinforcing self-efficacy beliefs (Koch, 2017). By co-creating movement phrases and engaging in authentic movement, resilience could be fostered on an embodied level (body self-efficacy) (Fuchs & Koch, 2014). Accordingly, Koch (2017) describes how DMT enhances resilience: “look what I can do/make/create.” (p. 89). By providing caregivers with these embodied opportunities to experience their own efficacy, their resilience may be bolstered outside of the session.

Third, Koch (2017) describes the factor of *generativity: art for creation, self-efficacy, and leaving something behind*. In creating, “the person experiences their own effectiveness” (Koch, 2017, p. 89), which can lead to reinforced self-efficacy beliefs and strengthened resilience resources (Goulding et al., 2018). Movement is a powerful activator for recognizing the immanent abilities of the self (Sheets-Johnstone, 2010). For caregivers, self-efficacy has been identified as an important contributor to resilience (e.g., Tang et al., 2016), and adopting Koch’s (2017) framework of embodied aesthetics provides a relevant theoretical structure of how it could be increased (Tang et al., 2016) in a creative way.

These first three therapeutic mechanisms tap into factors related to well-being, with a focus on feeling positive affective states and feeling confident in one's own abilities. The next two therapeutic factors focus more on types of coping which can lead to resilient outcomes.

The fourth factor described by Koch (2017) is meaning-making, which is comprised of three types of symbolizing. First, *cognitive symbolizing* represents how art helps to integrate and structure life events. In movement, reframing an ongoing challenge may bring about a renewed sense of mastery (Koch, 2017). Reframing is related to the resilience factor of cognitive flexibility and meaning-making. *Affective symbolizing* has to do with the non-verbal expression of identity and emotions, leading to the feeling of "I can deal with this" (Koch, 2017), which is related to engaged coping strategies such as emotional expression. Lastly, *transpersonal symbolizing* occurs when art connects someone to something greater than themselves, such as community and/or spiritual beings/God (Koch, 2017). In DMT, movement metaphors might be created to help process internal narratives, in which embodied appraisal occurs (Martin et al., 2018). Additionally, movement dialogues can enforce feelings of being seen and supported by others (Capello, 2009; De Witte et al., 2021). These types of symbolizing intricately connect to important resilience factors identified for caregivers, such as making meaning of, or reframing ongoing challenges, and the need for caregivers to be in supportive social groups (e.g., Kim & Knight, 2018). DMT presents an opportune approach for caregivers to embody hope and personal growth, both of which have been suggested as important intervention outcomes for future research projects which adopt a strengths-based approach (e.g., Palacio et al., 2018).

Lastly, Koch (2017) describes *enactive transitional support*. When life is in flux, artistic engagement can provide an avenue to regain a sense of control. In DMT, rhythmic synchrony with other individuals and movement rituals can be catalysts of this type of support (Koch,

2017). Caregivers of a loved one with a neurodegenerative condition need to continually dynamically adapt, as the disease progresses (Bailey & Harrist, 2018; Palacio et al., 2020). Thus, DMT may provide a multifaceted space for caregivers to find respite and stability amidst ongoing change. In this sense, engagement in the DMT group could facilitate the expansion of adaptive coping behaviours, which are important for caregiver resilience (Palacio et al., 2020).

2.7 Study Rationale

The literature review above demonstrated the potential benefit for dementia caregivers to partake in strengths-based programs to meet their self-care needs. Even though the role of DMT in increasing resilience of dementia caregivers has yet to be studied directly, the core premises of DMT and benefits found in other populations suggests how it could facilitate caregiver resilience in a holistic manner. Additionally, the correspondence between mechanisms theorized to bring about positive outcomes of DMT and resilience factors for dementia caregivers (Champagne, 2024) suggests that DMT could bolster resilience in the context of dementia caregiving.

Most caregiver interventions which have been researched prioritized cognitive strategies to mitigate impacts of illness-related stress, and teaching communication skills between caregivers and their loved one (Schulz et al., 2020). Yet, these interventions lack quality and meaningful effect sizes (Schulz et al., 2020). Additionally, outcome measures have commonly been restricted to negative psychological indicators (e.g., burden), coping skills, and factors related to the person with dementia such as problem behaviours (Schulz et al., 2020).

Researchers have suggested that interventions which aim to foster resilience factors such as positive emotions and flexibility are needed (Palacio et al., 2020). While the preliminary benefits of some creative-arts therapies have been explored for caregivers (e.g., music therapy (García-Valverde et al., 2021)), DMT remains underexplored (Irons et al., 2020).

This study addresses these gaps in the caregiver literature to examine whether a novel DMT program can impact caregiver resilience factors and well-being outcomes over time. Moreover, little is known about the mechanisms of DMT which may lead to these resilience-building effects. Thus, this study, guided by a mixed-methods approach will provide an opportunity to explore the benefits of DMT for dementia caregivers and begin to examine how these effects came about, through quantitative measures of mechanisms and qualitative feedback of experience. As a *feasibility study*, this project aims to answer the question “can it work?” with the objective of assessing participant responses to the intervention (Orsmond & Cohn, 2015).

2.8 Research Approach

Drawing on the works cited above, and the comprehensive theoretical model proposed by Champagne (2024), the following four research questions were developed to investigate the impact and experience of a 6-week theory-driven DMT program on dementia caregivers’ burden, resilience, and psychological flourishing. As a feasibility study, these research questions are aligned with the main question of whether the intervention shows promise of being successful with the intended population (Orsmond & Cohn, 2015). In their article on guiding principles for feasibility studies, Orsmond & Cohn (2015) suggest exploring both if the examination of quantitative data suggests changes in key outcome variables, as well as if qualitative feedback indicates the likelihood of success. A rationale for utilizing a mixed methods approach is given here, before corresponding research questions and hypotheses are presented.

2.8.1 Why a Mixed Methods Study?

Mixed methods research is aligned with the tenet that “combining statistical trends (quantitative data) with stories and personal experiences (qualitative data)” (Creswell, 2022, p. 2) provides a better understanding than either type of data on their own. Aligned with a pragmatic

worldview, the methodology which can most fittingly answer their research question is selected (Tashakkori & Teddlie, 2003). I believe that a mixed-methods approach was most suited for this study for the following reasons.

Dementia caregiving is a multi-faceted journey, which is impacted by a plethora of factors and is in flux as symptoms progress (Palacio et al., 2020). Furthermore, resilience is a complex process-outcome, influenced by personal and social dimensions over time. By drawing on longitudinal quantitative trends (pre-post changes) as well as listening to participant voices in qualitative interviews and journals, a more thorough and comprehensive evaluation of the DMT program is possible. This research design builds on suggestions from systematic reviews of caregiver interventions which indicated a lack of longitudinal designs and attempts to explore mechanisms of change within program evaluations (e.g., Won et al., 2024).

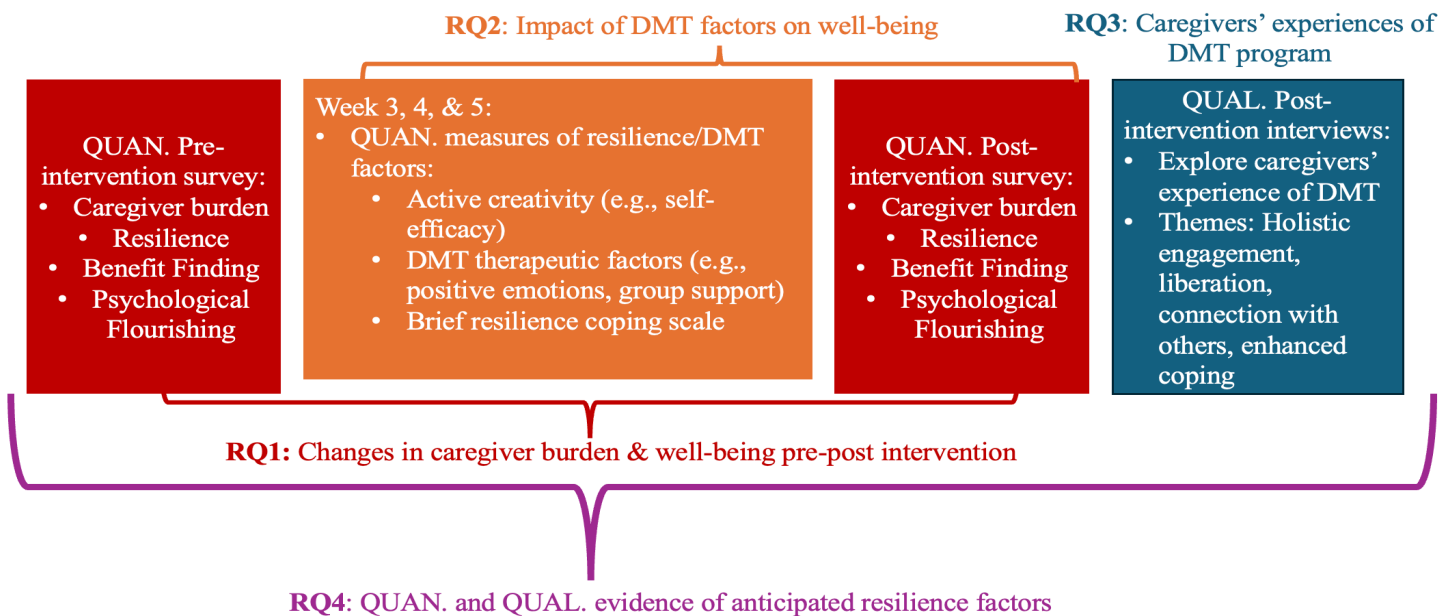
Aspiring to meaningfully capture both the impact and the experience of creative-arts therapies has been a topic of contention across the CATs. Throughout the existence of DMT, qualitative research has been abundant (Goodhill, 2006), and evidence-based quantitative research to assess DMT program benefits is getting stronger in recent years (Koch et al., 2019). However, understanding how and why these effects are observed is also of great importance. Thus, understanding the therapeutic mechanisms of DMT programs is also essential (De Witte et al., 2021). This type of research on the outcomes as well as processes of CATs for older adults is gaining traction (Dunphy et al., 2019), yet DMT studies tend to be limited by smaller sample sizes, and lack follow-up components (Dunphy et al., 2019).

Myers-Coffman et al. (2019) evaluated a theory-driven resilience songwriting program for adolescent bereavement with a mixed methods approach. In order to obtain a broader and deeper understanding of the experience and impacts of the creative arts program, they compared

and merged quantitative results (pre-post surveys) with qualitative findings (post-session journals and semi-structured interviews) (Myers-Coffman et al., 2019). Questions which guided their mixed methods analyses included: “do the quantitative results support the songwriting model?”, “do the treatment benefits map on to the factors of the songwriting model”, “do the qualitative data help clarify, explain, or illuminate the quantitative findings?”, and “what can the qualitative data tell us that the quantitative data were not able to capture?” (p. 362).

Similarly, in the present study, we sought to explore if DMT could impact caregiver well-being and coping, and if anticipated resilience factors from the comprehensive model (Champagne, 2024) were evident in the DMT process. Yet, we also sought to explore aspects of participant experiences of this novel program to understand which factors were considered integral to them. Thus, the purpose of this research was to evaluate both the impact and the experience of the DMT intervention. By utilizing a mixed methods approach, we can gather a more thorough understanding of the nature of the DMT intervention and increase what is known about DMT mechanisms within this population. Specifically, a *convergent design* was used, in which both quantitative and qualitative data is collected, analyzed, and then compared or merged (Creswell, 2022). In doing so, one can see how findings confirm a common understanding or present a divergence in results. Guided by a pragmatic worldview (Creswell & Plano Clark, 2011), the following research questions were addressed through a mixed methods approach. *Figure 1* below is a visual depiction of the research questions and related hypotheses that will be more fully described in the following sections.

Figure 1: Visual Summary of Research Questions & Data Collection Approaches



2.9 Research Questions and Hypotheses

2.9.1 Research Question 1

Dance/movement therapy has been highlighted as an approach which can enhance psychological and physiological well-being in other populations, and other types of caregivers (e.g., Martin et al., 2018; Shim, 2017; Aithal et al., 2020). Existing psychosocial interventions for dementia caregivers have considered reducing dysfunction, but positive psychological indicators must also be considered (Palacio et al., 2020). Resilience factors related to well-being (e.g., positive emotions) and coping (e.g., meaning-making) can contribute to resilience over time, as described in Champagne's (2024) comprehensive model. Caregiving burden (Bédard et al., 2001), resilience (Sinclair & Wallston, 2004), benefit finding and psychological flourishing (Diener et al., 2010) were measured pre and post-intervention, to see if DMT had a longitudinal effect on caregiver well-being. Furthermore, participants were asked to rate their own impression of if the DMT program benefitted their well-being and coping through the global impression of

change scale (Guy, 1976), which has been used to assess the benefits of other resilience-building DMT programs (Shim et al., 2017).

2.9.1.1 Hypothesis 1.

It is hypothesized that caregiving burden will significantly decrease, and benefit finding, resilience and psychological flourishing will significantly increase from pre- to post- DMT intervention.

2.9.1.2 Hypothesis 2.

It is hypothesized that participants will report a positive impression of change from their participation in the DMT program.

2.9.2 Research Question 2

Research which considers therapeutic mechanisms of DMT (how and why DMT influences outcomes) is integral to rigorous intervention design and development (Koch, 2017, De Witte et al., 2021). As such, two DMT-specific experience scales and a resilience scale were administered immediately following sessions 3, 4, and 5 to explore how the DMT experience may have impacted caregiving burden and well-being post-intervention. First, the active-creation scale measures the extent to which the creative activity elicited feelings of efficacy and cognitive flexibility (Lange et al., 2018). Second, Koch's (2016) therapeutic factors scale asks about positive emotions, aesthetics, and social support experienced in movement. These two DMT-specific scales assessed specific mechanisms which were highlighted in Champagne's (2024) theoretical model, such as self-efficacy (aesthetics), positive emotions and emotional expression in DMT. Third, the brief resilience coping scale (Sinclair & Wallston, 2004) was administered immediately following DMT. As such, this study explored whether DMT factors had a positive impact on caregiving burden and well-being post-intervention.

2.9.2.1 Hypothesis 3.

It is hypothesized that resilience immediately following DMT will be positively associated with higher resilience post-intervention.

2.9.2.2 Hypothesis 4.

It is hypothesized that when participants rate active creativity and DMT therapeutic factors more highly, that this will be positively associated with lower caregiving burden post-intervention, greater resilience and greater psychological flourishing post-intervention.

2.9.3 Research Question 3

Given the exploratory nature of this program, capturing not only quantitative changes, but also qualitative experiences are important. Thus, this study explored how dementia caregivers experienced the DMT program, by considering therapeutic mechanisms and perceived benefits (Myers-Coffman et al., 2019), and what suggestions caregivers had for future iterations of this program? This qualitative data was collected on a weekly basis, through reflective journals immediately following each DMT session. Additionally, semi-structured interviews were conducted where participants were asked to describe their experience of the intervention. This data was inductively analyzed for themes.

2.9.4 Research Question 4

To explore the extent to which the DMT program impacted caregiver well-being and coping for caregivers according to Champagne's (2024) theoretical model, the quantitative and qualitative data was merged and examined together. First, journal and interview data was deductively analyzed to see if participants reported experiencing the anticipated DMT mechanisms/resilience resources such as positive affective states and self-efficacy/aesthetics. Then, the findings from the quantitative data (assessments of well-being pre-post intervention

and weekly DMT scales) and qualitative data (journals and interviews) were merged with a joint display table (Creswell, 2022) to explore the extent to which these forms of data present divergent or convergent results. For example, were positive emotions in DMT reported in the quantitative scales and in the qualitative interviews?

“Nothing is more revealing than movement. The body says what words cannot” Martha Graham

Chapter Three

Methods

This chapter explains the design and nature of the DMT intervention, and the methods and procedures utilized to collect the data for the research study. Five sections are presented in this chapter: an overview of the objectives and activities of the DMT program, the research design, participants and setting, the quantitative data collection procedure and analysis plan, and the qualitative data collection procedure and analysis plan.

3.1 Caregiver DMT Program Facilitation Principles & Design

I facilitated the 6-week caregiver DMT program. I have completed the requirements for the ADTA’s alternate route DMT program and have been working as a DMT with older adults in a variety of contexts for approximately five years. To comply with ethical standards of practice, the proposed session themes and movement activities were discussed and approved by a board-certified dance/movement therapist (BC-DMT) prior to the beginning of the intervention. Furthermore, clinical supervision of the program was on-going throughout the intervention process with Dr. Rebekka Dieterich-Hartwell, a knowledgeable BC-DMT. These supervision sessions provided a place for me to debrief how movement activities went and discuss participants’ reactions and progress in the sessions. Photos and short video clips were taken once for each group to capture some of the process. Immediately following each session, I took detailed notes of the flow and content of the session (e.g., movements that stood out to me, which music was used) my perception of participant progress, and other aspects which may have surprised, or challenged me. By doing so, I was keeping a trail of my experience so that I could

be transparent about methods and challenges, aligned with the criteria for excellence in qualitative research of *sincerity* (Tracy, 2010).

While the three groups followed the same intervention design, with the same movement objectives and activities, I was responsive to individual and group needs for differing choices such as music for movement activities and how long each aspect was explored. Given the relational and client-centered nature of DMT, there needs to be room for therapeutic flexibility while still adhering to intervention protocols. A discussion of these tensions in the context of music therapy is provided by Rolvsjord, Gold, & Stige (2005) and was emphasized more recently in relation to a resilience songwriting program protocol (Myers-Coffman et al., 2019). Fidelity to intervention protocols is essential for dance-based programs to be rigorous enough to be replicated and built upon. However, there must be a process for in-the-moment adaptations to be recorded and reported (Barnstaple et al., 2024; Rolvsjord et al., 2005). Integral to DMT as a group form of therapy is to have a ‘here-and-now focus’ (Yalom, 2005) where the therapist carefully responds to present moment expressions of group members. Thus, the therapist’s job is not prescriptive; they must meaningfully respond to client’s revelations, spontaneous movements, inspiration, and ideas.

The DMT program was developed to target the caregiver resilience factors outlined in the model proposed by Champagne (2024). These resilience factors were proposed to be inherently linked to mechanisms of dance/movement therapy (Koch, 2017) but had not yet been applied to this population. In 2024, Champagne proposed movement activities for bringing about specific resilience factors, such as the practice of *authentic movement* (Whitehouse, 1956) to bring about self-efficacy beliefs and embodied self-efficacy (Fuchs & Koch, 2014), which is related to the DMT mechanism of aesthetics (Koch, 2017). Other DMT activities and objectives were

developed based on theoretical and work on DMT for resilience in other populations (see Serlin, 2012, 2020; Shim, 2015; Shim et al., 2022; Wengrower, 2015). How these works inspired the current intervention design will be extrapolated upon in detail below. A detailed description of the flow and structure of DMT sessions is important for program replication (Barnstaple et al., 2024) as such, what was involved and how each session was conducted will be reported here.

3.1.1 Structure and Contents of DMT sessions.

Each DMT session was 60-minutes in duration, once a week for 6 consecutive weeks. While the theme and objectives of each session was unique, a consistent structure with three core components was followed weekly: 1) verbal check-in and movement warm-up, 2) resilience-focused DMT activities, and 3) cool down and journaling. This session structure of warm-up, theme development, and closure is considered “typical” of a DMT session (Dieterich-Hartwell et al., 2022) and is consistent with other DMT programs designed to foster resilience (e.g., Shim, 2015).

3.1.1.1 Check-in and warm-up. Each week, as participants arrived at the session, there was a few minutes to discuss how they were doing that week, and if any recent events or updates had occurred with their partner or parent with dementia. Once some discussion had occurred, we made our way over to a seated circle of chairs for a movement warm-up. The circular structure provides contact and visibility on all sides, and brings about a “collective feeling” which provides a sense of belonging (Capello, 2009). These warm-ups focused on engaging the body, breathwork, and connecting with the group with responsive gestures and eye contact. Beginning with an audible sigh and encouraging breathing sounds such as “ahhh” helped to sustain and deepen breathing (Capello, 2009). Gentle music with a steady rhythm was used to start moving and breathing as a group (Dieterich-Hartwell et al., 2022). I offered movement prompts or

images such as flowing like water, or opening like the sun, to elicit kinesthetic experiences and body awareness in the present moment. These warm-ups were improvised and became more and more participant-led as the weeks progressed, such as participants initiating when/if to transition to standing or integrating movement dynamics. The typical duration of our warm-up was 5-10 minutes, with one or two songs total.

3.1.1.2 Resilience-focused DMT theme and activities. After the warm-up, I introduced the DMT activities that were pre-designed to address a particular theme of resilience factors. DMT techniques were selected for their proposed fruitfulness to support the model of resilience for caregivers (Champagne, 2024). These techniques included: embodying different sensations and movement elements, *mirroring*; a technique in which there is a dyad engages in synchronous movement interactions where movement form and qualities are reflected (Sandel et al., 1993), *authentic movement*; a technique in which a mover engages in improvisational movement while the dance/movement therapist and group act as a witness to their expressed dance (Whitehouse, 1956), and creating and performing movement narratives and poems. Each of these movement activities and their rationale will be described in more detail below. See *Table 2* for a summary of session themes, objectives, and activities.

3.1.1.3 Cool-down and journaling. To resolve the movement activities each session, we gathered back into a circle in the centre of the space, either in standing or sitting based on participant preference and ability. We engaged in group synchronous breathing, and gentle stretching. A few minutes were taken to share any verbal reflections that may have come up for participants in the movement activities which were just explored. Gestures of gratitude such as reaching out or gathering into the heart were shared between group members in a circle formation, to find an embodied way to close the session. Then, participants were given 5-10

minutes to complete a journaling page (see Appendix A) about their experience of that session.

Additionally, in weeks 3, 4, and 5, they also completed three short quantitative measures of their movement experience, which will be described below in the quantitative data methods section.

Table 2: Dance/Movement Therapy Intervention Plan

Week	Themes	Objectives	Activities
1	Introductions to DMT and the group	- Explore personal movement themes and body awareness - Emotional processing and regulation	1. Introduce self to the group with verbal and non-verbal (movement) sharing 2. Set group intentions and ground rules 3. Begin to identify body-places of emotions, explore grounding
2	Symbolic and Social Expression	- Explore relational and spiritual dimensions of resilience - Identify and expand movement repertoire	1. Learn and experience Laban's movement elements (flow, space, weight, time) in relation to caregiving themes 2. Mirroring exercise of giving and receiving with a partner
3	Physicalizing Resilience	- Mobilize body resources and create coping tools - Fostering spontaneity and play	1. Explore resilience with physical props, such as the Octaband, soft bouncy balls, scarves. 2. Improvise collaboratively to decide when/how to explore each prop
4	Appraisal and New Possibilities	- Autobiographical integration - Connecting with others, being seen	1. Create a movement narrative of one's caregiving journey. 2. Authentic movement witnessing and experiencing.
5	Empowerment and Self-Care	- Group collaboration - Attune to personal needs	1. Feeling and sensation wheel check-in 2. Co-create "I am" and "I need" dance with the group
6	Reflection and Integration	Integrate past group themes, establish sense of closure and accomplishment.	1. Group-led warm-up and movement improvisation – celebration of journey 2. Time for sharing and acknowledgement of group

3.1.2 Weekly Session Themes and Movement Activities

Now, a detailed description of what happened in each week of the intervention will be given. These descriptions summarize what occurred across the three intervention groups, as the same protocol was followed for all three groups. The detailed facilitator reflection notes I took after every session were utilized as a reference for some of these descriptive details. Consent for any photographs was obtained via written and verbal consent.

3.1.2.1 Week 1. In week 1, after participants had all come into the room and been greeted, we put name tags on to become familiar with one another. Then, we began seated in a circle by sharing our name and a brief introduction. Participants then introduced themselves verbally and non-verbally. Verbally, they each were asked to share their name, as well as why they joined this group (for example, their husband has dementia). Then non-verbally, with a movement to express how they were feeling. For example, one participant expressed that they felt “tired” (represented with a slumped chest posture) but “inspired” (represented with their hand in a fist, reaching up vertically with strong energy. The other participants in the group were encouraged to reflect back the movement to each individual as they shared.

Then, on a large chart paper, we brainstormed “group principles” which we wanted to guide the culture and atmosphere of our group as we explored personal themes through movement. The purpose of this was to begin the group with a sense of safety and common understanding. These principles were put up on the wall in each subsequent session. Principles which were common across the three groups included: confidentiality/trust, authenticity, having a non-judgemental attitude, embracing fun, and having a space for “us”. See *Table 3* below for the principles which each group generated.

Table 3: Group Principles Created across the Three Study Groups

Group 1 Principles	Group 2 Principles	Group 3 Principles
Accessibility	Accessibility	Integrity
Participant Choice	Personal choice	Trust
Safety, space	Be yourself/authenticity	Vulnerability
Non-judgemental attitude	Have fun	No judgement
Moving at your own pace	Honest expression	Here for us
Confidentiality	Permission to take time for ourselves	Confidentiality
Embracing play		Dealing with ambiguity
Laughter and fun		

We then explored a few music tracks of free movement improvisation for our warm-up. This provided a means for me to observe participants' mobility, flexibility, stamina, and preliminary movement styles. Music was a mix of softer instrumental songs (e.g., "Sevens" by Andy Monroe) and some melodic pop (e.g., "Vienna" by Billy Joel). Depending on the group, this warm-up led some participants to standing and locating all over the room with movement, whereas other groups' warm-up remained seated for the duration of this portion.

Then, we took a brief break for water and came back to our seated circle. Next, we explored a drawing activity of identifying body-places of emotion. This activity corresponds with Wengrower's (2015) suggestions of promoting resilience in DMT. Participants were provided with a template (see Appendix B) with the outline of the human body and were asked to use different colours to represent the following emotions: happy, scared, sad, angry, and then to identify where on/in the body they felt those emotions. We had a verbal debrief of this activity to share realizations which had surfaced. Some participants shared surprising insights such as that

they did not colour in or feel any emotions at all in their extremities (limbs, hands, arms), associated with a kinesthetic experience of “numbness”. Many participants shared feeling a lot of worry, fear, and sadness in the head, heart, and gut areas. One participant expressed that she tries to still connect with her husband on a heart-level, while her head feels mostly filled with anxiety and sadness. See *Table 4* below for some examples of completed drawings.

Table 4: Example Feeling Map Drawings from Participants

Example Drawing 1	Participant Example 2	Participant Example 3

Then, improvised movement based on the sensation of grounding was explored, to help participants begin recognizing their own resources of strength within their own bodies. Sensory prompts such as imagining having roots beneath the feet were utilized to provide participants with a safe place to begin their movement exploration (Capello, 2009). “Follow the Sun” by Xavier Rudd was utilized for this improvisation, as well as “Dancing Feet” by Kygo. This led into a brief discussion about how to find that embodied state of being rooted while other factors in their life feel constantly in flux. Following this, we ended in a circle with passing a gesture of gratitude around the circle, to thank each participant for being there. Participant 10 disclosed the

following in her post-session journal: “The grounding experience spoke to me the most. The grounding experience made me realize that I do have a base from which all expressions spring forth... simply freeing.” Another participant described how the grounding improvisation made her aware of something about herself and her way of coping:

I am not always good at grounding myself to the earth and seeing the value in that-
preference is to want to float away and find joy there rather than in reality... a good
challenge to understand this in myself more and look for joy here. (P4)

3.1.2.2 Week 2. In week 2, we began with a gesture disclosure check-in. Feeling states were shared by each participant, with an accompanying gesture. For example, one participant shared a swirling or scattered feeling (arms rotating quickly above the head), and that she finds it challenging to find stability as she is always adapting to her partner’s dementia. Participants resonated with this and there was an anticipation of wanting to find our centres and stability. For our movement warm-up, the instrumental version of the song “Sky Full of Stars” by Coldplay was used. In this free movement, we began in a circle but eventually transitioned to swaying movements which took us around the space. Moments of solos, duets, trios, and group movement were fluid and dynamically changing. After this warm-up, we began the first movement activity which was exploring Laban’s movement elements of time, space, weight, and flow.

On chart paper, which was put up on the wall, each of the four movement efforts with their two opposing elements: weight (strong to light), time (sudden to sustained), flow (free to bound), and space (direct to indirect) were presented and defined with a verbal discussion. We then embodied each of these efforts to a variety of music with an improvisation. I called out one of the efforts and participants improvised with that effort in their own way through movement. Parallels between movement elements and life experiences and coping (Shim, 2015) were drawn out to

help participants gain awareness of their personal movement styles and profile. For example, two participants shared that their life at home with their loved one with dementia feels bound and stuck. Accordingly, they enjoyed the sensation of freedom and “losing sense of time” with free-flowing movements and sustained time. Another participant shared how being asked to embody “indirect space” was associated with the word “wandering” for her, which conjured up triggering feelings, as her husband who has dementia had been wandering earlier today which caused her distress. Indirect space also triggered feelings of confusion and fear in the other two groups. Caregivers shared feeling the need to be “direct” to try and keep their partners on track in daily interactions. Pertaining to time, sudden and sustained, one caregiver described their experience with dementia as constantly arising sudden shifts that feel like “Ok, now this”. This led to a discussion about how they were constantly faced with adjusting and trying to cope as new challenges arise for them with their husbands.

Then, mirroring techniques were explored to give caregivers opportunities to attend to their own embodied and emotional experience which may often be neglected. Mirroring can help individuals to be seen and responded to in a tactile and palpable way (McGarry & Russo, 2011), which is related to the resilience factors of self-efficacy and social support. Having one’s movements reflected to them is a validating experience which can increase feelings of being understood, through kinesthetic empathy (Fuchs & Koch, 2014). Participants were asked to take turns being the “mover” and the “mirror” and to express gestures of giving and receiving with their partner. To the song “Stand by Me,” by Ben E. King, participants had the opportunity to improvise and be followed by their partner and then switch and follow their partner’s movements. A brief discussion of this activity revealed that participants felt acknowledged and seen by their partners, as many verbally expressed how comforting it was to see their movements

reflected back to them. Participants shared how they felt physically and emotionally connected to their dance partner, something which was a contrast to the lack of connection and isolation they felt at times with their husbands, as dementia progressed.

Notably, in the second group I partnered with Participant 4 due to an uneven number. I noticed a shift when she became the “mover,” and she seemed freer and more immersed in the movement than she had been before as I began to follow her movements. In her post-session journal of this activity, she expressed “I felt for the first time I got out of my head when Eden was following me because the lyrics of the song got to my heart.” Another participant shared how the mirroring exercise gave her a unique opportunity to follow rather than having to be the leader, as she feels in her daily life as a caregiver: “it was a release to just be the follower... I enjoyed the fluidity of the connection between us. The “receiving” where I was being the one to follow was a deep experience.” (P7). Additionally, a participant from Group 3 expressed how the movement elements and mirroring movement gave her opportunities to really “move” and to “feel”:

The freedom to move as instructed in each of the movement elements gave me the opportunity to really move! And to feel! I feel I interacted with everyone in the group.

The mirroring exercise was inspiring. I feel that I reached a place that freed up some feelings that were positive. Hopefully this will last! (P8)

These reflections emphasize how mirroring gave caregivers time to be seen and connect in a mutually responsive interaction.

3.1.2.3 Week 3. In week 3, participants were provided with a variety of DMT props and given the prompt to “choreograph the space” collaboratively through movement. The group decided in which order to explore each prop, for how long, and how to manipulate it and dance

with it. The props included squishy stress balls, large silk play scarves, small colourful mesh scarves, and an Octaband®, which is a prop designed by Donna Newman-Bluestein for group DMT, comprising brightly coloured, stretchy fabric strips attached at the centre, to encourage creative movement. These activities were designed to elicit the therapeutic mechanism of *hedonism: pleasure and play* (Koch, 2017), and corresponding resilience factors of cultivating positive emotions, playfulness, and cognitive flexibility (Champagne, 2024). During this activity, which spanned 20-35 minutes of the session, I played a variety of music from “Blame It on the Boogie” by The Jacksons, to “In the Mood” by the Glenn Miller Orchestra, and “I Hope You Dance” by Lee Ann Womack. A sense of play was present, as in one group a participant began “stealing” the small scarves from other participants, to pass them around the room. This evolved into a non-verbal game of sharing and trading. Furthermore, participants enjoyed engaging with the Octaband® and exploring their own strength, pulling as hard as they could, and twisting to hold one another up, see *Figure 2*.

Figure 2: Group One Moving with the Octaband®



Participants interacted with the props in surprising and playful ways. For example, in Group 1, they decided to tie together the small, coloured scarves into a chain or link, and move with this long scarf around the room. In Group 2, they tied the scarves into a circle which to them represented the theme of “unity”. We then took turns going inside of the scarf circle, to have a solo dance. Participants exhibited confidence and purpose with movements grounded in the beat of the song, exploring shaking their hips, legs, and arms to the music, encouraged by other group members. We then took the circle scarf around the room, weaving in and out of it with our bodies inside the scarf. In the post-session journals, one participant described the experience as “unlocking a childlike space” (P3). Similarly, another participant stated: “The experience was joint, had connection with other team members. The vibrant colours made me feel happy and made me feel like a child playing, in a tent, which I never got to experience as a child” (P2).

Others commented on how it built collaboration and elicited positive emotions: “This was the most exuberant experience I have felt for some time, the movements were freeing and exhilarating because we were choosing them ourselves and we were in control. No judgement, no rules. I give myself permission” (P10). Furthermore, Participant 5 described how engaging with playful movement provided a non-verbal pathway to releasing stress: “Movements were playful, energetic and engaged. Unlocked pent up stress and sadness without having to speak.” These reflections reveal a high level of engagement with the activity. The theme of not being judged was elaborated on by another participant who expressed “the sense of freedom with this group is, literally, the highlight of the week. Like a three-year-old, just space for oneself without any judging. A very harmonious group” (P1).

3.1.2.4 In weeks 4 and 5, two different movement narrative activities were explored.

Choreographing movement narratives provided opportunities for *symbolic expression*, which in DMT enables participants to confront a wide range of emotions in a non-verbal fashion (Capello, 2009). As Chaikin (1975) put it: “movement is an honest reflection of the self, one that cannot be hidden by words” (p. 707). Symbolism or meaning-making (Koch, 2017) is an integral therapeutic mechanism of DMT, which relates to the resilience factors of self-efficacy and cognitive flexibility. By creating movement metaphors, condensed affective symbols grounded in the body can lead to feelings of validation and reduced anxiety (Koch, 2017; Lakoff & Johnson, 1999).

In Shim’s (2015) DMT intervention for chronic pain, one movement narrative activity focused on participants using movement to express a temporal narrative of their chronic pain experience, from past, present, to future. This movement activity was adapted for caregivers in week 4, to express a caregiver identity poem through movement. It was expected that by week 4, potential anxiety about expressing one’s story in movement in the presence of the group would be lessened, due to rapport and trust with the group being built in prior sessions.

Participants were asked to explore their caregiving story, by representing their life before the diagnosis, their present moment experience, and their imagined future with movement. Participants were given approximately 10 minutes to brainstorm how they might represent each point of their story. Then, each participant took a turn expressing their caregiver identity poem with improvised movement across the diagonal of the dance space while the other participants acted as a witness to their dance. Ambient instrumental music played in the background. In doing so, both *cognitive* and *affective* symbolizing (Koch, 2017) took place, whereby through movement, caregivers had the opportunity to integrate and reframe life events, as well as express

their identity and emotions. Having one mover and the group act as the witnesses draws on principles of *Authentic movement* (Whitehouse, 1956). These elements were integrated into this to help caregivers attend to their own inner impulses and felt needs for expression in movement, fostering self-efficacy and creativity in a supportive environment.

Some participants expressed that they wanted to go first to “get it over with,” while others waited for their turn, watching the other group members express their journey. Participants took approximately one minute to three minutes to make their way across the room with their movement poem. Common themes in the “past” time point were joyful movements, a sense of business, gestures of being in love, of affection, of play. Then, there was a visceral and obvious shift when all participants transitioned to the “present” moment. For example, a contraction in the chest which led to swaying side to side in a defeated posture with heavy and bound qualities. Some participants embodied a feeling of being “stuck,” pressing and almost frantically searching out how to escape this reality they found themselves in. Other participants expressed anger or confusion with their movements in the present timepoint. How participants approached and embodied their “futures” varied greatly. For some, they approached the future timidly, unsure of what that will mean for them. For some, a clear embodied representation of loss, sadness, and grief was expressed. For others, a lightness re-emerged as they entered the future. Many participants were brought to tears during this exercise, either as they themselves moved, or as they witnessed other caregivers’ journeys. There was a very tangible honouring of each other’s stories.

Each group found closure in a slightly different way after completing this exercise. For example, coming to a circle and pressing our palms together to indicate support and togetherness. In a brief verbal discussion, some participants shared that facing the future was challenging, as

they realized the devastation that they will face as their husbands progress in their dementia. Others shared that this experience provided a direct way to access tough emotions which they were grateful they had space to process. Post-session journals from this session revealed the deep level which this activity impacted participants on and how it surfaced grief about their husbands. One participant expressed: “I needed to delve in to the pain spots and this exercise was immediate in its ability to release those points. It was also deeply honouring to be in witness by others and moving to embrace others’ journeys... the future is a release of kinds, more like emerging out from near drowning” (P5). Other participants described their own surprise at what this experience brought up for them, and how expressing their story with movement helped to clarify or process their experiences, which relates to cognitive and affective symbolizing (Koch, 2017): “The movement poem was powerful. It brought up emotions that I thought I had dealt with” (P8); “the movements seemed to clarify the fear, the uncertainty, the sadness, and as yet, the inability to process and accept the changes” (P10). Additionally, Participant 11 who had to drop out after session 4 due to a crisis with her husband expressed this:

It gave me the opportunity to express in movement what I used to experience with my loving husband. More importantly, what I am experiencing presently which I often cannot put into words. I am constantly wound up tightly for fear of breaking down.

Moreover, Participant 10 described the impact of this experience on clarifying her story and being able to move through it:

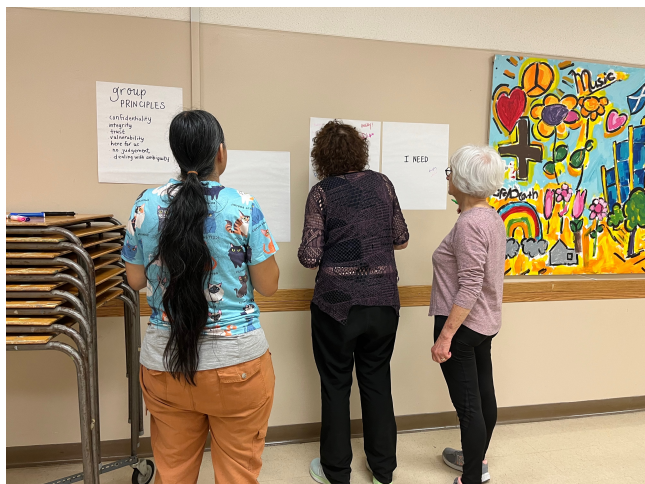
I was hesitant at first to venture into this unknown space but found the experience truly profound and freeing. I was able to clearly move from past to present to future with the shifting emotions. I wanted to be in touch with each piece of the poem so that the narrative would flow... what a magnificent, safe moment!

Together, these quotes from post-session journals emphasize the need for caregivers to have such opportunities to process and express their stories through movement, for the clarifying and cathartic impacts of this exercise.

In week 5, we started session 5 with a check-in using an emotions-sensations wheel pillow, designed by an artist and psychotherapist, Lindsay Braman. Participants took turns disclosing which emotions they felt in their present state and considered if the accompanying kinesthetic sensations with those emotions resonated for them in their bodies.

Then, after a movement warm-up, one of Shim's (2015) activities of creating a "I am" autobiographical poem through dance was adapted for caregivers. Rather than working individually, we worked as a group to choreograph a movement phrase, from a brainstorm of "I am" and "I need" statements. By brainstorming and then embodying "I am" statements, caregivers had the opportunity to recognize their own abilities (Sheets-Johnstone, 2010) and reinforce self-efficacy beliefs. The "I need" statements were added to help caregivers recognize self-care needs which may need to be attended to (Waligora et al., 2019). First, caregivers wrote stream-of-consciousness phrases or words on to chart paper with coloured markers – one with "I need" and one with "I am" written in the middle, see *Figure 3* below.

Figure 3: Collective Brainstorm of "I need" and "I am" Statements



As these charts evolved, similarities emerged between participants. Common themes for “I am” included a mix of positive and negative statements, from I am angry, guilty, frustrated, alone, worried about the future, remorseful when I get upset, and tired, to I am grateful, patient, and determined to see things through. Common “I need” statements included needing help, assistance, acceptance, more support than is available, a break, understanding, to play, to laugh, and more joy. Then, we turned these statements into a co-created gesture phrase as a group. Participants had the freedom to choose which statements to use, in what order, how to represent them with a gesture, and what music they wanted to set their movement phrase to. This phrase was then rehearsed and workshopped until each group was pleased with the story and flow of their movement poem. This co-creation process provided opportunities for the DMT therapeutic mechanisms of generativity (Koch, 2017) and fostering group feedback and validation. The finalized poems for each group which were choreographed are shared below, in *Table 5*.

Table 5: Co-created “I am” and “I need” Poems by Each Study Group

Group 1	Group 2	Group 3
“I am afraid and alone. Scared. Sad. I am a kid grown up. I need help, sweet words, assistance, a shoulder to cry on. Grateful for company.”	“I need more joy and to feel lightness I am determined to see things through, But I am worried and afraid about the future. Anxious. Tension. I am grounded and bursting with energy. I feel I should be doing more. Remorseful. I need a hug.”	“I am out of control Anger churning... escalating. I need heart company. I need understanding. Why? Ambiguity. A reprieve of hope. DROP. Drifting... I am still here. Acceptance.”

Note. Group 2 only had two participants present in week 5. Groups 1 and 3 had all participants.

A large variety of feeling states and statements were shared and expressed in these choreographies. In Group 1, part of our dance was “I need sweet words”. To embody this, the participants came up with the idea to move around the space and whisper kind statements to each other, such as “you are beautiful” or “I love your smile”. As we were choreographing the ending of their dance, one participant proposed ending with being grateful for the company we have in our group. Group 2 chose to dance to “In the Mood” by the Glenn Miller Orchestra and play with constantly changing feeling states to represent how unpredictable their journey was. Group 2 also ended their movement phrase with coming together, as photographed in *Figure 4* below.

Figure 4: Group Two’s Ending Gesture “I need a hug”



In the post-session journals, participants reported feeling that the experience was validating and made them feel connected to other group members. For example: “the movements made me feel like I was taking control and made me feel appreciated and united.” (P2); “moving with the group and going with the emotions which I believe we all share, gentleness, kindness and empathy joined with the movement” (P1); “I loved choreographing from the text and being able to express the emotions/energies through movement. Doing it TOGETHER in a group was the best... also, our issues were similar which I find supportive” (P6). Similarly, another

participant expressed that the experience “somewhat brought us in a deeper place, the sharing was very intimate” (P3).

Other participants commented on how the experience helped them to express their emotions and needs: “I appreciate the process of thinking through who I am and what I need. Dealing with the nature of hope vs. acceptance was helpful” (P9); “Our hearts spoke to each other and a beautiful piece came together. Very profound. It was able to bring out the emotions flowing through me at the moment, positive and negative” (P10); “identifying how I was feeling and putting movement to them helped to get to the anger I have” (P8).

3.1.2.5 Week 6. In week 6, the structure of the session was intentionally left more open, to leave room for participant leadership and empowerment. The intended purpose of week 6 was to give participants the opportunity to reflect on the program, integrate past themes and establish a sense of closure and accomplishment. In each group, participants were presented with small, coloured journals individualized with their name written on the front cover. We spent time writing a note of gratitude or wishes into each person’s journal, passing along in a circle. I also put up all the chart papers from the previous weeks on to the wall so there was a visual representation of all we had explored together as a group. Beyond this, some unique events occurred in each groups’ final week which are worth noting.

In Group 1, we began the session with a group-led warm-up as planned to a variety of songs. At approximately the half-way point of the session, one of the participants (Participant 1) began to look agitated as she was moving and improvising around the room. I first tried changing songs to see if perhaps the music was not aligning with her in that moment. It then became apparent that this participant was trying to manage her own grief that the group was ending, and thus, was having a hard time enjoying the group. In fear of becoming upset, this participant

chose to leave the group early. This saddened the other two group members, who empathized with what she was feeling. Later that week, I was able to debrief with this participant to ensure her well-being. After that, the two remaining participants and I explored three-way mirroring and using some of the DMT props. We ended by writing encouragement notes in small journals for each person.

In Group 2, for various reasons related to caregiving, multiple participants were away for our final session. This contributed to an overall low level of energy in the group. We warmed up and revisited movement with the Octaband, at the participants' request. We explored twisting, pulling, and grounding movements. Then, they requested some more slow and meditative movement, so we engaged in gentle breathing exercises and some mindful body scans, seated in a circle and finished with the journal notes. In Group 3, the location which we ran the sessions out of was unexpectedly closed when we showed up for our last day. Despite confirmations over email that the building would be open, it was closed, and we could not access the dance room. This was discouraging; however, we regrouped. We walked to an open park space nearby and had a mostly verbal debrief about our experiences together, some of the group objectives, and recollected on movement experiences which stood out to them.

Now that what occurred in each week of the DMT intervention has been described, the methods which were utilized to capture the impact and experiences of the program will be reported. First, the overarching research design will be explained, before the quantitative and qualitative data collection and analysis methods are shared.

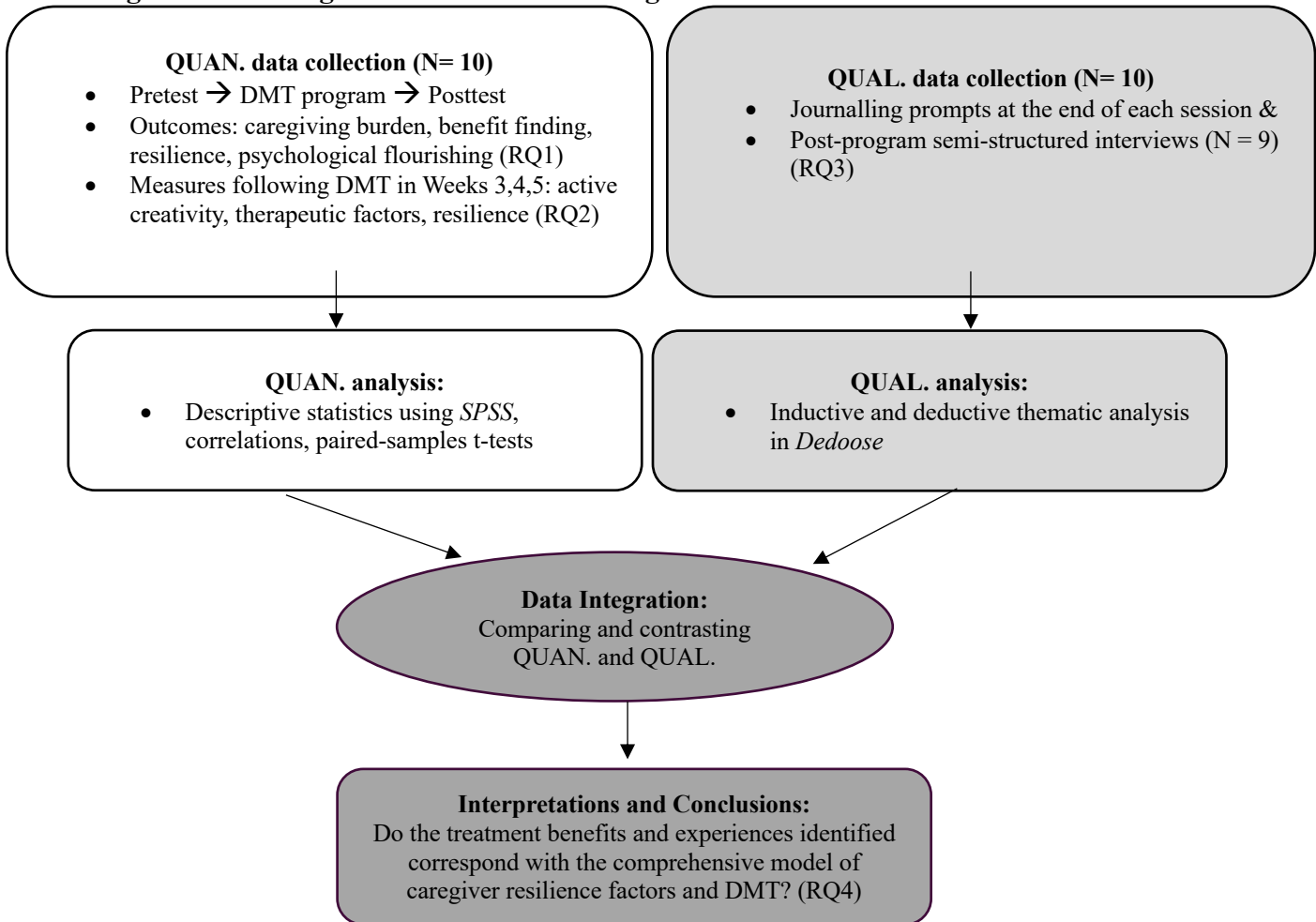
3.2 Research Design

As described in the previous chapter, a mixed methods study design enabled a more thorough exploration of the intervention benefits and experiences, than quantitative or qualitative

data could provide on their own (Cresswell, 2022). In particular, a pretest-posttest convergent mixed methods design was employed, whereby quantitative and qualitative data were collected and analyzed separately, and then integrated for comparison (Creswell, 2022). Quantitative data was collected with online surveys before and after the DMT intervention to assess changes in well-being outcomes such as caregiver burden, resilience, and psychological flourishing. Furthermore, to see the extent to which anticipated resilience factors (Champagne, 2024) were activated in the DMT sessions, quantitative measures of DMT therapeutic factors (e.g., self-efficacy, positive emotions) and active creativity (cognitive flexibility) were distributed immediately following DMT sessions 3, 4, and 5 along with a resilience measure.

Qualitatively, participants responded to journal prompts at the end of each DMT session to reflect on their experiences of the resilience-building DMT activities, and semi-structured interviews were conducted to provide more detailed feedback about participant experiences of the intervention. By analyzing this qualitative data, we could explore if evidence of anticipated resilience factors (e.g., engaging in positive emotions) was present through participants' reported experiences of DMT. The quantitative data and qualitative data were then merged to come to a more thorough understanding of whether the intervention brought about the intended resilience processes and outcomes, see *Figure 5* below. This mixed methods design is consistent with other studies (e.g., Myers-Coffman et al., 2019) which investigated a theory-driven creative-arts therapy program for resilience.

Figure 5: Convergent Mixed Methods Design



3.3 Participants & Setting

Ten participants completed the DMT program across three groups all at the same location, St. Andrews United Church in downtown Toronto. Running three separate groups accommodated different times of day that different caregivers were able to leave their loved one, based on prior care or day program arrangements. The study location was very accessible by public transit and was chosen based on participant suggestions. This location was familiar to some of the participants as it is utilized for Alzheimer Society of Toronto programs which they had attended previously. The dance space was a large, neutral room, with mostly plain walls, and stacked chairs and tables. Each week, large chart paper was put up on to the wall with that

session's theme or for space for an activity. Coloured markers, scarves, and other props were provided by the facilitator to add colour and texture to the kinesthetic experience of the space. Weekly journals were completed within unique duotangs for each participant and cold water was also provided each week.

Eligible participants were either the spouse/partner or adult child of a loved one with dementia and had to be able to respond to survey measures in English. Due to this being an exploratory study, we aimed to recruit approximately 40 participants to run four DMT groups with ten participants in each group. This proposed sample size was based on a G*power analysis which suggested that 34 participants would be enough power to test repeated measures changes pre-post with power of .80 and a p value of .05 to detect a medium effect size ($d = .05$). However, due to recruitment challenges, we stopped after 12 participants were enrolled.

The three DMT groups that were run had three, six, and three participants to begin with. One participant from the second group only attended two sessions and thus was omitted from all analyses and one additional participant from the second group had to drop out of the study after the fourth DMT session, due to an unexpected crisis with the person they were caring for. As such, 10 participants completed the DMT program and the posttest survey. These 10 were included for quantitative analyses. Nine of these participants also took part in a qualitative interview, and so the thematic results about DMT experiences pertain to these 9 caregivers.

The three groups which were run all fall within an acceptable group size for CAT interventions. Five to ten participants is a common group size for CATs and has the benefit of being small enough for the therapist to engage with each participant, and for a variety of participant experiences to be shared (e.g., Aithal et al., 2020; Koch et al., 2007). Creative-arts

interventions vary in their number of sessions, but a six session programme is common among dementia caregivers (e.g., Baker et al., 2018; Davidson & Almeida, 2014).

3.3.1 Recruitment

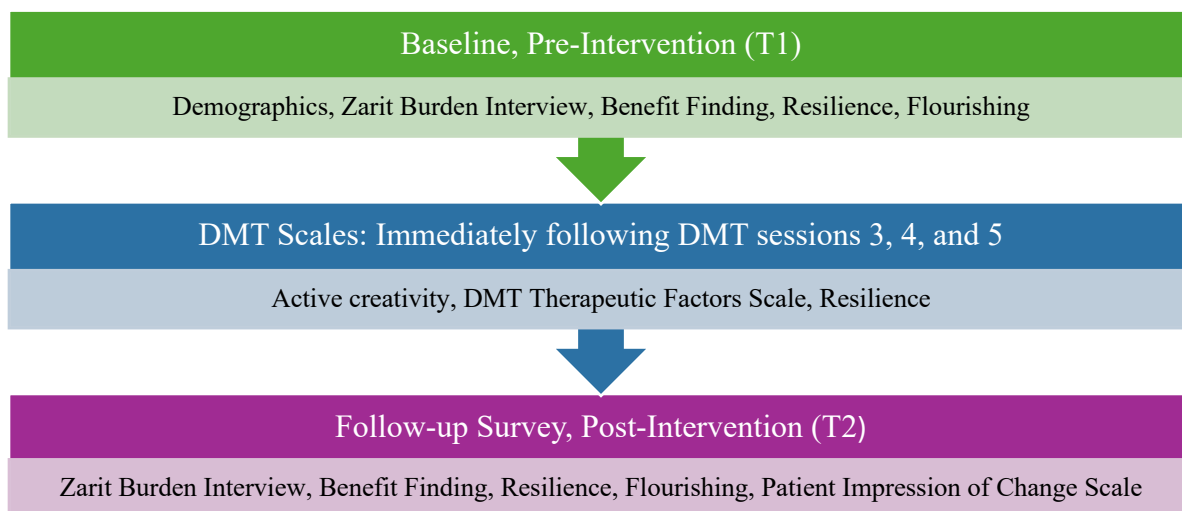
Caregivers were recruited through email communications to two community organizations which offer arts-based programming for people living with dementia and their caregivers in the Greater Toronto Area: The Alzheimer's Society of Toronto and The Bitove Method. Recruitment posters were sent out electronically for these organizations to share. Program leads personally contacted caregivers who they thought might be interested in attending a group with other caregivers. If a caregiver was interested, they were then directed to contact the student investigator for information about signing up for the DMT program. Information about the study was also posted on the online Alzheimer's Society of Canada [research portal](#), under "studies for caregivers". Once eligibility was confirmed via email, the student investigator sent the interested participant an information-consent letter, which explained the modality of DMT, possible risks and benefits of the intervention, and what they could expect with the program (see Appendix C). Then, based on participant availability and preferences, the time and day of the week for the six sessions was organized. The sessions took place once a week, for 1-hour, for six consecutive weeks. Protocols for recruitment, participant communication, and data collection were all approved by the REB, ethics #45926.

3.4 Quantitative Data Collection Procedure and Analysis

Once the dates for the 6-week program were confirmed, participants were sent a baseline quantitative survey, to complete within one week of the first DMT session. Given the potential for caregivers to drop out of research studies if evaluation components are perceived as burdensome, (e.g. Casey et al., 2019) an effort was made to use a minimal number of predictor

and outcome variables. The baseline survey took approximately ten to fifteen minutes to complete. Upon completing the baseline survey, participants were entered to win a \$15 Tim Horton's gift card, with a 1 in 4 chance of winning. Participants then attended the 6-week DMT program. Following the last session, they had one week to fill out the posttest follow-up survey. Once completed, participants were entered to win another \$15 Tim Horton's gift card, with a 1 in 4 chance of winning. For an overview of this procedure, see *Figure 6*.

Figure 6: Flow Diagram of Quantitative Data Measurement Points and Scales



3.4.1 Survey Instrument

The surveys were designed and sent to participants through an individual link from *Qualtrics* platform. The baseline survey included a 15-minute structured questionnaire designed specifically for this study based on variables of interest, as identified in the literature review. In addition to demographic variables, we assessed caregiving burden, benefit finding, resilient coping, and psychological flourishing. The survey for time two included the same measures of caregiving burden, benefit finding, resilient coping, and psychological flourishing, while the demographic-related questions were removed because of little variation from baseline. One additional measure was added for the follow-up survey, to assess caregivers' impression of

change since their participation in the DMT program and why. The complete survey package is provided in Appendix D.

3.4.1.1 Demographic Variables. To gather a thorough understanding of participants' characteristics, participants self-reported the following: their age in years, their sex, their ethnicity/race, their current occupation, and their highest level of completed education. Then, to understand the nature of the caregiving relationship, they were asked if they cared for a parent or romantic partner/spouse and if for a romantic partner, they were asked how long they had been in their relationship, what neurodegenerative condition their loved one was diagnosed with (Alzheimer's disease, other dementia, Parkinson's etc.), if they lived with the individual diagnosed with the condition, approximately how long they had been caring for this individual in years, and how many hours on average per day they provided care to this individual. They were also asked to describe what (if any) formalized healthcare services they were currently using to support their care of their loved one (e.g., personal support worker). Then, participants were asked to describe if they attended any leisure activity or programs with their loved one, and if they attended any leisure activity or engagement programs for their own respite or benefit.

3.4.1.2 Operationalization of Caregiving Burden. Perceived caregiving burden at baseline and follow-up was measured with the Zarit Burden Interview short-version (Bédard et al., 2001). This 12-item scale which measures burden and perceptions of social, health, financial, and emotional distress has been widely applied among caregivers with good internal reliability ratings among dementia caregivers in previous studies (Sadavoy et al., 2022), $\alpha = .88$. An example item is "do you feel stressed between caring for your relative and trying to meet other responsibilities?", T1 $\alpha = .53$; T2 $\alpha = .74$.

3.4.1.3 Operationalization of Resilience. For this study, the outcome of resilience was measured with the brief resilient coping scale (BRCS) (Sinclair & Wallston, 2004). This scale measures an active, resilient, coping pattern (Sinclair & Wallston, 2004, $\alpha = .69$) which aligns with the conceptualization of resilience as a process-outcome (Zhou et al., 2021). The BRCS has been used among adults (Mayordomo et al., 2016) and dementia caregivers (Jones et al., 2019). This four-item scale asks participants to rate the extent to which they agree with certain statements, including “I look for creative ways to alter difficult situations” and “I actively look for ways to replace the losses I encounter in life”, T1 $\alpha=.79$; T2 $\alpha=.05$. The BRCS was administered at baseline, follow-up, and immediately following DMT sessions 3, 4 and 5. Resilience was also measured with the response to stressful experiences scale (RSES) (Johnson et al., 2011), however this instrument was omitted due to a lack of variability within responses.

3.4.1.4 Operationalization of Psychological Flourishing. To assess a positive psychological indicator, Diener et al.’s eight-item flourishing scale was administered (Diener et al., 2010, $\alpha = .87$) which asks about perceived growth and meaning in life. An example item is “I lead a purposeful and meaningful life,” T1 $\alpha = .83$; T2 $\alpha = .88$.

3.4.1.5 Operationalization of Benefit Finding. To measure the extent to which caring for a relative with a neurodegenerative condition provides opportunities for perceived growth and meaning, Kim et al.’s (2007) benefit finding scale was administered, which has been adapted for caregivers and performed well in preliminary samples of caregivers, $\alpha = .95$ (Kim et al., 2007). This 17-item scale asks caregivers to rate the extent to which caring for their relative has provided them with experiences such as “contributed to my overall emotional and spiritual growth”, T1 $\alpha=.70$; T2 $\alpha=.76$.

3.4.1.6 Operationalization of Impression of Change. To assess participants' perception of DMT intervention's effectiveness, the Patient Impression of Change scale (PGIC) was administered at T2 (Guy, 1976). This scale has been used to assess DMT interventions before (Shim, 2015). The PGIC is a self-report, single item which asks participants to respond to: "since beginning participation in the dance/movement therapy program, how would you describe the change (if any) in activity limitations, symptoms, emotions, and overall quality of life, related to your caregiving condition?" on a 7-point scale of 1 = no change, to 7 = a great deal better.

3.4.1.7 Operationalization of DMT Factors. The following two scales were administered in weeks 3, 4 and 5, immediately following a DMT session as a part of post-session journaling to capture immediate experience data along with the BRCS (described above). These scales provide a quantitative assessment of the degree to which anticipated therapeutic mechanisms and associated resilience factors were activated, according to Champagne (2024).

First, the experience of creation scale (ECS) (Lange et al., 2018) was administered. This four-item scale is relatively new but has shown good internal consistency in initial studies ($\alpha = .95$). Active creation is conceptually related to cognitive flexibility and self-efficacy which are important resilience factors associated with positive affect states and coping (Lange et al., 2018). Participants were asked to rate how strongly they felt "empowered," "free to decide," "effective/that I have impact," and "creative" in their current state, from 1 = not at all, to 5 = exactly true. Second, to explore DMT therapeutic mechanisms more broadly, Koch et al.'s (2016) scale for therapeutic factors of arts therapies (found in Appendix C of supplementary material) was utilized. This 8-item scale (Koch et al., 2016) was created to assess proposed therapeutic mechanisms of DMT which have been described here, including self-efficacy, emotional expression (meaning-making/ symbolism), and experiencing positive affective states.

Participants were asked to think back on the past hour of movement and consider statements such as “how much pleasure/joy did you experience?”, “how well could you express your feelings?”, and “how close was your experienced connection between body and mind?” from 1 = not at all, to 10 = very much. See *Table 6* below for a summary of how these scales measure the anticipated resilience factors (Champagne, 2024).

Table 6: Resilience/DMT Factors with Quantitative Measures Utilized

Resilience Factor	DMT Therapeutic Factors	Example scale items from Koch et al. (2016) and Lange et al. (2018)
Positive affective states Cognitive flexibility	<i>Hedonism</i> : pleasure and play	How much pleasure/joy did you experience? How happy were you?
Self-efficacy	<i>Aesthetics</i> : art for beauty and authenticity	Momentarily I feel effective/that I have impact How well could you express your feelings? How close was your experienced connection between body and mind?
Self-efficacy Cognitive flexibility	<i>Generativity</i> : art for creation, self-efficacy, leaving something behind	Momentarily I feel creative. Momentarily I feel empowered. Momentarily I feel free to decide.
Meaning-making Social Support Sense of Mastery	<i>Meaning-making</i> : cognitive, affective, and transpersonal symbolizing	How well could you express your feelings? How strongly did you experience unison with your partner/the group?
Creation and rehearsal of active coping behaviours	<i>Enactive Transitional Support</i> : art for test-acting in times of change	Momentarily I feel creative. How strongly did you experience unison with your partner/the group?

3.4.2 Quantitative Data Analysis

The data from both the baseline and follow-up surveys were exported from *Qualtrics* to an Excel file and then imported into SPSS. Once imported, we ensured that participant IDs were

correctly exported, so that participant data from Time 1 (baseline) to Time 2 (follow-up) would be linked, to consider changes over time. The 2 participants who only completed the baseline survey, but had to drop out of the study were removed from the data set at this time.

First, the descriptive statistics of demographic indicators and key study variables were calculated, including mean and standard deviation of well-being outcomes and DMT factors scales. Then, we calculated the reliability of the scales utilized by obtaining a Cronbach's alpha (α) at baseline and follow-up for caregiving burden, resilience, benefit finding, and psychological flourishing. Next, correlations and repeated measures t-tests were then conducted to enable us to answer *Research Question 1*: if DMT had a longitudinal effect on caregiving burden and resilience. To explore *Research Question 2*, if DMT therapeutic factors had an impact on psychological indicators post-intervention, the two DMT experience scales which were administered in weeks 3, 4, and 5 were also imported into SPSS. We calculated correlations between these DMT factors and psychological indicators at follow-up.

3.5 Qualitative Data Collection Procedure and Analysis

3.5.1 Post-session Journaling

Immediately following each DMT session in weeks 1-5, participants filled out a creative-movement journal, to process their experience of the session (see Appendix A). The journaling page was distributed to each participant along with the additional quantitative scales in weeks 3, 4, and 5. The journaling prompt was: "Which movement activity or experience was the most inspiring and/or impactful for you today, and why?" Participants were asked to a) describe *what* movement experience was most inspiring and/or impactful for them: what did they do, who did they interact with, what were their movements like? and b) to explain: *why* the movement

experience was inspiring and/or impactful for them. Capturing immediate-experience data is consistent with other CAT program studies (e.g., Myers-Coffman et al., 2019; Shim, 2015).

3.5.2 Semi-Structured Interviews

Following the last DMT session, all participants were invited verbally and over email to take part in a virtual debrief interview, to gather feedback about their experience of the program. Of the 10 participants who completed the intervention, 9 participated in interviews. All 9 of these women were caring for a loved one with dementia. Every participant who was interviewed had attended at least five out of the six DMT sessions. The interviews took place over *Zoom*, and participants were sent an individualized meeting link. The interviews were audio and video recorded, which all participants consented to. The interviews were on average 46 minutes long, with the shortest interview being 41 minutes, and the longest being 53 minutes long.

The semi-structured interview had three main questions, each with follow-up prompts. The first question was: “tell me about yourself and your experience of the creative-movement intervention”. Follow-up prompts included asking about if any aspects of the program surprised them, if/how they noticed the sessions affected their well-being, and if their expectations were met. The second question was: “what did the process look like for you to begin to engage with others through dance/movement?”. Follow-up prompts included asking about some of the DMT therapeutic mechanisms such as if they experienced play, authenticity, or synchrony. Participants also had the opportunity to share if any negative or unwanted emotions came up for them while processing through movement. The final question was: “what was your overall level of satisfaction with the DMT program?”. This question was followed up with prompts about feasibility, program accessibility, and asking what they recommend could be changed if this

program was to continue or be run again. To see the full interview guide, see Appendix E. Following this interview, participants were sent an appreciation letter (see Appendix F).

3.5.3 Qualitative Data Analysis

The semi-structured interviews were recorded with *Zoom* and transcribed verbatim with Otter.ai. Transcripts were then manually checked line-by-line to ensure accuracy. Following Braun and Clarke's (2006) steps, journal entries and transcribed data were imported into *Dedoose* software. The data was analyzed with a hybrid inductive/deductive approach to thematic analysis (Proudfoot, 2023), which is seen as facilitative of a "truly integrative approach to mixed methods research" (Proudfoot, 2023, p. 322). "Top-down" or *deductive*, thematic analysis is driven by a priori theoretical frameworks or research questions (Braun & Clarke, 2006), whereas *inductive* analyses are flexible to search for patterns across the data with a bottom-up approach. I used an inductive approach to coding for experience-oriented questions aimed at understanding caregivers' experiences and perceived benefits of the DMT program (*Research Question 3*). This type of open coding allowed for participant voices to come through with what was important to them. Attention was paid to Lincoln & Guba's (1985) criteria for establishing *trustworthiness* in qualitative research at each of these stages of analysis: credibility, transferability, dependability, and confirmability.

For the inductive analysis, I first became familiar with the data (Braun & Clarke, 2006) by reading and re-reading all the interview transcripts and weekly journals. To establish trustworthiness, I engaged with the data through re-reading, as well as re-listening to each of the interviews multiple times across all participants before beginning any coding. I also kept notes of my reflections of what stood out to me and potential themes as I saw concepts or topics brought

up frequently (Nowell et al., 2017). These practices, such as prolonged engagement with the data, relate to the credibility of the research (Lincoln & Guba, 1985).

Then, I began to assign initial codes to selected quotations from participants. *Dedoose* software enabled me to select segments of quotes and attach codes and memos to them. These codes were then grouped into themes (Braun & Clarke, 2006) which were refined through considering which ones were inherently linked together conceptually. I also had feedback from a DMT clinical supervisor to help sort codes into themes. This peer debriefing along with keeping a trail of themes which were collapsed or changed helps to establish trustworthiness in the criteria of dependability (Lincoln & Guba, 1985). Simultaneously, I engaged in brainstorming and creating different diagrams in order to make sense of theme connections (Nowell et al., 2017). I frequently returned to the raw data to see if I could find more pertinent examples of themes as they were being established, or if I had missed significant pieces of information which diverged or presented a different interpretation of the data. These techniques established referential adequacy and credibility (Lincoln & Guba, 1985). A separate open coding was conducted for their suggestions and feedback for future iterations of the program.

Then, I utilized deductive coding to explore the degree to which aspects of experience mentioned by caregivers supported the theoretical model of resilience factors/DMT therapeutic factors as proposed by Champagne (2024) (*Research Question 4*). I coded for the following: cultivating positive emotions/ hedonism: pleasure and play (Koch, 2017), self-efficacy/ aesthetics, generativity, cognitive flexibility/ reframing, meaning-making: cognitive, affective, and transpersonal symbolism (Koch, 2017), and enactive transitional support (Koch, 2017). In order to compile the report, with the findings of both the inductive and deductive analyses,

further peer debriefing took place, and thick descriptions of context helped to come to a consensus on theme names and relationships, to establish transferability (Nowell et al., 2017).

3.5.4 Mixed-Methods Synthesis

In alignment with the tenets of a convergent mixed-methods design (Creswell, 2022), the analyzed QUAN. and QUAL. data were then compared or merged. In doing so, one can see how findings confirm a common understanding or present a divergence in results. *A joint display* table was created which compares the qualitative and quantitative results on one theme or outcome variable (Creswell, 2022) including the outcomes of caregiving burden and resilience, specific resilience factors and DMT therapeutic mechanisms.

“From the mud of adversity grows the lotus of joy.” Carolyn Marsden

Chapter Four

Results

This chapter reports the complete procedure of quantitative data analysis at baseline and follow up, the quantitative data from DMT sessions and the qualitative thematic analysis of journals and semi-structured interview data. The findings are organized as follows: first, the quantitative results will be reported, including demographics and descriptive statistics of caregiving burden, resilience, benefit finding, and psychological flourishing pre- and post-intervention and DMT therapeutic factors from weekly measures. Results from bivariate analyses (i.e., correlation, repeated-measures t-tests) will then be reported, to show the relationship between the variables of the study and how participants’ burden and well-being changed from pre- to post-intervention. Third, the qualitative themes of caregiving experiences and experiences of the DMT program which were derived from journals and semi-structured interviews will be shared. Last, the QUAN. and QUAL. data will be integrated (Creswell, 2022) to explore the evidence of anticipated resilience factors, according to Champagne’s (2024) model.

Quantitative Analysis and Results

4.1 Descriptive Analyses

4.1.1. Demographics of Sample

The ten participants who completed the post-test survey were included for quantitative analyses. Results indicate that participants were mainly dementia caregivers with an average age of 67 years, see *Table 7*. The youngest participant was 44, and the oldest was 84 years of age. The majority (80%) of caregivers were spousal caregivers, and the remaining 20% lived with and took care of a parent with dementia. On average, spousal caregivers had been in a relationship

with their partner for 31 years, with a standard deviation of 16.32. The longest relationship duration was 58 years, and the shortest was 8 years. All participants in present study identified as female. Nearly all (70%) participants identified as Caucasian, with the remaining participants identifying as Italian, Japanese, and Mixed Race.

Table 7: Participants' Demographic Profile

Variables	<i>M</i> /Percentage	<i>SD</i>	n
Age	67.8	12.15	10
Gender			
Female	100	---	10
Male	0	---	
Other	---	---	
Caregiver Type			
Spouse/partner	80	---	10
Adult child	20	---	
Diagnosis of loved one			
Alzheimer's	70	---	10
Dementia: other type	20	---	
Parkinson's disease	10	---	
Ethnicity/Race			
Caucasian/White	70	---	10
Japanese	10	---	
Italian	10	---	
Mixed Race	10	---	

Note. *M* = Mean, *SD* = Standard Deviation, n = Number of Respondents

All these women were caring for an individual with dementia, except for one whose husband had Parkinson's disease. Specifically, 70% of the sample had a loved one with an Alzheimer's disease diagnosis and 20% had a more specific diagnosis: one with vascular dementia and the other with corticobasal degeneration. Twenty percent of participants reported that they had been caring for their loved one for 1-2 years, 50% for 3-6 years, 30% for 7+ years. 50% of participants reported spending 7+ hours per day providing care to their loved one, 30%

spend 5-6 hours per day, and 20% spend 1-4 hours per day. When asked what (if any) formalized healthcare services they utilize to support their care of their loved one, 50% reported using no formalized services, but that they have either chosen to step away from their career to take care of their spouse or that they were presently looking into obtaining formalized help such as PSWs for specific care tasks. Fifty percent of the participants reported already having some assistance from a PSW from homecare services and/or privately hired PSW; 20% had PSW help daily (e.g., 1-2 hours per day); and 30% had help from a PSW for a few hours per week.

Attending Alzheimer's Society of Toronto programs such as Minds in Motion and music groups with their partner/parent was mentioned by 70% of participants. In response to if they attend leisure or activities for their own respite, 4 said "no" and 6 said "yes". Of those who said yes, the reported activities and their frequency included playing bridge once a week, meeting with friends once a month, Tai Chi once a week, 40 minutes to 1 hour of physical activity at the gym once a month, and a music course once a week. Caregivers explained that these activities occurred when their loved one was at a day program, and that they used to be more frequent but are getting harder to attend due to their caring responsibilities. One other caregiver shared that she takes her young children to programs when her father with dementia has his afternoon nap.

4.1.2 Participant Well-being Pre- and Post-Intervention

On average, caregivers reported a high degree of caregiving burden at baseline, which lowered on average post-intervention. A moderate amount of benefit finding was reported at baseline, which slightly increased post-intervention. On average, caregivers were moderately resilient at baseline, and this increased slightly at follow-up. Lastly, psychological flourishing at baseline was reported as quite high on average and remained constant at follow-up.

Table 8: Participants' Well-being Pre- and Post-Intervention

Variable	<i>M</i>	<i>SD</i>	n
Caregiving Burden (T1)	4.35	0.47	10
Caregiving Burden (T2)	4.17	0.53	
Benefit Finding (T1)	3.89	0.38	10
Benefit Finding (T2)	4.03	0.31	
Resilience (T1)	3.65	0.71	10
Resilience (T2)	3.78	0.51	
Flourishing (T1)	5.00	0.84	10
Flourishing (T2)	4.99	0.97	

Note. *M* = Mean, *SD* = Standard Deviation, *n* = Number of Respondents, Caregiving Burden, Benefit Finding, and Resilience were on a scale from 1 to 5, where 5 represents the maximum. Psychological flourishing was on a scale from 1 to 6, where 6 represents the maximum.

4.1.3 DMT Factors Scores

Immediately following weeks 3, 4, and 5 of the intervention, participants responded to Lange et al.'s (2018) active creativity scale, Koch et al.'s (2016) therapeutic factors scale, and the brief resilient coping scale (Sinclair & Wallston, 2004). The scores on these measures from week 4 will be utilized in correlation analyses below, since all 10 participants were present that week.

Table 9: Active Creativity in DMT

Active Creativity Scale Item	Week 3		Week 4		Week 5	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>Momentarily I feel...</i>						
“Empowered”	4.50	0.76	4.30	0.82	4.50	0.53
“Free to decide”	4.63	0.74	3.90	1.29	4.75	0.46
“Effective/that I have impact”	4.13	0.64	3.90	0.88	4.13	0.83
“Creative”	4.38	0.74	4.50	0.67	4.63	0.52

Note. *M* = Mean, *SD* = Standard Deviation, Responses were on a scale from 1 to 5, where 1 represents “not at all” to 5 which represents “exactly true.” In week 3, *N* = 8, in week 4, *N* = 10, in week 5, *N* = 8

Overall, participants rated their experiences of feeling empowered, free to decide, effective, and creative quite highly across the weeks of the DMT intervention (Table 9). In week 3, The highest scoring item on average was feeling “free to decide,” which far surpasses the midpoint of the scale. The other scale items were also all above the midpoint of the scale, indicating that the DMT session activities such as collaboratively improvising with props elicited high levels of creative engagement which was experienced as empowering and associated with feelings of effectiveness. In week 4, the scores were lower than in week 3. This is not surprising, given the more negatively valenced emotions which surfaced in the identity poem activity. Despite processing challenging events, participants still reported feeling quite empowered and creative. Their scores on “free to decide” and “effective/that I have impact” were marginally lower than in week 3, but still past the midpoint of the scales for each item. In week 5, participants reported feeling a particularly high degree of being free to decide and creative. Feeling empowered and effective were also above the midpoint of the scales, with low variability among participants, indicative of a high degree of creativity while immersed in DMT.

In response to the therapeutic factors in DMT scale, in week 3, participants reported feeling a very high sense of joy and pleasure (see *Table 10*). The other highest scores in week 3 were for items about experiencing happiness, beauty, and experiencing unison with the group. In week 4, scores on feeling happy, joy/pleasure, and fluency of movements were lower than in week 3, but still higher than the midpoint of the scale. There was also notably more variability in these scores, with some participants rating their happiness as low as a 2, yet still rating beauty experienced as a 10. These results suggest that there can be a co-existence of beauty with a lack of negative emotions, as well as feeling authentic and feeling a lack of pleasure. Furthermore, these findings are consistent with the difficult emotions which were processed in the activity and

the presence of directly aggressive or bound movements which were common to represent personal stories. These findings indicate that within DMT, participants were able to process and experience both positive and challenging emotions. In week 5, all therapeutic factors scores fell above the midpoint of the scale, with participants reporting the highest degree of being able to express their feelings, experiencing pleasure/joy, and degree of synchrony and unison with the group across all three weeks of measurement. These scores reflect that DMT provided opportunities for expression in a supportive group setting.

Table 10: Therapeutic Factors in DMT

DMT Therapeutic Factors Scale Item	Week 3		Week 4		Week 5	
<i>When you think back on the past hour of movement...</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
How happy were you?	8.62	1.50	6.10	2.13	7.63	2.67
How much beauty did you experience?	8.62	1.30	8.70	1.42	8.88	1.36
How much pleasure/joy did you experience?	9.0	1.20	7.60	2.41	9.00	1.20
How well could you express your feelings?	8.38	1.20	8.80	1.55	9.13	1.73
How fluently could you verbally express yourself?	7.75	2.55	7.80	1.50	8.25	1.98
How fluent were your movements?	8.38	2.00	7.90	2.23	7.25	1.83
How close was your experienced connection between body and mind?	8.14	1.86	8.10	2.33	8.00	2.20
How strongly did you experience unison with your partner/the group?	8.63	0.92	8.60	1.17	9.13	1.72

Note. *M* = Mean, *SD* = Standard Deviation, Responses were on a scale from 1 to 10, where 1 represents not at all, to 10 which represents very much. In week 3, N = 8, in week 4, N = 10, in week 5, N = 8

In response to the Brief Resilient Coping Scale (Sinclair & Wallston, 2004), the overall mean following the fourth DMT session was 3.60, with a standard deviation of 0.64 out of a

maximum of 5, where 5 represents a higher agreement with statements such as “I believe I can grow in positive ways by dealing with difficult situations”.

4.2. Bivariate Analyses

4.2.1 Correlation Analyses

To explore *Research Question 1* and 2, Pearson correlation analysis was employed to determine the relationships between key variables. First, the relationships between caregiving burden, benefit finding, resilience, and flourishing at baseline and follow-up were considered (Table 11). Then, the relationships between dance-specific variables from week four with outcomes at follow-up were examined (Table 12). DMT measures from week 4 were utilized as all 10 participants who completed the baseline and follow-up survey were present for that session. Results show expected patterns of caregiving burden being negatively associated with benefit finding, resilience and flourishing. Furthermore, results indicate that experiencing more DMT factors is related to less caregiving burden and greater resilience at T2.

Caregiving burden at baseline is negatively related to benefit finding at baseline ($r = -0.26$; Table 11), resilience at baseline ($r = -0.39$), and flourishing at baseline ($r = -0.32$). While these correlations are not significant, they are in the direction that we would expect, based on previous research (e.g., Heo, 2014). Benefit finding at baseline was positively related to resilience at baseline ($r = 0.43$) as expected, but not significantly. More resilience at baseline was associated with less caregiving burden at follow-up ($r = -0.50$). More caregiving burden at baseline was related to less benefit finding ($r = -0.21$), lower resilience ($r = -0.35$), and lower flourishing at follow-up ($r = -0.31$). In contrast, when caregivers reported more benefit finding at baseline, this was positively associated with resilience at follow-up ($r = 0.39$) but not significantly.

Table 11: Correlation Matrix of Caregiver Burden and Well-being at T1 and T2

Variables								
	1	2	3	4	5	6	7	8
1. Burden T1	1							
2. Benefit Finding T1	-.26	1						
3. Resilience T1	-.39	0.43	1					
4. Flourishing T1	-.32	-.18	-.02	1				
5. Burden T2	.90*	-.25	-.50	-.31	1			
6. Benefit Finding T2	-.21	.45	-.15	.40	-.02	1		
7. Resilience T2	-.35	.39	.49	.32	-.55	.44	1	
8. Flourishing T2	-.31	.01	-.07	.75*	-.40	.54	.61	1

Note. T1 = Baseline, T2 = Follow-up, n (Time 1) = 10, n (Time 2) = 10, * $p < .05$, ** $p < .01$

For weekly in-session measures, active creativity in DMT was positively related to therapeutic factors in DMT in week 4 ($r = .48$, Table 12). This would indicate that the constructs of the Therapeutic Factors Scale (Koch et al., 2016) may be related to the experiences of being creative and having impact (Lange et al., 2018). Furthermore, therapeutic factors of DMT were positively related to resilience immediately following DMT ($r = 0.45$). While this correlation was not statistically significant, it is a moderate effect size (Kelley & Preacher, 2012). Results also showed that experiencing more active creativity in DMT was related to less caregiving burden at follow-up ($r = -0.24$) and experiencing more DMT therapeutic factors was positively related to resilience immediately following the DMT session ($r = 0.45$) as expected, but these associations failed to reach statistical significance. These results are suggestive of a pattern of improved well-being from participating in the DMT program. DMT factors were also negatively related to caregiving burden at follow-up ($r = -0.36$), which indicates a moderate effect of burden reduction due to DMT therapeutic mechanisms. When participants had higher resilience immediately following DMT in week 4, their burden at follow-up was significantly reduced ($r = -.76^*$).

Additionally, higher resilience immediately following DMT was related to significantly higher resilience at follow-up ($r = .85^{**}$). Lastly, DMT factors were positively associated with flourishing at follow-up, $r = 0.61$. While this correlation is a moderate effect (Kelley & Preacher, 2012), it has failed to reach the significance threshold ($p = .06$).

Table 12: Correlation Matrix of DMT Measures with Caregiver Burden & Well-being at T2

Variables							
	1	2	3	4	5	6	7
1. Active Creativity 4	1						
2. Therapeutic Factors 4	.48	1					
3. Resilience DMT 4	-.09	.45	1				
4. Burden T2	-.24	-.36	-.76*	1			
5. Benefit Finding T2	-.24	.14	.08	-.02	1		
6. Resilience T2	-.19	.36	.85**	-.55	.44	1	
7. Flourishing T2	-.03	.61	.50	-.40	.54	.61	1

Note. Active Creativity 4 = active creativity reported immediately following DMT session 4, Therapeutic Factors 4 = therapeutic factors reported immediately following DMT session 4, Resilience DMT 4 = resilience reported immediately following DMT session 4, T2 = Time 2 (follow-up), * $p < .05$, ** $p < .01$

4.2.2 Repeated-measures *t*-tests

To test hypothesis 1, about changes in caregiver burden and well-being pre-post intervention, repeated measures *t*-tests of the means were conducted (see *Table 13*). As predicted, caregiving burden was significantly lower post-intervention than at baseline $t(9) = 2.53, p = .032$. Resilience and benefit finding also increased from T1 to T2 as expected, which suggests a pattern of improvement from taking part in the DMT program, but these changes were not statistically significant. Flourishing stayed constant over time and did not increase or decrease significantly from T1 to T2.

Table 13: Results of Repeated-Measures T-Tests

Variables	<i>MD</i>	<i>SD</i>	<i>SE</i>	Lower	Upper	<i>t</i> (9)	Sig, 2-tailed
Caregiving Burden (T1-T2)	.186	.232	.074	.019	.353	2.53*	.032
Benefit Finding (T1-T2)	-.142	.370	.117	-.405	.1222	-1.21	.256
Resilience (T1-T2)	-.125	.637	.202	-.581	0.331	-.62	.551
Flourishing (T1-T2)	.013	.654	.207	-.456	.481	.06	.953

Note. MD= Mean difference between T1 and T2, SD= Standard Deviation, SE= standard error, Lower and Upper = 95% confidence interval of the difference, T1 = Time 1, T2 = Time 2, *t* tests compared T1 mean scores to T2 mean scores of 10 participants. Burden, benefit finding, and resilience measured on a 1 to 5 scale and flourishing on a 1 to 6 scale.

4.3 Participant Global Impression of Change

To test hypothesis 2, about perceived impact of the intervention, caregivers reported their perception of the effectiveness of the DMT intervention by completing the global impression of change scale (Guy, 1976) . The caregivers' impression of change scores indicated that 50% felt moderately to a great deal better after the DMT program. 30% felt somewhat to a little better, and 20% felt no change or almost the same. These scores were expanded upon with an open-ended question, as participants were asked to explain what changes they have experienced since participating in the program. Those who reported feeling moderately to a great deal better emphasized the impact of feeling free/ physical release, improved emotional regulation, and enhanced coping as integral to the perceived change in their life. These themes were reiterated in the qualitative interviews, which will be described in detail in the qualitative portion of results. On freedom, one participant puts it this way: "a sense of liberation I've not experienced before... I'd forgotten, if I ever knew, how liberating movement could be in a supportive environment, it felt relatively easy to share pain" (P1). Or as expressed by another participant: "moving my body in a free and supportive space made me feel really great. Day to day life as a caregiver, I seldom

feel great or free. This program gave me an opportunity to be like a child and it felt really great” (P3).

On physical release and emotional regulation: “it helps in the moment to release the emotions lurking beneath the surface” (P6), and similarly, Participant 5 described:

I particularly appreciated the therapeutic sessions that enabled me to emote what I was feeling in dance. I found this a unique and immediate way to release pent up emotions that needed to be released. It was also helpful to see others express. I could relate as well as honour others journey in a shared way. To explain further, so much of the caretaker journey is isolating. This helped me feel less alone.

Moreover, Participant 2 expressed: “it helped me release pent up emotions and reminded me to be playful and light,” and Participant 4 explained a shift she perceived over the course of the program: “I have felt a release of tension in my body as the weeks went by and was able to loosen up.”

A few comments were also made about coping and changes to caregiving tasks because of the DMT program: “My attitude toward the obstacles facing me out of my control has changed significantly as well as the resilient strength I now feel which was not there before” (P10). Additionally, two participants described direct impact of the DMT program on their tasks of daily life. Speaking about DMT, Participant 9 stated that it “reintroduced more music into my daily life. Feels a bit more joyful during routine caregiving tasks” and Participant 2 explained: “I have noticed I have more energy and am accomplishing things I need to take care of such as cleaning my home which I normally keep procrastinating on”. The individual who reported no change explained that “I enjoyed the program, my situation with the person I am caring for got

worse, so all my tiredness got worse, but this has nothing to do with the program that was lovely” (P7).

Now, the qualitative results from the post-session journals and interviews will be reported, to explore *Research Question 3*: how did dementia caregivers experience the DMT program and what does their feedback reveal about perceived benefits? This will be followed by integrating the quantitative data and the qualitative data, to explore *Research Question 4*: is there evidence that DMT elicited anticipated resilience factors according to Champagne’s (2024) theoretical model, based on quantitative and qualitative reports of experiences?

Qualitative Analysis and Results

4.4 Inductive Coding: Experience-Oriented Questions and Perceived Benefits of DMT

The following themes emerged as interview and post-session journals were analyzed inductively (Braun & Clarke, 2006). The first category of qualitative responses pertains to caregivers’ descriptions of their everyday caregiving experiences including their challenges and ongoing emotions. While no interview questions explicitly asked about caregiving experiences, participants frequently described caregiving when prompted to consider how and why DMT was beneficial for them. In the interviews, reoccurring descriptions of caregiving fell into two main categories: exhaustion and overwhelm, and lack of freedom (Table 14). These caregiving experience themes will be described first, as they help to provide rich descriptions of the nature of the sample, and they add context for how/why DMT was experienced as beneficial for participants. Then, the four themes which emerged about caregivers’ experiences of DMT will be described: holistic engagement, liberation, connecting with others, and enhanced coping, which has to do with perceived benefits of DMT (Table 15). Last, synthesized themes of participant suggestions for future DMT programs will be shared.

4.4.1 Setting the Context: Caregiving Descriptions

The first theme which emerged from the qualitative data was that all participants provided unprompted descriptions of their caregiving experiences. These disclosures provide a backdrop for why some of their experiences of DMT were particularly needed or salient. Caregiving descriptions which were frequently reported fell into two main categories: “caregiving exhaustion and overwhelm” and “lack of freedom,” (see *Table 14* below for summary statements of these two themes). The lack of freedom which caregivers reported helps to “set the stage” for the necessity for liberation which was described within the DMT sessions.

4.4.1.2 Caregiving Exhaustion and Overwhelm. The most prominent theme under caregiving descriptions was a variety of ways in which participants felt overwhelmed and exhausted by challenges they faced daily. This theme was mentioned by eight out of nine participants. Codes addressing various aspects of this overwhelmed experience were identified and three categories were formed from these codes, namely ‘managing tasks,’ ‘facing the permanency of the disease,’ and ‘questioning sense of purpose and identity.’

Managing Tasks. The first category under “overwhelm & exhaustion” reported by participants had to do with managing a lot of tasks while simultaneously processing emotional grief. Seven of the nine participants mentioned this category. It appears that caregivers feel tension because they need to manage “everything” due to their loved one’s dementia, but these tasks compile and add strain. Caregivers described their daily life as follows: “We are caring for and we are in a situation that is extremely difficult, and um, I’m emotionally wrought and, and we have to find ways to deal with it” (P10) and “Day to day life, we tend to become management head... so many little things” (P3).

Table 14: Caregiving Experience Themes & Example Statements

Theme	Subthemes and Descriptions	Example Statements
<i>Theme 1: Exhaustion & Overwhelm</i>	<i>Managing Tasks:</i> Participants described feeling overwhelmed by all they had to manage for their loved one with dementia.	“I think the caseworker thing might happen later, when the journey’s already progressed, but you’re starting this journey with overwhelm right from the beginning...the complexity of the journey is, especially as the partners get more progressed, as you’re taking care of absolutely everything.” (P5)
	<i>Facing the Permanency of the Disease:</i> Participants are grieving the progressive nature of dementia.	“The hardest part is realizing that no matter what you do, the problem is still there.” (P10)
	<i>Questioning Sense of Purpose & Identity:</i> Participants contemplated how their purpose and identity have shifted because of becoming a caregiver.	“I don't have an identity. I honestly don't have an identity apart from being a caring, a carer, I don't, I don't know what I have out there in the world. I don't, I really don't. I prefer to just be at home now, but we don't have to get into all of that, but it does, does do strange things to you, to a person” (P10).
<i>Theme 2: Lack of Freedom</i>	<i>Feeling Constrained:</i> Participants described how their caregiving duties constrain their sense of personal autonomy and freedom which is challenging.	“I don't even have the freedom to say I'm going to plan a week away. I can't do that... Most of my life, I don't, my experiences now, emotionally and physically, are not, are not free. I'm tied to having to take care of things, most of which he used to take care of, but I have to do everything now.” (P8)
	<i>Hard to Find Time for Self-Care:</i> Being devoted to caregiving led to participants having difficulty attending to their own needs.	“I don't pay attention to myself very well. It's always focusing, you know, other person, partner and other kind of outside kind of logistics and stuff like that.” (P3)

Participant 5, who left her career to care for her partner, continued to explain how she perceives that the sacrifice to take care of everything is expected of her, as a female caregiver: “And I also think it's a woman's problem a little bit that that women will sacrifice more. It's just how we're raised and socialized, and maybe the way our brains work, that we are going to sacrifice ourselves more” (P5).

Participants also explained how they always must be ready to respond to different and unpredictable needs: “So yeah, yeah. I mean yeah, because when you're on call 24/7 you never know what's going to happen” (P6). Moreover, Participant 1 who cares for her husband described the sheer number of tasks she tries to manage:

101 things that you look around that are on your to do list, and it that's if, as I suppose most of us are, you're in charge of all those things, let alone the finances and meals. I mean, you do catering, you do the transportation, you do the home decorating you do, just keeping the home afloat, 101 things. You, you're the taxi driver. If there's nobody else, blah, blah, blah, you take the other person to the appointments. You try and keep them stimulated.

Participant 9, who has four children and cares for her father with dementia described caring for her toddlers and her father like this:

It is challenging to be a caregiver. It's exhausting. It's there's like, moments of resentment, right? There's all of that. And yet that's not where I want to dwell, right?... And I don't want, you know, just like, you wouldn't want like, when you're taking care of young kids, you wouldn't want your kids to feel like that you feel they're a burden, right? Like, I don't want my dad to feel like he's a burden, and he's not. But it is, it is hard. It's, it's like, all I do, it's all my energy, it's tiring.

This data illustrates that caregivers are managing a plethora of household tasks while adapting to the changes in their loved one who has dementia. This experience is perceived as overwhelming, yet unavoidable as demands continue to increase.

Facing the Permanency of the Disease. The second category under “overwhelm and exhaustion” was ‘facing the permanency of the disease’, as mentioned by five participants.

Caregivers reported grappling with the devastating reality that dementia cannot be ‘cured’ with a “magic wand”, no matter what they or their loved one tries to do to stop the progression. Due to the degenerative nature of the disease, losses in functioning are bound to continue.

Referring to her husband’s dementia, Participant 8 stated it this way:

I could see what's coming, I've always known what's coming. You know, I'm in a medical family. I know. I'm not, you know, I don't have blinders on, and there's no wonderful magic wand here.

Furthermore, referring to a recent hospital trip with her husband, Participant 4 explained:

And now it, it's going to take a while for him to bounce back. And every time something traumatic happens, then it's, you know, it's like, you know, it's another dip in the illness, right? Yeah, you never really come back to what you were before, yeah.

Speaking about her husband who has early-onset dementia, Participant 5 described her grief in this way:

I think in the early part of the journey, you think it's, it's, I don't know if it's a form of denial or not, or maybe you just think, if you throw enough things at this person, they're going to be able to just stave it off and to some degree that's true. And so, you know, I'm very lucky. I have an amazing man who does everything he should be doing and everything right, just amazing. And the disease is still progressing. So, you have to move

from the sadness and realization that it's not going to stop... and, and it's ongoing for years.

Lastly, Participant 9 who cares for her father shared:

If I could magically make it so that I didn't have to do it, would I do it? Hell, yeah. Like, in an instant, right? Um. But I wouldn't, I don't make those choices now, right? Like, that's, it's not an actual choice I could make. He can't magically be cared for by someone else just as well as I can do it.

These quotes help to illustrate the multifaceted and ongoing grief these caregivers are experiencing. The “problem” is not and will not go away, yet they must find ways each day to continue to cope. The permanency of dementia was hard to process, as caregivers felt no matter what they or their loved one did, they would continue to experience more challenges. The next theme under this category emphasizes caregivers’ desire to be the best they can be for their loved one, while they question their own identity.

Questioning Sense of Purpose and Identity. Six participants described questioning their sense of identity and purpose as they strive to be the best caregiver they can be for their loved one. The following quotes describe this struggle:

I don't know about the identity piece, because I think I get my identity from, I'm getting my identity from how (husband's name) responds to me and how I respond to his, the world that we live in right now. That's what I'm, it's like a new identity. I'm a care person. This is what I do. You know, I used to be a teacher, I used to be this, I used to be that, but now, um, none of those things have gone I guess, because obviously they're a part of me, but now my main focus is being the best care person I can be, and trying each day to be better than the day before. (P10)

Another participant who cares for her mother shared that she questions what she will do and who she will be when her mother passes away from dementia, since much of her identity is tied to being a caregiver. Speaking about attending programs:

I think it's only available to people who have someone that's not well, so if my mom is no longer with us, I wouldn't be able to be part of that group. That's one thing, and that's one thing that is in the back of my mind too. When my mom's no longer here, then what happens? Where do I go? Then I'm going to be really left alone. And you know, if she's able to get out of the house, well, I mean, I would be coming alone. (P2)

Describing her own search for purpose and feeling “rootless” or “lost”, Participant 3 expressed:

What is life for? Why we live this life? I tend to think like, well, we, we live, and I, it sounds like kind of joke, but I felt like, I like, live, like, rootlessly, like not rooting in the ground, and just moving from one place to another kind of that was my sort of attitude... But so, at the moment, I'm a little bit, I'm trying to sort out in myself, and I'm not, and I don't, I feel like I'm kind of running away from myself, that's what I feel. And so, I'm a little, I'm a little bit in a place that not quite sure, I feel kind of lost, lost, in a way.

On feeling unsure if she is doing “enough” and wanting to be the best she can for her husband, Participant 5 expressed her caregiving journey in this way:

Lots to navigate, and making sure and not always getting it right, and wondering if you're not getting it right, and so then you're doing all this research on your own and kind of reading, or at least that's what I'm doing. I'll speak for myself, and then... for me to be the best person I can be for my sweetie, like I have to deal with that grief.

Taken together, these sentiments emphasize how participants want to be there for their loved one with dementia, but this does have ripple effects on their own identity and how they make sense of their purpose and direction in life beyond being a caregiver. Caregiving led to participants feeling that in some ways, they have a new purpose, while also grieving the loss of other parts of themselves that they do not feel they have time for.

4.4.1.3 Lack of Freedom. The next type of caregiving descriptions was having a “lack of freedom”, expressed in ‘feeling constrained’. These experiences led to caregivers finding it ‘hard to make time for self-care.’ Seven out of nine interview participants mentioned this theme.

Feeling Constrained. The duties of caregiving elicited a sense of being constrained or bound for many caregivers. This feeling was consistently described as unpleasant but seemingly unavoidable for participants. One participant expressed bluntly how her life caring for her husband makes her feel tied down in a way that is distressing to her. This was shared as a contrast to her experience in DMT, which will be described in a later section:

No, but it (DMT) did, not caregiving, but it did give my inner life, me, a sense of liberation. Caregiving does not give one. Let me tell you, no. Caregiving is like, like (deep inhale) having an anchor around your neck. Your whole life is subsumed into trying to keep things even, keep the ship afloat, to make life as agreeable as you can for the other person, because you know that what they are going through is not their fault. Has nothing to do with them. It's as though they they're afflicted, and they don't know why or how it's happened. All that you know is that you have to try and keep them as feeling as safe and as secure as you can. Movement gave me an outlet. (P1).

This quote emphasizes the immense weight of what these women were experiencing daily. Furthermore, Participant 9 who cares for her four children and dad who has dementia

shared how her daily life is bound by caregiving. She identified that even her freedom of movement is doubly constricted and dictated by what her father can do and what her children want/ask her to do when they are playing and moving together.

It becomes really hard to do things because you can't, like, your free, the freedom of movement is very limited when you're doing a lot of caregiving. It's really, yeah, even when my dad was still mobile and I could bring him with me, it'd still be like, having to time it for, like, the time of day where he's still like, energized and, like, in a good mood and able to, like, distract himself by, like, looking through a like a word find or like a picture puzzle book, you know, and while the radio is still playing Portuguese music, so he could listen to it. And while, you know, before he starts to have his like problems with, like, needing the bathroom very regularly, and all that becomes, like, very disruptive, which is like in the afternoon. Yeah, it becomes very, very limiting...So, yeah, I don't like, I don't get that freedom of movement, like, even if I, if I do one, one movement that's sort of like spontaneous and joyful. Either someone doesn't like it and wants me to stop that right now, or it's like, "do this this way!" Like, "throw me higher, lift me this way, toss me to the left." Yeah, I don't, it's not an experience I have.

On feeling like she does not have freedom she once had, Participant 8 described the challenges she encounters:

So, my caregiving is really, caregiving, really. It's not physical. I don't have to wash him, or do all of those physical things, but he can't make appointments, so I, and I don't have the freedom to say I'm going off for the day. And he used to travel a lot, so I had a lot of freedom. I worked, but I had a lot of freedom. I don't have that freedom anymore. So, the

freedom can be that we expressed with the scarves, to me, was symbolic of the freedom that I don't have.

Hard to Find Time for Self-Care. Caregiving strain also led to caregivers having trouble justifying finding time for themselves and their own needs. The DMT program was referred to by some participants as a contrast to most of their week as a caregiver: “You're so, you know, used to being wound up all the time, and you don't give yourself that time... You just, you know, you're just kind of dealing with things as they come up” (P4). Other caregivers described how they don't “pay attention” to themselves very much because they are focused on the other person:

...because I don't really, I don't have a lot of time to think in my daily life, it's more, I'm just doing, I'm just doing, like a robot, just like, next thing, next thing, next thing. Um, yeah, so it was nice to, like, have a little bit of time to think, even if it's kind of sad, and, you know... it's opened my eyes and opened, my eyes to that, that being a carer, I tend to be sort of like a very heads, head-oriented space, like I have to think of little things, day to day life and not be able to take care of myself. I don't pay attention to myself very well. It's always focusing, you know, other person, partner and other kind of outside kind of logistics and stuff like that. (P3)

Furthermore, Participant 9 expressed a similar sentiment about how she does not take time to do things for herself or attend to her own needs beyond basic medical appointments:

Like, I go to a lot of doctor's appointments and lots of medical stuff and lots of, uh, groups and classes and all kinds of and like physiotherapies and OTs and all kinds of things for my kids and my dad and everything, but I don't, yeah, I don't like do anything for myself... I mean, the only things, I don't go I don't get haircuts, I don't, the only things I get to go to is, like, dentist appointments, and that's about it. So, um, that's the

only thing I go to, like, by myself. So, it was nice to have something by myself, I guess that was, yeah, without, without, yeah, worrying about anybody else.

For a participant who cares for her mother, she described how she found DMT to be a good reason to encourage her to get out of the house:

I'm just dealing with a lot of stress and uneasiness here, and for me to come out, to give me an opportunity to make a plan to leave the house and to connect with other caregivers. That probably, you know, taking care of someone like myself and, you know, maybe to help me with the trauma I've been dealing with. (P2)

Speaking about DMT, another participant described how having it once a week enabled her to take the time for herself which she usually does not take to process:

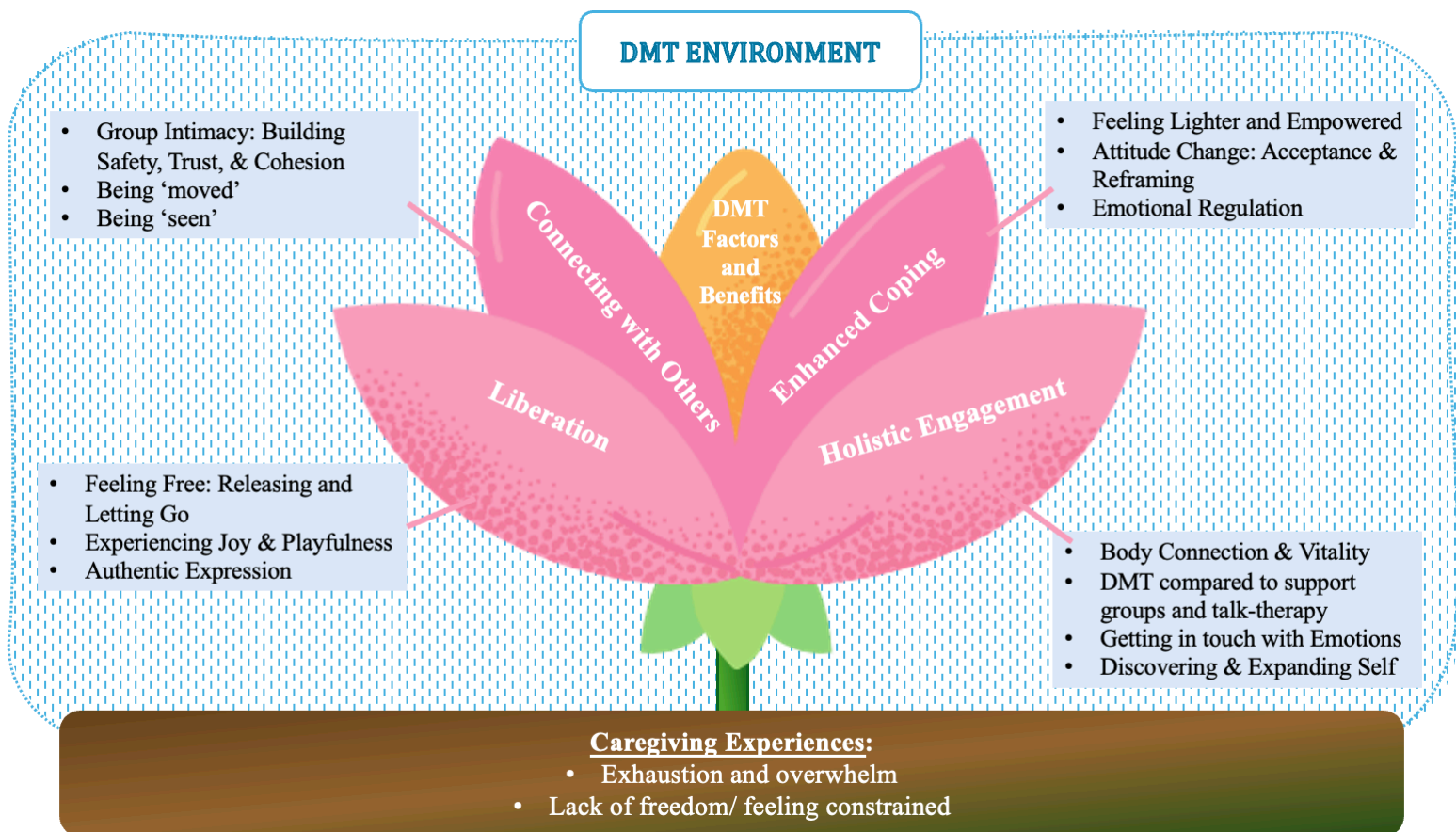
Yeah, there was a release. There was it was contained time for oneself in connection, and a release, so that was very important, and it was nice to have that. It was nice to have that scripted in weekly...to have that in your calendar and it's scripted in it's just another thing I didn't have to do. So, I think this is the other challenge, right? (P5)

Together, these quotes emphasize not only the strain on caregivers' time but also on their own health and needs as they aim to support their loved one with dementia.

With these caregiving descriptions in mind, I will now shift to describe the main themes about how the DMT program was experienced by caregivers. To explore *Research Question 3*, participants were asked to describe how they experienced the DMT intervention. Through revisiting this data about the nature of DMT, the image of the lotus flower came to mind to represent the essence of participant experiences in DMT, with each theme as a petal of the flower. Excellence in qualitative research includes *resonance*, through representing data in a way which influences and moves readers (Tracy, 2010). The lotus flower is a cultural symbol of

resilience, as the flower emerges and blooms above the surface out of the murky waters below from which it resides. The lotus is associated with transformation, awakening, and victory of the human spirit. This image, shown in *Figure 7* below represents how in the DMT environment, which was perceived as “safe,” caregivers felt “free” to release, let go, authentically express, connect to their bodies and connect to others meaningfully. These experiences of engagement and liberation are a contrast to the lived experiences which caregivers reported having outside of the session, caring for their loved one (the waters below).

Figure 7: Graphic Representation of Thematic Findings



The DMT environment provided space for caregivers to explore and act on parts of themselves and attend to unmet needs, such as for play, liberation, and joy. Through getting in touch with their emotions and expressing them creatively, this broadened their action tendencies

and led to feelings of lightness, empowerment, and increased acceptance and self-efficacy beliefs. This visualization depicts how experiences within the DMT environment including holistic engagement, liberation, and connecting to others, facilitated the perceived benefits of enhanced coping. These themes of DMT experiences come out of, or are rooted in the context of ongoing caregiving, which was experienced as overwhelming, exhausting, and constraining, as described in the previous section. Caregivers brought their grief, sorrows, and challenges into the DMT sessions, and what emerged or transpired was out of that authentic place. *Table 15* provides a summary of the DMT themes with example statements for each theme.

4.4.2 DMT Experience Themes

4.4.2.1 Theme 1: Holistic Engagement. When asked in the qualitative interviews to describe their experience of the DMT intervention, all participants expressed how DMT was a unique experience for the ways which it engaged them *holistically*: body, mind, and emotions. This type of engagement was a stark difference to their life as a caregiver as well as a contrast to their experience with other types of caregiver support programs. “Holistic engagement” had four sub-themes: ‘body connection & vitality,’ ‘DMT compared to pre-existing programs,’ ‘getting in touch with emotions,’ and ‘discovering & expanding aspects of self’ (see also, *Table 15*).

Body Connection & Vitality. The first category under the theme of *holistic engagement* was ‘body connection and vitality.’ Participants reported that by engaging with the group through connecting to their bodies in dance/movement that a new sense of vitality was present. Other participants described how connecting to their body was somewhat foreign or new to them which was surprisingly pleasant. Engaging through the body in creative movement was experienced as a stark contrast to a common experience of “being in their head” while caregiving or the tendency to intellectualize. Here, Participant 1 describes:

...it (DMT) did have a different impact. And the impact was that your body was involved, not just your mind and your mouth. Yes, and it's very, relatively easy to intellectualize and learn from others you think, but when your body's involved, it's a totally different experience. I mean, you see, I'll give you a silly example. This morning, in the pouring rain, I took my dog out, and she's happy to be out, even though it's raining. Then she hurls herself on her back in the grass and rubs her back. I mean, the mere fact that she brings her body and she's, in a way, non-verbal, and the way babies take joy in rolling and things like that. So, when you think about it, it's a very basic instinct and a need from very, literally in the womb, you're moving. But then at a certain point in one's life, unless you're a gymnast, a dancer, athletic person, you stop doing those things. Even if you go to the gym, it's a rigorous set of exercises you're involved in.

This quote from Participant 1 emphasizes how DMT reconnected her to her body by engaging in movement. Expressing herself creatively through movement was unlike exercise approaches which she described as “rigorous.” She continued to describe DMT as:

A beautiful interlude where you could move and stretch and leap around and even, it didn't matter if you were ungainly or, you didn't even feel stupid, you just moved. Movement, and you just did it, yes, quite simply, you just did it, and it was joyful, and your body felt alive in a way, maybe not unlike sex, you know, really.

This “aliveness” in the body was related to the freedom to be in the body and follow impulses as they come up. Experiencing vitality in movement also had to do with reconnecting to the body. Speaking about feeling more alive through movement, another participant described how she realized she had not been attending to her body parts. Participant 10 described

reflections which came to mind as she explored the improvisation on grounding in week 2 of the program:

I wanted to feel all the parts of my body too...I've begun to see that it's important to connect body, mind and spirit and so on. But somehow, with the flow of the movements and the moving and just kind of talking while we're moving internally, I was really starting to feel, "Oh, hi legs, you want some attention too." "Oh, feet, you need, you need some love." ... and I realized that in the grounding, the grounding in that grounding one, and I realized, wow, like, this is strength, but it can't be strength if it's stress filled.

DMT Compared to Support Groups and Talk-Therapy. Participants continued to express how the DMT group helped them to get into their body and to not get stuck intellectualizing their experience. They could not "talk their way out of" what was coming to the surface, which was experienced as authentic. Participants emphasized how most of the support they had either experienced in the past or perceived as available to them in the present focused on cognitive forms of verbal therapy. The ability to engage with their bodies through creative movement was identified as a core strength of DMT in comparison to previous experiences of support groups and talk-therapy, a theme which was mentioned by eight out of nine participants.

In week 2 of the intervention, Participant 10 shared in her journal that exploring the movement elements "made me realize that I "have to" keep moving no matter what and stay out of my head over-thinking every single thing." Furthermore, in her interview, this same participant shared her challenges with traditional caregiver support groups in this way:

After a while, I had to withdraw myself from those programs, because it was, I was spinning my wheels and I was carrying the same thoughts and I was acting in the same ways that weren't really, um, working. I'm not dismissing by any means the problem

solving and support group approach, but I think this (DMT) is a whole other domain that that has infinite possibilities... We could have, we could have done so many wonderful things if we'd had more time that would speak to what is going on in the whole person, the whole personal thing...I think the more, the more we can move, the better, the more we can just move it through and move it and move it. You cannot just talk and talk and talk it just it just makes you crazy...We need more working through the relationship of the mind and the body so that, so that it doesn't, so all this stuff just doesn't get stuck there. And then you get ill, very ill, because you don't have a way to move it out and, yeah, release it. (P10).

She described how movement helped to reintegrate body and mind and enabled her to feel less “stuck” in thought patterns which were not helping her. Similarly, the content of talk support groups tends to be negative, but one participant found that DMT brought out positive moods despite still processing negative experiences:

It (DMT) brought out positivity compared to bringing out negativity. Yeah, because when you're in a support group, most of the time you're hearing oh this person's in a nursing home, this person did that in their diaper, and that person ran out of the house, like, you know, those kinds of things. It's always a lot of trauma, right? ... Yeah, because all you do is sit and listen to problems. You're not doing anything else with these people. And then there's different people all the time, so you're not really connecting. (P2)

DMT was also contrasted to experiences of talk-therapy. Participants felt that in DMT, their tendencies to intellectualize or talk their way out of things was reduced, as they expressed themselves through movement. For example, Participant 8 describes her experience:

And, and the talk therapy is mostly about giving me information about dementia. I know everything there is to know about dementia. Talk to me about what's going on with me. Nevermind the talk therapy about what I can expect that's going to happen with my husband. I know the road we're on. I know all of that... Um, I can tell you that for me personally, I have always known that I can get closer to what I'm feeling by moving my body rather than head-talking, so movement for, and I've done a lot of therapy in my, in my many years of living on this earth, and I'm not adverse to it, but when I did stuff with movement, I knew, ah, I can't talk my way out of this. I can, you know, I can go deeper than and figure, try and figure, and that's what I want.

Additionally, Participant 1 shared how she was telling a friend of hers about her experience of DMT: “just that there was a lot of movement and dancing involved, and how liberating I found that. Much more so than simple talk sessions, which surprised me. So, I was more than ready on a Monday to go back for some more pleasure.”

These statements emphasize participants' impressions of the differing impact of DMT in contrast to the years of talk-therapy which they both had previous experiences with over their 80+ years of life experience.

Getting In Touch with Emotions. Another aspect related to holistic engagement was how DMT provided opportunities for caregivers to have space get in touch with their emotions and express them in a meaningful way through dance. Caregivers described how most programs they can attend, they are alongside their loved one with dementia. While these programs were seen as important, DMT provided a space “for them” to become aware of their own emotions and process through them in movement. This sentiment is expressed poignantly by Participant 4:

Yeah, because it's a lot of the programs that I've attended, which I love to, is because I love doing things with my husband. You know, it's always been the partnership. This is a program that just offered the caregivers their own time and space. It offered a place to come and really get in touch with our emotions and our whatever it is that we're dealing with, to face it, but at the same time, to leave feeling light, because we've expressed it, we've let it out in the dance, and that has given us a release.

Furthermore, participants described how DMT gave them non-verbal and creative opportunities to delve into their emotions, which they might not have realized previously:

But as I dance and try to express something, the emotion came up that was quite interesting, and it was very good, because, you know, unless it comes out, it doesn't release, right? And so, I felt like I was able to release something, some emotional tension inside, and also be able to see what's inside of me, or it's a lot of things, and it goes unconscious part. So, by moving the body, it is sort of unconscious part of me naturally comes up. (P3)

Additionally, the powerful ability of DMT to bring emotions to the surface was surprising to some participants:

I had no idea, having had a context of counseling and art therapy, how immediate you could access some deeper-felt emotions that you might not even know there through movement and dance. I was very surprised at that, so I thought that was a real positive for dance therapy, because it's, I was surprised at the immediacy. (P5).

Together, these sentiments accentuate how movement provided a platform for authentic feelings to surface and be expressed creatively. Participants were surprised by the 'immediate' and 'revealing' nature of movement.

Discovering and Expanding of Self. The last category under the theme of *holistic engagement* was how DMT helped participants to (re)discover and/or expand aspects of self, which was mentioned in seven out of the nine interviews. For most participants, this was their first experience of a creative-arts therapy broadly, as well as DMT specifically. Participants reported that DMT was “different” and surfaced eye-opening realizations about themselves. One participant powerfully describes how DMT activated a part of herself she had forgotten about:

You showed a way. You showed me part of myself that was buried and long forgotten. If it was ever activated, I don't know. So, thank you.” She continued to describe how she felt she could be “somebody almost other than me in a safe environment. And I would like to have taken some of that out, but it's difficult. It's difficult, but I did have it inside me for the Monday. (P1)

Dancing had not been a part of her life for some time, but she experienced DMT as “joy, energy that I haven't experienced in years, because even if the music is on, I don't dance. Ever. Um, it's not been part of my life, and I don't know why” (P1). Furthermore, Participant 9 shared about how DMT was unlike anything she had ever experienced before:

I don't know what I expected, but it was interesting, and it was good, and it was curious, and like, a whole different world for me...I've never done anything like that before. I enjoyed it, like it was very different than like I've never done, like, therapy or anything like that, either. So, um, yeah, it's interesting to, to, like, move and explore like feeling in life in that way. Yeah, I don't even know what I think about it. It was just like, such a different experience for me, but it was a good one, and it like, it's gotten me thinking

about, like, music and dance and art, and how much I used to enjoy it, and how little it's been in my life for a long time now.

Another participant noted how being at DMT gave her a space which she felt she “owned” as this was her first step to do something creative to take care of herself:

Yeah, it was something that it was so nice to do for me. I owned it, and I thank you for that...It does really have a lot of value, and it really, it's a totally different platform for caregivers to have a space that they own. (P4)

In summary, the DMT sessions created opportunities for caregivers to engage holistically, by connecting to their bodies, processing emotions which surfaced in a whole-person manner, and being inspired to attend to aspects of self which had not been prioritized.

4.4.2.2 Theme 2: Liberation. The theme of liberation was the most prominently described experience of DMT. This theme was mentioned by all participants, with over 150 quotes coded for this theme. DMT was experienced as “liberating,” which participants described as a refreshing contrast to their daily life as caregivers. Within this theme, categories include: ‘feeling free: releasing and letting go,’ ‘experiencing joy and playfulness,’ and ‘authentic expression.’ There is overlap between this theme and “holistic engagement”, since participants described how moving and connecting to their bodies through movement was part of what facilitated the liberation experience. Furthermore, liberation is also linked to the third theme of “connecting to others,” since the safety of a supportive group helped to facilitate the necessary conditions for participants to feel free to express authentically.

Feeling Free. DMT elicited feelings of liberation which participants describe as “freeing” and “letting go”. This freedom was related to the creative agency participants had in

DMT. Here, Participant 10 describes how having the freedom to move as she wanted to was enjoyable to her:

I was certainly aware of the fact that there was something going on between my mind and my body and that and that felt really good. I did know that I wasn't stuck in my head. I did feel free... and I was actually thinking that, you know, we could just be moving around the whole time, like we could be talking from corners or talking from the center, or, you like you could have directed us to go to the center and reflect on something, or whatever. So, I liked, I liked that approach, when we got up and we were moving, and there wasn't a time limit on it, and there wasn't a right answer or wrong answer. It was just, we are here to experience what's going on in our in our bodies and that that was, it was great. It was really, was really, very, very freeing.

Another participant described how surprised she was at the liberation she experienced in DMT, which was markedly different from her life in general as a caregiver. This liberation impacted her holistically, and was experienced as a pleasurable surprise:

I found it liberating in a way that therapy... and lots of talk, which I've had over the years, um, didn't give me the kind of sense of release, excitement, pleasure, that this did, and I find that quite amazing. Obviously, I'm coming up to 80, and I enjoyed it in a very fundamental way. Not just physically, but emotionally, that primarily and emotionally... You know, literally, that sense of freedom was antithetical to everything in my life. And listen, I've had a good life. I'm not complaining, but I've always had, I've always had issues, but they've never stopped me doing what I'm supposed to do. (P1)

On releasing and letting go of positive and negative feelings through dance and movement, one participant shared:

Yes, the movement of the body, yes, yeah. Because you know we can get we can get tight. And I think that that is really important to be able to loosen up and just have joy with the music that you provided at the same time of, of releasing your sorrow and your emotions at the same time. It's, it's like, you know, it's, it's a good balancing act...I mean, who doesn't like to, who doesn't like to dance, who doesn't like to feel that? It just, it's just a more friendly way of letting go...For me, this was much more liberating because of the movement. (P4).

Together, these sentiments indicate how DMT elicited a release for participants which was experienced as pleasurable and joyful. The freedom to engage in improvisational movement as they saw fit helped participants to loosen up.

Two facilitating factors which were important for 'feeling free' was the space which the program took place in and facilitator dynamics. Having a large dance space made participants feel that they had agency to be as close to other participants as they wanted to be:

The extra space was important, so you didn't feel crowded. You didn't feel that your space, your privacy, was being encroached upon without you having anything to say in the matter... you had the freedom of choice to be involved, by moments, and then have your own space by moments. I think that's important. (P1)

Other caregivers noted how the dance space was much larger than what they have access to at home in their apartment unit:

So, and then being a carer, I completely forget about, like, dancing. So, also, we moved into that quite small unit. So, there's not really enough space to really freely dance. So having opportunity to move our body, my body, and in an open space, and also having other people stimulating more you and and the two other participants. (P3)

Important facilitator dynamics included being responsive to follow the groups' lead, warmth, and not rushing participants. The importance of giving participants choices within the structured sessions was described by one participant as what made it feel fun:

Even though you had come up with a plan, everybody had different ideas, and you went with everybody's ideas pretty much. And as things went on, things just kept changing all the time. And I think that was the most fun part of it, because it wasn't the same thing all the time, and it wasn't set in stone. (P2).

Similarly, Participant 10 shared how she felt her choices and ideas were “respected” by the facilitator:

...facilitating as well, because if you got too bossy about you know, anything, you would have, that wouldn't have worked, you just allowed it to flow, whatever it happened to be. You did give us some, you know, frameworks, here and there, but not that much. And, uh, I think that's, that's a respectful thing to do with adults, because we do, we do have it. We do know what we're doing. It's just we needed a little guidance, respect, and you certainly showed that that that respect for sure.

Having a warm and encouraging facilitator was also vital to participants. Participant 4 described how during the mirrored movement in week 2 with the facilitator as her partner, she felt herself loosen up and begin to find freedom of movement:

I was really struck by that myself, that second week you really, you engaged me, and you were, you know, you were really looking full on, (laughs cheerfully), but you know, it was just an encouraging, an encouraging look and you were really engaging me, and then all of a sudden, I just felt myself relax and felt the music kind of took over, and I was able to just kind of flow at that point.

This quote speaks to the importance of the therapeutic alliance and establishing a supportive sense of rapport with the dance therapist. Furthermore, building on the theme of warmth, Participant 1 emphasized the importance of facilitator patience and warmth:

You were very relaxed about it, and you brought it up slowly. You didn't rush us. I think that was important. You didn't expect instant joy and jubilation from everybody. You were quiet in your approach, definitely warm and welcoming, but not overpoweringly so, which would have been a little off putting, especially looking at the age of your group, you approached us with sophistication and knowledge and warmth.

Participant 4 shared a similar sentiment of how important it was to not feel “rushed.” Here she was speaking about how if somebody was late, they were still given time to share how they were doing before joining in with the DMT session:

The fact that you allowed, you know, you do you, you, you never rushed anyone. You have allowed them to us all to share what we needed to share, and that, that too, was, you know, so important at the time for what everybody was experiencing in their own way.

Together, these statements highlight the importance of having a facilitator with qualities of warmth, empathy, and respect with this population, for participants to feel safe to release and be uninhibited in the DMT environment.

Experiencing Joy and Playfulness. The next most prominent category within the theme of “liberation” was ‘experiencing joy and playfulness’ which was mentioned by all participants. DMT provided caregivers with an avenue to explore play and childlike qualities which elicited strong positive emotions of joy. These experiences of joy appeared to contribute to the facilitation of the “enhanced coping” themes of ‘feeling lighter and empowered’ and ‘attitude change: coming to acceptance & reframing.’

Participants described powerful experiences of joy within the DMT sessions:

I've always had to be the one in charge, the one who does things, the one who keeps the surface calm and beneath the surface, but this, this little hours with you, it was different, and even talking about it makes me emotional now, it was a great sense of unalloyed uncomplicated joy that you notice when you see puppies playing. (P1)

This quote illustrates a pure and childlike joy which was elicited in DMT. Furthermore, childlike qualities were also described by Participant 2, and how much having this type of fun was helpful to her:

...especially things that brought us back to our childhood, like, you know, when we had those strings that we were walking around together. And it brought us all memories of, you know, like maybe a circus or a tent, or whatever it might be. But, you know, just the colours and the process, it was like a lot of fun, and it brought a lot of joy to all of us...I'm just really glad to have this opportunity and to be part of it. I think came at a really good time for me, because of all I had been experiencing. If I was here at home by myself, I think the stress level would just keep going up and up and up so that break and that, you know, short period of time of fun really helped me tremendously.

Moreover, DMT activated a “childlike space” which was described by Participant 3. This space was interpreted as a coping tool she could try to “go back to” outside of the session:

And then once you know the space, it's easy to go back, kind of, yeah. So, if yeah, if you can bring people into that kind of childlike, innocent, playful space, it's, it's a place to go back. You know, when crisis mode comes, then you can kind of go back to it. It's almost like a meditation, kind of... And that's a really great space to be because you are always

task oriented, and you forget about being playful in the headspace. So really, that's really helped me a lot.

Importantly, caregivers reported experiencing high levels of positive emotions (e.g., joy) and playfulness in DMT, while simultaneously reporting that challenging emotions (e.g., despair) were also surfaced in DMT. This is important to note because it indicates that DMT was not experienced as “escape” but rather, provided a means to process challenging experiences, while also feeling the boost of positive affective experiences. Movement appeared to act as an avenue to experience positive affect, while also processing and expressing negative life events authentically. The agency to express both was perceived as liberating.

Authentic Expression. The last category within the theme of “liberation” was ‘authentic expression.’ Participants described how when they connected to their bodies, emotions came to the surface, and they felt enabled to express those authentically through dance. A factor which helped to facilitate this was the empathetic group environment, with other caregivers who “understood” what they were going through. Caregivers described how they felt soul-connections to other participants and how they appreciated how “real” the sharing through movement was, which might not have been possible through words. Here, Participant 10 is speaking about Week 4 when they performed and witnessed each other’s caregiver movement journeys: “But I think that you know all of us, I mean, you could feel the movement of the soul, if you will. You could feel everyone's transitions from one section to the other. It was very powerful that day.” Again, speaking about Week 4, Participant 5 described how authentic the experience of dancing out her caregiving journey was. Speaking about her own grief, she explained that there is not time for anything which is not authentic:

Yes, yes. It felt very authentic. There was an authenticity, and it was right that it came later. We knew everyone by then and trusted them, and, and, and, you know, as I say, you know, these grief journeys, you just don't really have a lot of time for anything that isn't authentic. So, it was nice to be in that space of authenticity with others and to be witnessed, but also to delve in it yourself.

The way that movement provided a means to process challenging aspects of one's life was also noted. Participant 10 described how if she had tried to express her caregiving story with words, she would have gotten "stuck," but expressing it with movement was liberating:

I hadn't ever really thought it through in a movement manner. Certainly, thought it through, but I probably would have got stuck in the middle and resented the beginning, I would have resented the beginning and then got stuck in the middle of the present and then afraid to present anything for the future.

Engaging through movement seemed to provide a way for genuine emotions and thoughts to be brought to the surface and then expressed: "It was able to bring out all the emotions flowing through me at the moment: positive and negative" (P10). Together, these sentiments emphasize the uniquely immediate and effective way in which creative-movement facilitated authentic expression of positive and negative experiences.

4.4.2.3 Theme 3: Connecting with Others. The third theme which emerged about participants' experiences and perceived benefits of DMT was the ways in which movement provided supportive experiences of connecting with other caregivers. This theme highlights how DMT as a group-therapy modality brought about a sense of belonging. The first category under "connecting with others" was 'group intimacy: building safety, trust, and cohesion.'

Group Intimacy: Building Safety, Trust, and Cohesion. This subtheme was mentioned by all participants, who explained how as the program evolved, a supportive sense of “kinship” was formed with other participants. Participant 8 described it this way: “we're all dealing with the same stress-related issues because of who, because of that's in our life. So yeah, but getting to know them, and then by the end, I felt a kinship with it, with the whole group.” Furthermore, participants described how deeply they connected with other group members through movement:

And they weren't, I don't know, in a way, they weren't like emotional talk interactions, but they were, they were emotional, and they were like, they were deep, and they were heartfelt, and they felt sincere, and they felt like, I felt like they understood what they were going through. We didn't really have to say very much. Um, and that was kind of nice. That was, yeah, a little bit, kind of profound in its own way, even though they're basically strangers. (P9)

Participant 1 mentions the use of DMT props and her own surprise at how meaningful the group became to her, despite the diversity in age and backgrounds of the group members:

...and I wouldn't have thought that being in the company of two such disparate people and then you being so young, it was interesting how you managed to get us to meld...and the instruments you used were very simple, fun, um, yes, but it seemed bizarre that, that you could bring us all together like that and make the meetings so meaningful.

A factor which was instrumental in building a sense of “safety” in the groups was having a small number of participants in each group. Here, Participant 4 describes her experience:

The size of the group, I think is very, very important to accomplish what you need to accomplish, and for the attendees to accomplish. You know, what they need to accomplish, and feeling free and, and, you know, safe, and sharing their

experiences...and the fact that it was, I think, I thought that it was a small group, too, had a lot to do with that. If it was a larger group, you probably would not, you know, get that level of comfort and cohesion with each other.

This level of intimacy with other participants was described as feeling “connected” and was established early on, as described by Participant 4:

I think from the very first day, and maybe after your second session, that those who were there felt connected, and even if they weren't there every session, I think when they did come back, there was still that connection and that that that freedom to be uninhibited.

Together, these quotes highlight the unique nature of DMT to build a sense of connection even non-verbally. For this to be established, participants reported the importance of knowing that other group members were experiencing similar caregiving-related stressors as them and having a small group size.

Table 15: Thematic Findings: DMT Experiences and Perceived Treatment Benefits

Theme	Subthemes and Descriptions	Example Statements
<i>Theme 1: Holistic Engagement</i>	<i>Body Connection & Vitality:</i> Participants re-attuned to their bodies through movement.	“Basically, I feel also moving, that physical movement, you know, energy kind of starts, kind of moving naturally that helps, you know, just we tend to kind of go like stagnated and goes down. But by moving the body, the whole body, that easier for things to come up and open up, yeah.” (P3) “It's as though I almost need permission to do that, which is ludicrous at my age, but it's true. Intellectually, you can rationalize things, but emotionally, okay, it's, it's quite different. Your body doesn't tell you that you're almost 80. It, it responded as though I was, you know, 30, and able to enjoy this.” (P1)
	<i>DMT Compared to Support Groups and Talk-therapy:</i> Participants noted the unique impacts of dance/movement therapy.	“You're not sitting around in a circle and just talking about all your problems and you know, which is good, and everybody's sharing what they're going through and get an advice or whatever, back and forth, but the movement, the joy, the music, you know, it adds such a dimension to it that, it's the lightness that we need.” (P4) “It was trying to reach our minds with our bodies at the same time, so that as opposing, as opposed, once again, to just using intellect and sitting on a chair and talking, your body's moving, and that gave an amazing sense of liberation.” (P1)
	<i>Getting in Touch with Emotions:</i> Participants reported how DMT powerfully surfaced deep	“It gave me an opportunity to touch in on emotions sometimes held at bay, through living in the body.” (P6)

	emotions and griefs which they had not previously been aware of.	“And you know, you come face to face with your deep feelings, your fears, your hopes, your emotions and how things you know are affecting you at different times. You know, there were days that I was there that, you know, I was really down. There were days that it was a great day, and I was felt happy and joyful, and I just wanted to enjoy that.” (P4)
	<i>Discovering & Expanding Self:</i> Participants reported how DMT was a novel experience which surprised them and made them realize parts of themselves they had not discovered before.	“It started kind of right away. And, of course, I mean, it's not the cure all of things, but it gave me certain insight... it was very kind of inspiring. I forgot that the feeling of dancing and, and, it's not dancing I have to think of choreograph, right? I mean, choreograph, so it's more like free dance, basically expressing your feeling and stuff that was really, in a certain way, it's opened my eyes.” (P3) “... You know, based on how my mood was after the class or during the class, I was like a totally different person, even though I had experienced some really bad trauma here at home, only, you know, a couple of days before the class, and I was able to block that out and just be in, in that moment.” (P2)
Theme 2: Liberation	<i>Feeling Free- Releasing and Letting Go:</i> Through dance/movement, releasing stress and tension was possible in an open and supportive environment.	“Sense of freedom experienced with this group is, literally, the highlight of the week. Just space for oneself without any judging.” (P1) “Yeah, but it was very evident to me to say, "Wow, I'm feeling this freedom to just take these scarves and do whatever I want with them!" I loved running around with the scarves and whatever, whatever happened happened, and just feeling the freedom of that. Because most of my life, I don't, my

		experiences now, emotionally and physically, are not, are not free.” (P8)
	<i>Experiencing Joy and Playfulness:</i> Dancing freely with others brought about joy and child-like qualities which were experienced as playful.	“Exploring different aspects of moving, I really enjoyed quick movement, spinning, it felt joyful to be playful and like something I can't get to do very often. It felt freeing and joyful and playful.” (P9) “Vibrant colours made me feel happy. Made me feel like a child playing, in a tent, I never had that experience as a child.” (P2)
	<i>Authentic Expression:</i> DMT provided an avenue to process and express one's genuine self	“I'm all about verbal, right? I spent my whole life talking to other people, and to limit that to movement, even though I don't feel like I'm a dancer or anything like that, it was also impactful for me to see other people expressing their journey. And I could see it... in a visceral way, what they were going through in a way that was so symbolic and that you can't always express with words or would take too long to go through the intellectual processes to communicate what you're feeling. So, this artistic expression just got to it got to the heart of it in a very immediate way, and you don't have many opportunities to do that. So, I was really struck by that.” (P5) “And, you know, the expressions that we needed to, the feelings that we needed to express in our dance and things like that, that would be the release, right?” (P4)
Theme 3: Connecting with Others	<i>Group Intimacy- Building Safety, Trust & Cohesion:</i> Participants described how DMT elicited a strong sense	“It was a time where I was able to just go and kind of be free because everybody else, everybody else in this is in a similar situation, in one way or the other, you know, and you knew that you shared so much in common, so you didn't feel, you felt

	of support and empathy with other caregivers in the program	comfortable with letting you know, letting your emotions and your feelings and your thoughts and your hopes and your fears be very open.” (P4)
		“That's right, yeah, well, and I was surprised that we didn't do more sort of getting to know each other before. But then I realized we did it through, through the program, through the movement stuff. So I was, I was curious at beginning about that, because I'm not usually in a group of this kind of intimacy.” (P8)
	<i>Being ‘Moved’ by Witnessing Others:</i> DMT provided powerful experiences of witnessing other caregivers’ journeys.	“The journey from past to future, especially the movement expression of the present represented frustration, anxiety, fear and overwhelm. Also, witnessing others' movements, so moving and precious.” (P6) “It was also helpful to see others express. I could relate as well as honour others journey in a shared way. To explain further, so much of the caretaker journey is isolating. This helped me feel less alone.” (P5)
	<i>Being ‘Seen’ by Others:</i> DMT provided a non-verbal means to be responded to and understood	“It's very validating, because sometimes you don't feel that you should be feeling the way you feel.” (P4) “I interacted with all members of the group in some way. With P1 the most, as we did the mirroring movement. I felt freedom. Not like I am always closed in, and my movements are always scrutinized.” (P2)
Theme 4: Enhanced Coping	<i>Feeling Lighter & Empowered:</i> DMT induced a	“...grounding movement which engaged me and gave me some respite from sadness. Also interacting with others brought in

quality of feeling lighter which energized routine caregiving tasks and reinforced feelings of empowerment	more of a joyful experience. It helped to enlighten and energize my body and mind.” (P6) “Yeah, it gave me a sense of perseverance. Yeah, you know, made me realize how strong I really am to overcome those challenges and still come out of it being a happy person.” (P2) “I felt empowered by the sessions, really, and it definitely lifted my spirits.” (P1)
<i>Attitude Change - Acceptance and Reframing:</i> The DMT program helped participants to reframe ongoing challenges with a new attitude	“My attitude toward the obstacles facing me out of my control has changed significantly as well as the resilience strength I now feel which was not there before.” (P10) “You left kind of not with the light heart, but at the same time, it brought an awareness, you know, that I was able to delve into that place and admit to it and go there and an acceptance, yes, instead of, you know, fluffing over it.” (P4)
<i>Emotional Regulation:</i> DMT provided a means to manage negative and distressing emotions and increase a sense of calm.	“I felt like a sense of peace, for some reason, serenity.” (P2) “I think during the sessions, there was, they were uplifting, like, you know, just the movements. And then, of course, those two, even though, you know, we expressed some of the more vulnerable feelings or upset. I still think it helped with our, with my mood, in the, you know, in the moment, in that, during that time.” (P6)

Being ‘Moved’ by Witnessing Others. The second category under “connecting with others” was ‘being “moved” by witnessing others. This subtheme emphasizes the powerful nature of movement to connect individuals, as participants witnessed other caregivers express themselves through dance. Six participants mentioned this theme and described seeing others’ dance out their stories as “honouring” and “heartfelt.” Here, Participant 5 shares about how seeing others’ movement journeys in week 4 impacted her: “And um, cathartic, even witnessing it and honoring, really, I felt like it was a sacred space of honoring another's heartfelt, authentic journey. It's a privilege, and it's heartfelt, and it strikes you deeply” (P5). Another participant described how “powerful” the movement journey in week 4 was for her:

That was phenomenal, that, I'm getting goosebumps just thinking about it. You know, I think we all were able to just express ourselves in that. And it was very powerful...I'm sure as each of us went through it, we, we were living those emotions, and then, as, you know, looking on to others, you really, really felt, you know, their journey, their pain, their hopes, you know, yeah, yes, yeah, that was a very powerful exercise.

Being a witness to other caregivers expressing their life with movement powerfully impacted Participant 2’s own narrative about herself:

I felt like even though there were some negative feelings about what you know, came into my mind. You know, watching other people go through their journey kind of made me feel at ease that I'm not the only one that has those experiences, that everybody has the ups and downs in life, and that we've all been able to overcome them and still go on.

Being ‘Seen’ and Validated by Others. Additionally, DMT provided participants with opportunities to be seen and validated by others for what they were sharing through their own movements. Five participants mentioned this theme and described how they felt comforted by

the support they found as they danced with other caregivers. One participant described how each week when she left, she felt less alone: “I would say that every time I left, but I felt good, that I had a feeling of, okay, and that I'm not alone in this sort of very isolating journey. And, yeah, happier, happier for sure, for sure.” (P5)

Participant 4 explained how she felt connected to her partner in mirrored movement in week 2 of the DMT program:

...because when you were, when you had to connect with a partner, or as we move through connecting with each other, yeah, you knew that you're on the same journey, and I mean there were, there were no inhibitions, everything was so genuine, and, and, yeah, you do feel as if you got that connection.

Participant 8 shared a similar sentiment, about sharing herself through movement and feeling supported by the group:

And I liked the non-verbal, I liked feeling what they were feeling being transmitted through movement, and in a way that helped me. It helped me just to be able to share that with what they were going through, what I was going through, and saying, yeah, there's a kinship here, and it's and it's supportive.

Together, these aspects of belonging and group support indicate that through movement, participants were able to genuinely connect with other caregivers. DMT elicited experiences of holistic engagement, liberation, and connecting with others which in turn, enhanced caregivers' coping. The themes of “enhanced coping” will now be described.

4.4.2.4 Theme 4: Enhanced Coping. What beneficial impacts did DMT lead to for participants within and outside of the sessions? Participants described three main ways which their abilities to cope were enhanced through DMT. Coping was enhanced for caregivers through

‘feeling lighter and empowered,’ having an ‘attitude change: coming to accept and reframe’ and improved ‘emotional regulation.’

Feeling Lighter and Empowered. The first way which caregivers reported their coping was enhanced was through feeling “lighter” after DMT, such that they felt a relief from caregiving burden. This sensation of “lightness” was mentioned by seven out of nine participants and was accompanied with reinforced feelings of one’s own strength and/or ability to “face” challenging situations at home. Participant 8 describes it this way:

I loved it while I was there. I loved the movement. I loved getting up and doing whatever and I felt energetic, I did, I did. Things didn't weigh as heavily on me for a day or two afterwards. I think I can put it that way. You know, where I seemed, I felt lighter, I felt that the world wasn't coming down, that I could handle things better, just by having had that 45 minutes of movement, you know?

This sentiment speaks to the benefits of the emotional expression, physical release, and social support which participants reported experiencing in DMT. Participant 8 continued to explain: “I feel lighter after the movement sessions, after being with people who really understood what was going on.”

Participant 4 explained how the group support plus the experience of positive emotions and release of negative emotions through movement enabled her to leave feeling “lighter” and able to face the challenges home with her husband. This quote poignantly summarizes aspects of how DMT enhanced her own coping as a caregiver:

...because the fact alone that you know, some of the folks made it in, and they have just dealt with this crisis or that crisis, and they've come in, and they've felt so free to express what they have just been through and feel comfortable with yourself, with the group, and

then you were able to guide us into, kind of come into a better place in our mind, over what was, what's been going on, and then by the end of it, you know, I think, I think everybody left much feeling a whole lot lighter, and that they could, okay, you know, I can, I can go home and I can cope with this now, because I've had this time.

Furthermore, participating in DMT re-energized caregivers for tasks outside of the session:

I would have to say, while I was there, and even afterwards, it made a big difference to me. While I was there, like I said, you know, I really enjoyed the movements, and I enjoyed being part of that group and I, you know, it was fun. And afterwards, I found that things that had been putting off, like, you know, doing housework and things like that. I kind of felt like I had more energy, and I wanted to do them... I felt that way through the whole week. (P2)

On reinforcing beliefs of one's own abilities and strengths, Participant 10 describes how DMT has made her feel "powerful" and less fearful in a way she has not experienced before:

I have been feeling very powerful, which I which wouldn't have been my feeling before, like I have been. I don't know, It's wild. I have been feeling powerful, and I think I came back one day after to say to you, "I'm not afraid anymore." And that's true, because sometimes I get, I've been paralyzed with fear, really. Really, truly paralyzed with fear. And I'm not saying I'm not afraid, of course, but, but I'm not, I'm not as, I can I can pick up a scarf, or I can tell myself to stop and just think for a second, or take a break and breathe, or just do some kind of crazy exercises or something, and I, and I'm fine and I'm not fine, but, you know, I'm able to move forward.

Another participant describes how DMT was the “highlight” of her week, which acted as a needed “release” and “respite”:

The session was the highlight of the Monday, and it enabled me to face the challenges that followed, as they do in my life, because of the issues with my husband... it is an incredibly powerful tool, and really constructive and helpful. So indirectly, it has to help the caregiving process, because it gives you that moment of release, a respite, absolutely, so then you go back into your role, with having had a yes, a respite, and not just a respite, a stimulation, a moment for you. (P1)

Together, these quotes emphasize how the release, freedom, and connection found in the DMT setting impacted their mood, embodied state (feeling “lighter”) and cognitive assessment of being able to face the challenges at home. These sessions appeared to act as a “bump” in caregivers’ emotional experience which facilitated improved self-efficacy beliefs.

Attitude Change: Reframing & Coming to Acceptance. The next category of “enhanced coping” which was described by caregivers was how through DMT, they were able to reframe their situation and come to a new place of acceptance. This theme was mentioned in eight of the nine interviews. Participant 10 described how the DMT program made her realize she needed to change the way she was viewing her situation with her husband who has dementia:

I also think I had a little bit of an assumption that I didn't believe I could learn any more about what was going on for me, because it's been such a difficult journey for me. But I understood by the end that what I needed was an attitude change, change of my way of looking at the same things, and it was because of the experiences that you provided for us, that I was able to say by the end, yes, I have, I do. I feel I have an attitude change, and it has changed me.

This participant then went on to describe how the post-session journaling questions (the Brief Resilience Coping Scale) deeply impacted her:

"I look for creative ways to alter different situations." Okay, I never thought of that before. I never realized that, in fact, that is what I've been doing and then, "regardless of what happens to me, I believe I can control my reactions to it." I never thought I could do that. I never, I just didn't think that way. And the third, the second, the third one, "I believe I can grow in positive ways by dealing with difficult situations." I never thought of that either. I just sort of felt the tsunamis coming, and I would experience the same throughout my life that, bam, bam, bam, oh, I better get better. I better get better. I better do better. I better do more. Oh, I better do more. No, I haven't done enough. I'm not enough. I'm not enough. I'm not enough, yeah, and that has been really the story of my life. "I'm not enough" and when you and so I don't know if I'm making any sense, but this is my foundation now, this is my, these questions are my foundation.

These journaling questions, as well as engaging in movement also directly influenced her mindset:

In terms of my caregiving, I think I'm freer. I think I'm more confident, and I'm more accepting of what, um, it's going to be or isn't going to be, and I'm also more at peace with knowing I can't control it, whatever, and that did, that did come out of all the movements.

Given the nature of dementia, caregivers expressed how they are trying to come to acceptance that the end of their lives with their loved one will not be as they had envisioned. This is the reality of the disease which they must try to make sense of. Participant 8 here describes her own experience of reframing, which was prompted in week 4's caregiver movement journey:

In the sense of what came up for me, and that I hadn't realized was still, was still there, and that I got to the future, and it doesn't look good for me, but I'm 85 years old, and what do you do? I mean, yeah, there's lots of good stuff in in the future, but my life with my husband is not looking going to be, you know, roses, it's not. Oh yeah. Yeah, I'm a realist. Additionally, Participant 5 spoke about how the movement journey activity in week 5 helped her to begin to face her future, which is hard to come to grips with:

So 'past, present, future, okay'. I'm a very internal person. I kind of think a lot about things, but I hadn't thought about it in that way. So, it was really, it was really, very helpful and immediate. Even if you don't acknowledge or want to see the future, it's there, it's looming. It's looming. So, it's, I always feel one should just face it, but it's hard to... whatever it means, because you, actually don't know what the future is, what or what it will look like... I think I settled into what is, and maybe it's more about acceptance.

She continued to express how by processing her caregiver journey through movement, she not only expressed it, but found a way to move forward:

Then you're providing an opportunity to not only just emote, but to actually have a way forward in some way, for oneself, yeah, as you, as you know, we keep saying there's not a lot of space for a caretaker to really spend that kind of time. And yet it's, you know, it's important. (P5)

These quotes illustrate how creative movement acted as a resource for caregivers to make sense of personal narratives in a temporal manner. Participants appreciated the opportunities to come to new realizations about their future with their loved one. One more quote for this theme expresses Participant 10's realization that while she did not imagine her life with her husband would go this way, she is learning to understand how to process it:

The other thing that I realized was that, no, this wasn't really what I had in mind. Okay, I didn't really plan, didn't really think this was a good way to kind of finish our life, (husband's name) and I together, but I've really come to understand some very profound things about (husband's name) that I wouldn't have seen before, and some very profound, simple ways of experiencing change for myself. So anyway, it's been, has been wonderful, but I can't really explain it. (P10)

Emotional Regulation. The last category of “enhanced coping” was improved ‘emotional regulation,’ which was described by seven out of nine participants. Caregivers described how releasing their emotions and tension through movement helped them to feel more “calm” and how this reduced outbursts or “tantrums” at home. Caregivers explained that when they can be calmer, this has a positive impact on their loved one with dementia. Speaking about her husband, Participant 8 explained this:

What can I do to make my life better, for me and for him, when I'm better. You know when I'm when I'm calmer, he's calmer. So that's, that's what I've noticed as well. So, and that's all since, that's all since my Monday morning dance/movement things!... That helped me to realize what it is I need to, to relieve my stress, to get to what real issues are when, when I have tantrums at home, which I call them now, and I'm not having them. I haven't had one in about three weeks, which is the, from frustration. So, I'm realizing, that that for me, that experience of just getting up and moving in a guided movement kind of thing helped me sort through some of the stuff that goes on in my head.

Another participant described how after releasing negative and positive emotions through movement, it led her to stay in a place of calm, which is important for her husband's well-being:

It's very, very important to, um, to be calm for me, for my husband, it's very, very important, because although his mind is screwed up and scrambled eggs he does pick up on when I'm upset and he doesn't know what's wrong, and he and he therefore, gets, I mean literally, emotionally distraught. So, I know that this program helped me to be calm, stay, to go to a calm spot, and I am much calmer. I am. I do feel it. (P10)

Acknowledging the negative emotions, rather than repressing them, and finding a way to work through them helped participants to regulate what they were feeling: “So for me, it was a good amount of like being real about, like the negative emotions and letting them be, and like being honest about them, but like moving on from them, and not staying too long.” (P9)

Together, these quotes highlight the importance of giving caregivers a space to process what they are feeling in a supportive and creative space. Given that the challenges they face at home are enduring and progressive, finding strategies to support feelings of caregiver empowerment and efficacy to continue are of the utmost importance.

4.4.3 Suggestions for Future Programs

In the debrief interviews, participants were asked to describe suggestions they have for future iterations of this program. The suggestions fell into two main categories: desire for more (sessions, time to debrief, and social time) and discussing alternative formats.

4.4.3.1 Desire for More. Participants expressed wanting more time both within each session and over time.

Desire for sessions to continue. Six of the nine participants described how they wanted the sessions to continue beyond six weeks. They expressed how they looked “forward” to DMT each week and how the program ending was challenging.

Participants described wanting to feel a “continuation” to what they had begun to build within their group: “And I would love to, you know, to feel that there is a continuation to that. Like we can go on to continue it, but with your ideas and your, you know, curriculum, but keep moving and moving on” (P4). Participant 4 also described how she wanted to keep experiencing sensations of loosening up:

And I think that was a kind of a, the point where I kind of started to really feel more comfortable and loosen up, I think that's what made me look forward to come in and experiencing what you have to offer. Because after I felt that letting go, I was looking forward to being able to do that again.

Related to this desire to continue DMT was a sense of grief experienced by some participants when the sessions ended. Participant 1 described how the loss of the weekly session was “painful”: “Yes, and the experience was profound. It really was. Which I think the idea of not being able to do it anymore was so painful.” She continued to express how the end of the sixth week felt like something was being “taken away”:

But by the last session I was fearful. The sessions were almost over & I would no longer have the intimacy & joy of movement this group had given me... The ending was too sudden, I felt I couldn't cope. It was a bad week generally so this one happy spot being removed was just over the top. (P1)

When asked if she would want to continue the program beyond the six weeks, Participant 1 replied in this way, indicating her surprise that there was not a continuation:

Oh, definitely, definitely, without a shadow of a doubt. Yes, yes. Incredibly positive. Absolutely, I'm in a way, I'm surprised that, having experienced it, that there isn't something like this in the Alzheimer's Society for caregivers.

Other participants in the group with Participant 1 empathized with the grief she felt at the end of the final session:

Even though it was a celebration, there was also an ending. Yeah. So, I understand totally how she felt, because even for myself, I felt that way...I kind of felt bad for her, and I wish I could have helped her, but I think a lot of it is internal, maybe things that were going on at home or at the same time. You know, when you know something is going to end and you can't come back, you feel really sad. And you know, for some people, it's harder than others, because then you think, "Oh, I can't do this anymore. I won't see these people anymore. (P2)

These sentiments emphasize the importance of continuing these types of programs beyond six weeks, when supportive relationships begin to form. Beyond the desire for the DMT program to continue beyond the 6 weeks, caregivers also suggested having 90-minute sessions, rather than 60 minutes, to enable more time to debrief and go deeper with movement activities.

Desire to go deeper and debrief more. Participants felt that there was more to process and they wanted more time to go deeper with each of the movement activities and discussions: "I wish there was, no, I don't mean to say it in a negative way, it's positive actually, that that I wish there was more time in each of the elements, because I found we needed more time" (P5). Other caregivers expressed how they felt they could have applied some of the movement activities to other topics or emotions, if we had had more time. Participant 10 explained that she wanted more time:

More time, and I will do more. I would be do more storytelling, more storytelling in the in the creative process, more narrative based, more, more but not us talking, more movement like, okay, so "what happened this week? Let's do that in a movement way."

Or "what is the worst thing that's happened? Do that in a movement way." Yes, so using the same, um, structures, but on different storylines, like different, different stresses that may have come up, and how and how would you, um, how would you deal with them?

Having more time to verbally debrief what transpired in each session was also expressed as important to participants.

And maybe have an extended time, yeah? Like, beyond an hour, maybe an hour and a half is a good idea, or even a two-hour group, because I don't think we processed it enough, like, I think we all very moved by each other's journey, but we really didn't talk a lot about it with each other. (P6)

Similarly, Participant 10 described: "The part that was hard is that we didn't have, I wish that we had more time to share who we were, share the journey a bit more, that's all." This desire was likewise shared by Participant 5 who expressed:

It would have been nice to like, kind of sit with that and then talk with everyone, like, because I learned from them too, and I thought, oh, yeah, I resonate with that, or there's another aspect to this I hadn't considered either.

Related to wanting to have more time, participants expressed a desire for longer sessions: Speaking about the duration of the sessions, Participant 8 described:

If I'm going to clear my Monday morning, and I'm going to be part of something, by the time I get there, and to do it for half an hour, 45 minutes, and then write for 15 minutes, you know, in the journal, then I am, I would like more movement, at least an hour would of the movement, part of it, for me, would have been good. I was always sorry when it ended.

However, the sessions also cannot be too long that caregivers begin to worry about their loved one at home. Participant 9 shared: “I also didn't have to worry, like, I didn't have to worry about my dad, because if it gets too long, like, trouble brews.” Furthermore, Participant 10 considered that if the sessions were too long, it might be hard to remain “focused”:

I guess I'm struggling with it, because um, how much are we, are we willing to share? And it could have got, it could have been pretty tight, if you will. It could have been pretty tense. I mean, is the word, because we can't, we don't know each other really, and all of a sudden, we're in this, like we're in this mess that we're in, but it's pretty personal. It's pretty private. Um, and you can't force people to, you know, share. So maybe there was some, maybe there's some rationales for keeping it to the hour and focusing it because you wouldn't want to really go off on tangents, right?

The last category under “desire for more” was ‘desire for more social time.’ Four participants directly expressed a desire to have social time before or after the sessions with the other caregivers whom they had connected with through this program.

Desire for more social time. Participants described how they were curious about the other caregivers and wanted to get to know them and their stories more. The group was experienced as “supportive” and having a “safe space” to be open about the challenges they were going through was not common for them. Here, Participant 4 described how she appreciated having time to chat before DMT, but how they could have used more of this time before getting into the movement-portion of the program:

Well, you know, I don't think it's meant to be, I don't think your program is meant to be this. But what I would say is, is maybe a half an hour or something, when people get there to just talk about how things are going for them... So, you know, people come and,

you know they, they don't have a chance to, you know, to say, in this safe environment, what's happening with them, what's going on? You know, many people in our situations, we tend to not, you get to the point where you don't share a lot of things anymore, because you don't feel people want to hear or they understand, or you just get tired of talking to a you know, because, but in an environment like that, where, you know, there's this commonality, we're all in the same boat, and that little opportunity to just sit there and says, Oh my god, I had such a terrible morning, you know, I couldn't get my husband going and this or that, or had to go to emergency, you know, just to get that off.

Similarly, Participant 2 described how when given the chance to be in a supportive group of caregivers, she wanted to have more time to enjoy that:

I know for some people too, because we don't, we're not able to get out too much, when we're caregivers and when you like the company, it's nice to be able to spend a little more time with the people... I would think I would like it to be longer than one hour where there is a little bit of time to, you know, just have a coffee or even a drink and just chat and get to know the group better... And so, I don't know just I like to have a coffee with company. I don't get to do that at home very often, right?

Participant 10 acknowledged that while the purpose of the group was not to just have a cup of coffee, that she wanted to learn more about the other women in her group:

There was no question that, yeah, yeah, yeah, but you had a, I mean, there was a reason why we're there. It wasn't, wasn't just to have a cup of coffee together. Um, but yeah, I mean, I would have loved to have learned more about each person, like, I love to, would love to learn where they came from, who they are, and all those kinds of things.

Similarly, Participant 8 described how she was “curious” to learn more about the other women in her group, but that she realized over time that they disclosed aspects of self through movement:

...and I was surprised that we didn't do more sort of getting to know each other before. But then I realized we did it through, through the program, through the movement stuff. So I was, I was curious at beginning about that, because I'm not usually in a group or of this kind of intimacy that we, I didn't know, I didn't know these two women, and I didn't, didn't really know what to expect... I think, for me, I was curious about the other two women. Part of me really wanted to know more about them right away, without, which I did get to know by the end of it, but I didn't, I didn't, at the beginning I couldn't figure that out, and so, but I did come, I did come to appreciate both those women.

Together, these quotes show a desire from participants to have more immediate sharing with other group members, to be able to enjoy social time with those whom they had found supportive connections with. The last type of feedback on participants' suggestions for future iterations of the program was pertaining to alternative formats for DMT.

4.4.3.2 Alternative Formats. Participants discussed possible alternatives to the format of once a week, in-person sessions.

Virtual Option. Three participants considered the possibility of offering a virtual format for DMT for caregivers. They all expressed that this likely would not be as beneficial for them. However, they recognize that some people might want this, if due to their caregiving they cannot leave their loved one. Here, Participant 5 described how she tried other virtual arts-based programs for caregivers and would not do them again:

You know, when (husband's name) started this journey, the only opportunity was Zoom, because COVID, and I found it brutal in many ways. Like I just, you just couldn't, it was, like, you could only get a quarter of the real value of the program. How would you do that with you know, I did take an art class with caretakers, and it was over Zoom. And for me, I wouldn't do it again. I wouldn't do it again, because you're not really seeing anyone else's work, you sort of show it, but not really... And yet, you know, for them, the reason they're requesting Zoom is because they're trapped.

Similarly, Participant 2 explained that while getting out to another space is something caregivers “need” it may not always be possible when dementia symptoms progress:

Yeah, that's something that we really need, but it's not always possible. There has to be alternatives. You know, these people get worse, and you can't leave your home. What are you supposed to do? Just have no contact with anybody, have no communication or not anyone like that is the thing you know, it's for people who have mild impairment, or even maybe up to the middle a moderate impairment, but when they get worse, what happens to the caregiver? Nobody's thinking about them anymore. And that is a really big problem.

Participant 1 felt more strongly that for DMT to be beneficial, it “had to be” out of the home environment in order for it to feel like a respite:

No, in a way, it has to be outside of your home environment. It has to be. Because a) you don't have this in my instance, I don't know about others, but we don't physically have that space to leap around. And also, in your own home, everywhere you look, oh, I meant to paint that. Oh, I've got right, called electrician about that. Oh, I've got to put a nail in there... So, you have to be outside of that environment to clear your mind. I don't, I

don't, it cannot be done. I don't think on a Zoom. I know it can't. I know for me it wouldn't be. The neutrality or anonymity of the space. It's not yours to maintain. You don't have to run the air conditioning, no, it has to be an anonymous, neutral environment.

Retreat Option. One participant suggested a half-day retreat option which would enable caregivers to dive deeper into personal themes in movement and have more time to debrief with other participants than the one-hour weekly session format. This participant was in the second group which had more participants drop out or have trouble attending weekly. She explains that perhaps caregivers might be able to manage this format better:

And it occurred to me, like, wouldn't this have been great, if this was part of a half day or even a full day retreat, because then you could delve in deep, people were committed to the day, and then there would have been time to have a debrief and talk... So, it's, it's important to release for sure, and I, and I kind of wonder, that's why I went back to this retreat idea, is that that would have given dedicated time with people being taught to really (exhale sound). I don't know why I maybe I like retreats, that's why I'm mentioning it, whether that would sustain the feeling or something longer.

Overall, caregivers shared valuable insights and suggestions for future iterations of the DMT program, from desiring longer sessions to more sessions, to emphasizing the importance of it being in-person. Now, the results of the deductive coding will be shared, which summarizes how well the treatment benefits map on to the theoretical model of resilience factors and DMT mechanisms (Champagne, 2024) in response to *Research Question 4*. In *Dedoose*, coding for the theory-informed resilience factors and therapeutic mechanisms of DMT was conducted to see if/how anticipated resilience factors were evident, according to participants' experiences.

4.5 Deductive Coding: Resilience Model Suitability

Deductive coding for the theory-informed caregiver resilience factors and therapeutic mechanisms of DMT was conducted to see how suitable the comprehensive theoretical model (Champagne, 2024) was in the present intervention. Overall, the themes derived from the inductive coding had a high level of correspondence with anticipated resilience factors and therapeutic mechanisms, summarized below in *Table 16*. Deductive coding of qualitative data and merging of the quantitative and qualitative data serve to explore *Research Question 4*.

DMT activated resilience factors associated with well-being, including cultivating *positive emotions* (Ong et al., 2020) which is related to Koch's (2017) therapeutic factor of hedonism: pleasure and play, and self-efficacy, which is related to the therapeutic factors of aesthetics and generativity. Associated themes with positive emotions include 'experiencing joy and playfulness,' 'feeling free: releasing and letting go,' and 'feeling lighter and empowered.' DMT movement activities in particular which brought out these themes of experience included movement improvisation, the use of DMT props (e.g., in week 3 of the program). *Self-efficacy* was also predicted to be an important resilience factor to try and target (Teahan et al., 2018) for dementia caregivers, which can be reinforced by creating something perceived as beautiful and authentic (Koch, 2017). Self-efficacy is related to Koch's factors of aesthetics and generativity. In the present study, the qualitative themes of 'authentic expression,' and 'feeling lighter and empowered' indicate that self-efficacy was activated in DMT. Participants described feeling more powerful and more able to "face" caregiving tasks due to the beautiful and authentic experiences they had in DMT.

Table 16: Qualitative Evidence of Anticipated Resilience Factors in DMT

Resilience Factor/ Therapeutic Mechanism	Associated Qualitative Theme/ Experienced Benefit
Cultivating Positive Emotions/ Hedonism: Pleasure and Play	<i>Experiencing Joy and Playfulness:</i> Participants expressed high levels of positive emotions being cultivated within the DMT program such as joy and a sense of play in a variety of the DMT activities. <i>Feeling Free: Releasing and Letting Go:</i> Participants described the pleasure of moving their bodies in a free and supportive environment. <i>Feeling lighter and empowered:</i> A feeling of lightness was described as evident in experiences of playful and joyful movement in DMT which benefited caregivers outside of the session.
Self-efficacy/ Aesthetics: Art for Beauty and Authenticity	<i>Feeling Lighter and Empowered:</i> Participants described how DMT reinforced self-efficacy beliefs by helping caregivers experience their own strength.
Generativity: Art for Creation, Self-Efficacy, Leaving Something Behind	<i>Authentic Expression:</i> Participants described how creating something with their bodies was experienced as authentically beautiful. Co-creating choreographies with other group members reinforced self-efficacy beliefs as they created genuine and tangible movement narratives.
Cognitive Flexibility/ Reframing	<i>Attitude Change: Coming to Acceptance/Reframing:</i> Processing narratives through movement helped participants to process deep aspects of self which surfaced and find new ways to look at existing challenges. <i>Discovering & Expanding Aspects of Self:</i> Movement provided opportunities for participants' view of themselves to be expanded and to perceive aspects of their life in a new light.
Meaning-making • Cognitive Symbolism	<i>Attitude Change: Coming to Acceptance/ Reframing:</i> By processing caregiver journeys in movement, participants were able to integrate and reframe life events which surfaced in DMT.

• Affective Symbolism	<i>Authentic Expression:</i> DMT provided a means to embody personal themes and express them authentically. <i>Getting in Touch with Emotions:</i> Movement brought emotions to the surface which were then expressed. <i>Discovering and Expanding Self:</i> Aspects of identity were re-discovered and explored within DMT. <i>Emotional Regulation:</i> Participants were able to modulate between affective states and enhance feelings of “calm” and “lightness” while reducing feelings of anger.
• Transpersonal Symbolism	<i>Group Intimacy: Building Safety, Trust, & Cohesion & Being ‘moved’ and being ‘seen’:</i> Participants reported deep experiences of unity with other participants in which they were connected through movement.
Enactive Transitional Support	<i>Experiencing Joy and Playfulness:</i> Being able to access a playful and childlike space within DMT. <i>Body Connection and Vitality:</i> Movement brought up awareness of ones’ own resources and life in the body which was experienced as powerful. <i>Feeling Lighter and Empowered:</i> Participants reported experiencing that their inner resources were enhanced.

Generativity has to do with how art enables someone to experience their own effectiveness and strengthen beliefs of being in control and being resilient “look at what I can do/make/create” (Koch, 2017). For example, co-creating movement phrases in week 5 was described as strengthening and empowering.

Furthermore, there was evidence of resilience factors related to coping, namely cognitive flexibility/reframing and meaning-making, as described in Champagne’s (2024) model. Being open to reframing life events was apparent pertaining to the themes of ‘attitude change: coming

to acceptance and reframing,’ as well as ‘discovering and expanding aspects of self.’ The associated quotes with these themes have overlap with those related to cognitive symbolizing (meaning-making) as well. Evidence of the resilience factor of *meaning-making* through cognitive, affective, and transpersonal symbolizing in DMT (Koch, 2017) was identified through deductive coding. *Cognitive symbolism* has to do with how the arts help to structure and integrate life events (Koch, 2017). Participants gave a plethora of examples of cognitive symbolizing when they described their experience of the caregiver movement poems in weeks 4 and 5 of the intervention. The qualitative theme which most related to these factors was ‘attitude change: coming to acceptance and reframing,’ and some quotes from ‘getting in touch with emotions’ and ‘body connection and vitality.’ For example, participants described how by processing their narrative of past, present, and future in a “movement manner” in week 4, they had unexpected memories or feelings come to the surface, which they could then process creatively.

Affective symbolizing has to do with the non-verbal expression of and regulation of identity and emotions through the arts (Koch, 2017) which was evident in the qualitative themes of ‘authentic expression,’ ‘getting in touch with emotions,’ ‘discovering and expanding aspects of self,’ and ‘emotional regulation.’ Participants gave many descriptions of how DMT gave them a platform to express their authentic journey as well as regulate their emotions, such as in the “I am” and “I need” narrative activity in week 5. Furthermore, *transpersonal symbolizing*, connecting to someone/something greater than oneself through art, was also apparent in the qualitative theme “connecting with others.” There was not any evidence in the qualitative themes for a connection to a bigger “force” (Koch, 2017) (spiritual function), but the connection to community was apparent. For example, in the sub-theme of ‘being moved’ and ‘being seen,’ participants described how DMT provided them opportunities to share “powerful” experiences of

connection with other caregivers whom they could empathize with and thus, engage with the feeling of “we are in this together” (Koch, 2017). The sub-theme of ‘group intimacy: building safety, trust, and cohesion’ also relates to this theme, as DMT prompted the development of “kinship” between participants which was experienced as “safe.”

Enactive Transitional Support represents a therapeutic factor which Koch (2017) described as the function of art to provide an embodied means of control amidst adaptation and times of transition. New ways of acting may be tested or played out in the creative-arts therapy which can strengthen a client’s resources to move forward (Koch, 2017). Some evidence of this theme is present in the theme of ‘experiencing joy and playfulness,’ as participants described how the sense of play within DMT activated a “childlike space,” which they forgot they had access to or had lost touch with. Furthermore, participants reported that their resources were reinforced by connecting to their body in the themes of ‘body and connection and vitality’ and ‘feeling lighter and empowered.’

Overall, there is evidence of the anticipated resilience factors and therapeutic mechanisms of DMT, as proposed in Champagne’s (2024) comprehensive model. Some qualitative themes relate to one or more of the anticipated factors, such as ‘feeling lighter and empowered’ which is associated with hedonism: pleasure and play, self-efficacy/aesthetics, enactive transitional support, and generativity. The theme of ‘authentic expression’ could also be associated with various factors: self-efficacy/aesthetics, affective symbolizing, and generativity. Furthermore, while the theme of ‘connection with others’ provided evidence of transpersonal symbolism, no evidence of the spiritual function of this factor was found in the data. This may be in part due to the design of the DMT program, which did not intentionally tie in spirituality in any explicit way. Additionally, aspects which were important to participants pertaining to the

theme of “holistic engagement” such as ‘connecting to the body’ and how ‘DMT compared to support groups and talk-therapy’ were less related to anticipated factors proposed by Champagne (2024). Thus, perhaps adding resilience factors more inherently tied to the importance of embodiment and holistic processing to the model would be useful.

4.6 Integration of Quantitative and Qualitative Findings

A tenet integral to mixed methods research is the integration of the two datasets. At this stage of analysis, the question is: “to what extent do the quantitative and qualitative results converge/diverge and how do they converge/diverge?” A *joint display* (Creswell, 2022) of comparison was created to explore this question, as shown in *Table 17*. Variables from quantitative surveys pre-post and post-session measures are shown in the vertical dimension in comparison to qualitative themes in the horizontal dimension. Quantitative findings were restricted by the limited measures in the pre-post surveys and post-session journaling to reduce instrument burden. For example, while we have a quantitative indicator of self-efficacy in the DMT factors scale, there is not a quantitative assessment of meaning-making. Additionally, the benefits/outcomes of DMT may not have been accurately captured by the quantitative results possibly due to the small sample size. The qualitative arm of the project promoted more insights to emerge pertaining to DMT experiences and perceived benefits of the program by caregivers. This table shows the congruency between findings on key outcome variables such as caregiving burden, as informed by quantitative changes pre-post and associations and reported qualitative experiences of DMT. Hypotheses and research questions which were explored are also identified in this table.

Caregivers reported a high degree of burden pre-intervention, which significantly reduced post-DMT. This is congruent with reports of caregiving as overwhelming and exhausting in

qualitative interviews. Furthermore, the reduction in burden as captured through the quantitative data is congruent with qualitative findings about how DMT helped caregivers to feel lighter, freer, and more empowered in their caregiving and everyday lives.

The increase of resilience and psychological flourishing as intervention outcomes did not reach statistical significance. This is discrepant with qualitative descriptions of resilience being bolstered after the sessions each week, through enhanced well-being and coping. Participants described how they felt lighter and empowered after experiencing joy and playfulness in DMT and authentically expressing and releasing their stress in the session. Furthermore, as described above in *Table 16*, there was evidence of resilience factors being activated in DMT (e.g., self-efficacy, meaning-making) both in the weekly DMT quantitative scales which were administered, and according to participants' qualitative feedback.

Quantitative scores on measures of active creativity and therapeutic factors in DMT are mostly congruent with thematic findings. While scores on active creativity and therapeutic factors were not significantly correlated to resilience post-intervention, average scores on DMT-specific scales were above the mid-point of the scales, indicating a high level of experienced creativity (self-efficacy, cognitive flexibility) and therapeutic factors (e.g., positive emotions). These high scores are congruent with expressed themes from qualitative interviews. For example, high scores on experiences of happiness and joy are congruent with the qualitative themes of 'feeling lighter and empowered' and 'experiencing joy and playfulness.' Furthermore, specific therapeutic factors which were rated high on average (e.g., expressing feelings) are congruent with themes such as 'authentic expression.' Furthermore, the therapeutic factor of synchrony with others is congruent with the theme of 'connecting with others, and sub-themes of 'group intimacy: building safety, trust, and cohesion' and 'being "seen."'

Table 17: Joint Display of Findings on Caregiver Burden, Resilience, and DMT Factors

Quantitative Variables and Hypothesis	Mean differences, Mean, or Pearson Correlation & Significance	Quan. & Qual Congruency (RQ4)	Qualitative Themes and Quotes (RQ3)
Caregiving Burden (RQ1- H1)	Change from T1- T2 Significant $MD = .186$ $p = .032$	Congruent	<i>'Caregiving Exhaustion/Overwhelm' & 'Lack of Freedom/Feeling Constrained'</i> “Your whole life is subsumed into trying to keep things even, keep the ship afloat, to make life as agreeable as you can for the other person, because you know that what they are going through is not their fault.” (P1) <i>'Feeling Lighter and Empowered', 'Feeling Free: Releasing and Letting Go', & 'Emotional Regulation'</i> “I felt energetic, I did, I did. Things didn't weigh as heavily on me for a day or two afterwards. I think I can put it that way. You know, where I seemed, I felt lighter, I felt that the world wasn't coming down, that I could handle things better” (P8)
Benefit Finding (RQ1- H1)	Change from T1-T2 Not significant $MD = -0.141$ $p = .256$	Not applicable	Not identified

Resilience (RQ1- H1)	Change from T1-T2 Not significant $MD = -0.125$ $p = .551$	Discrepant (T1-T2)	<i>'Attitude change: Acceptance & Reframing', 'Feeling Lighter and Empowered' & Experiencing Joy and Playfulness</i>
Resilience (RQ2- H3)	Correlation between Resilience in Week 4 with Resilience at T2 Significant $r = .853$ $p = .000$	Congruent	"Yeah, it gave me a sense of perseverance. Yeah, you know, made me realize how strong I really am to overcome those challenges and still come out of it being a happy person." (P2) "My attitude toward the obstacles facing me out of my control has changed significantly as well as the resilience strength I now feel which was not there before." (P10)
Psychological Flourishing (RQ1- H1)	Change from T1-T2 Not significant $MD = 0.013$ $p = .953$	Not applicable	Not identified
Active Creativity in DMT (RQ2- H4)	Mean from Week 4 Correlation of entire scale with Resilience $R = -0.19$ $p = 0.61$ Not significant Means* from Weeks 3,4, and 5 subsequently on scale items (no tests of significance)		
• <i>Empowered</i>	$M = 4.5, 4.3, 4.5$	Congruent	<i>'Feeling Lighter and Empowered'</i> "I felt empowered by the sessions, really, and it definitely lifted my spirits." (P1)

Therapeutic Factors in DMT (RQ2- H4)	<i>Free to Decide</i>	$M = 4.6, 3.9, 4.8$	Congruent	<i>‘Feeling Free: Releasing and Letting Go’</i> “‘This was the most exuberant experience I have felt for some time, the movements were freeing and exhilarating because we were choosing them ourselves and we were in control.” (P10)
	<i>Effective/That I Have Impact</i>	$M = 4.1, 3.9, 4.1$	Congruent	<i>‘Feeling Lighter and Empowered’</i> “I can go home, and I can cope with this now, because I've had this time. I've had this release, I've had this sharing, I've had this joy mixed in with the sorrow.” (P4)
	<i>Creative</i>	$M = 4.4, 4.5, 4.6$	Congruent	<i>‘Experiencing Joy and Playfulness’</i> “‘Things just kept changing all the time. And I think that was the most fun part of it, because it wasn’t the same thing all the time, and it wasn’t set in stone” (P2)
	Mean from Week 4 Correlation of entire scale with Resilience $R = 0.36$ $p = 0.30$ Not significant Means** from Weeks 3, 4, and 5 subsequently on scale items (no tests of significance)			

• <i>Positive Emotions: Happiness, Pleasure, Joy</i>	<i>M</i> Happiness = 8.6, 6.1, 7.4 <i>M</i> Pleasure/Joy: 9.0, 7.6, 9.0	Congruent	<i>‘Experiencing Joy & Playfulness’</i> “I was a great sense of unalloyed uncomplicated joy” (P1)
• <i>Experience of Beauty</i>	<i>M</i> beauty = 8.6, 8.7, 8.7,	Congruent	<i>‘Authentic Expression’</i> “I was so happy to know that I could be inspired by my own beautiful feelings.” (P10)
• <i>Fluency of Expression & Synchrony Between Body & Mind</i>	<i>M</i> Expressing feelings= 8.4, 8.8, 9.1 <i>M</i> Fluency of verbal expression: 7.6, 7.8, 8.3 <i>M</i> Fluency of movements= 8.4, 7.9, 7.3 <i>M</i> Connection between body and mind = 8.1, 8.1, 8.0	Congruent	<i>‘Authentic Expression’, ‘Body Connection and Vitality’ & ‘Getting in Touch with Emotions’</i> “It was also impactful for me to see other people expressing their journey. And I could see it... in a visceral way, what they were going through in a way that was so symbolic and that you can't always express with words or would take too long to go through the intellectual processes to communicate what you're feeling. So, this artistic expression just got to it got to the heart of it in a very immediate way.” (P5)
• <i>Synchrony with Group Members</i>	<i>M</i> unison with partner/ the group = 8.6, 8.6, 9.1	Congruent	<i>‘Group Intimacy: Building Safety, Trust & Cohesion’</i> “They weren't like emotional talk interactions, but they were, they were emotional, and they were like, they were deep, and they were heartfelt, and they felt sincere, and they felt like, I felt like they understood what they were going through.” (P9)

Note. * Average scores on active creativity scale were on a scale from 1 to 5 where 5 indicates more active creativity.

** Average scores on therapeutic factors scale were on a scale from 1 to 10 where 10 indicates experiencing more of that therapeutic factor.

“Promise me that you'll give faith a fighting chance. And when you get the choice to sit it out or dance, I hope you dance.” Lee Ann Womack

Chapter Five

Discussion

The focus of this study was to explore how a novel dance/movement therapy (DMT) program could promote resilience for informal dementia caregivers. A notable body of research has documented the negative impacts of caregiving on well-being outcomes ranging from mental burden, to reduced relationship satisfaction, and worsened physical health (Caap-Ahlgren & Dehlin, 2002). While researchers have explored the benefits of some support programs for family caregivers, most of these programs prioritized cognitive forms of therapy, and have shown mixed results and minimal effect sizes (Schulz et al., 2020). Recent research has emphasized the need for more strengths-based programs to be developed for dementia caregivers, which target resilience factors including self-efficacy and positive emotions (Palacio et al., 2020). Furthermore, the potential benefit of interventions which engage caregivers in the creative arts for their own self-care are even more limited.

Dance/movement therapy is a “Whole Person” approach (Serlin, 2020) based on the premise that movement can serve to express, integrate, and expand aspects of self. Despite evidence that DMT can reduce negative psychological states such as depression and increase positive resilience factors such as self-efficacy and positive emotional experiences (e.g., Koch et al., 2019), it has remained underexplored for dementia caregivers. Most creative-arts interventions are offered for the individual with dementia and their caregiver is welcome to attend. While these interventions can foster positive relational outcomes (Newman-Bluestein &

Hill, 2010), a lack of creative-arts programs have been designed for caregivers in their own right, for therapeutic and respite purposes (Irons et al., 2020).

The main goal of this study was to design, facilitate, and evaluate the preliminary benefits and experiences of a DMT program for caregivers. Drawing on resilience theories and DMT literature, a 6-week DMT program for dementia caregivers was designed based on the theoretical model proposed by Champagne (2024) in which resilience factors (self-efficacy, positive emotions, cognitive flexibility, meaning-making) are shown to correspond to DMT therapeutic mechanisms and techniques. Through a mixed-methods convergent design, I explored the ways in which the DMT program impacted caregiver well-being, namely, by measuring caregiving burden, resilience, benefit finding, and psychological flourishing as baseline and follow-up (*Research Question 1*). Quantitative assessments of possible resilience factors and DMT mechanisms were also taken immediately following DMT in weeks 3, 4, and 5 (*Research Question 2*) to explore how DMT factors impact well-being outcomes. Qualitative analyses of post-session journals and semi-structured interviews were explored (*Research Question 3*) and merged with the quantitative data to consider meta-inferences about the experience and impact of the DMT program (*Research Question 4*) (Creswell, 2022).

Pertaining to *Research Question 1*, caregiving burden significantly reduced at follow-up as expected, which suggests that DMT enhanced caregiver well-being and perceptions of self-efficacy. Furthermore, resilience and benefit-finding did increase on average, suggesting an improvement, but the change from T1 to T2 was not significant. Resilience was also measured immediately following DMT sessions, to account for the process-outcome nature of resilience over time (Zhou et al., 2021). As predicted, when participants reported higher resilience immediately following DMT, this was associated with significantly more resilience and less

caregiver burden at follow-up. To see if anticipated resilience factors were activated in DMT (e.g., positive emotions), and to assess possible therapeutic mechanisms of the DMT program (*Research Question 2*), participants responded to the brief resilient coping scale and two DMT-specific scales following weeks 3, 4, and 5 of the intervention, active creativity (Lange et al., 2018) and a therapeutic factors scale (Koch et al., 2016). Scores on these DMT-specific scales show high levels of anticipated resilience factors (Champagne, 2024) such as above-average scores on feeling creative, effective, and experiencing joy/pleasure, group support, and ability to express emotions. Results indicate that experiencing a higher degree of therapeutic factors in DMT was positively associated with more resilience on the day of the session, less caregiver burden and more flourishing at follow-up, but these moderate effects did not reach statistical significance. However, qualitative reports of experience converge with these high scores of resilience factors.

The qualitative findings (*Research Question 3*) suggest that DMT was experienced as a beneficial intervention for caregivers' well-being and coping. Specifically, caregivers described their everyday lives as exhausting and overwhelming. They reported feeling constrained by their caregiving duties and grief. DMT was experienced as a powerful contrast, as caregivers emphasized the unique body-mind approach of DMT, which enabled them to engage holistically, feel liberated, and connect with others. These experiences in the DMT environment led to three main types of perceived enhanced coping: feeling 'lighter and empowered', having an 'attitude change: acceptance and reframing', and improved 'emotional regulation.' Participants described how DMT enabled them to experience positive emotions (e.g., joy), process and work through negative emotions authentically, discover new aspects of themselves, and feel supported in a safe

environment. Participants expressed a desire for more sessions to continue to explore and debrief what surfaced for them in the movement experiences.

Then, the quantitative and qualitative data were merged to explore the extent to which the anticipated resilience factors proposed by Champagne (2024) were activated within the DMT program, and to assess what the integration of the quantitative and qualitative data tells us about the impact and experience of the DMT program (*Research Question 4*). Results from this convergent approach suggest that caregiving burden was reduced through DMT and that anticipated resilience factors (e.g., positive emotions, self-efficacy, meaning-making) were activated in the DMT program.

This chapter begins with discussion and interpretation of results of this study's research questions and hypotheses and concludes with a discussion of theoretical and practical implications of the findings, limitations of the study, and future research directions. Please refer back to *Figure 1* for a visual summary of the guiding research questions for the study. The present study looked at therapeutic mechanisms and outcomes of the DMT intervention, considering both caregiver burden, as well as caregiver well-being and coping through quantitative and qualitative data of resilience factors.

5.1 Research Question 1: Did the DMT program impact caregiver burden & well-being?

In relation to the first research question (i.e., “does DMT have a longitudinal effect on caregiver burden, resilience, and psychological flourishing pre-post intervention?”), findings show that DMT had a significant effect of reducing caregiving burden. Benefit finding and resilience did increase as predicted, which suggests improvement, but these changes were not significant.

5.1.1 Hypothesis 1: Changes in caregiver burden, resilience, and well-being

It was hypothesized that caregivers would report lower caregiving burden and higher benefit finding, resilience, and psychological flourishing post-intervention. The findings of the study show that DMT significantly reduced caregiving burden from baseline to follow up. This suggests that DMT elicited therapeutic factors, which in turn, reduced perceptions of burden among dementia caregivers. No other statistically significant differences on the other well-being outcomes examined in the study (i.e., resilience) were found, suggesting that the intervention may not have been long enough to produce a meaningful boost in resilience, as measured through the standardized quantitative scales which were utilized.

5.1.1.1 DMT and Caregiving Burden. Dementia caregivers often report experiencing burden from the compounded strains of managing tasks which were previously more equitably shared, alongside the grief about the losses in their loved one's cognitive, relational, and physical health due to dementia (Schulz et al., 2020). As care demands increase, caregiver health can be negatively impacted over time (Harmell et al., 2011), and increased negative feelings may result (Kinchin et al., 2022). Given the degenerative nature of dementia, stopping the progression of the disease is not possible. So, finding ways to help caregivers remain resilient despite the challenges they face is essential (Wrede et al., 2024). The sample of caregivers in this study reported high levels of caregiving burden at baseline, with an average score of 4.35 out of a max of 5. This high level of perceived burden was congruent with qualitative themes about caregiving experiences such as “feeling exhausted and overwhelmed” and “lack of freedom.” Caregiver quotes emphasized how they felt overwhelmed by all the tasks they had to manage and the intense emotional grief which accompanied each step of the dementia journey.

Quotes about burden from the qualitative data correspond with previous findings about how caregivers may forgo their own activities due to feelings of guilt for leaving their loved one

(Waligora et al., 2019), as caregivers expressed that taking the time for the DMT program was something new for them. They described how caregiving tasks often prevent them from taking the time to process their own emotions and attend programs for their own well-being (e.g., the theme of ‘hard to find time for self-care’. Barriers to self-care which have been identified in previous research include how female caregivers may connect their identity to caring, self-sacrificing, and the burden of caregiving (Waligora et al., 2019). Caregivers in the present sample expressed similar barriers in interviews, such as Participant 5 who explained: “And I also think it's a woman's problem a little bit that that women will sacrifice more. It's just how we're raised and socialized, and maybe the way our brains work, that we are going to sacrifice ourselves more” under the subtheme of ‘managing tasks.’

The barrier of feeling guilty to take time for oneself (Waligora et al., 2019) also came up when groups created guiding principles in their DMT groups, such as “here for us” and “not feeling guilty” about taking time for themselves (Table 3). Furthermore, in the “I am” and “I need” movement poems in week 5, many participants expressed the statement of “I am guilty” or “I am not doing enough.” Additionally, dysfunctional beliefs about dementia such as that nobody can care for their loved one “like they can” (Risch et al., 2023) which are associated with greater burden, were common among participants, such as Participant 9 who explained about her father: “he can't magically be cared for by someone else just as well as I can do it,” under the theme of ‘facing the permanence of the disease.’

DMT provided relief from caregiving burden, indicated by how caregiving burden significantly decreased from T1 to T2 ($MD = 0.186, p = .03$). Qualitative themes were congruent with this finding. DMT experience themes which came out of the data inductively such as ‘feeling lighter and empowered’ and ‘feeling free: releasing and letting go’ emphasized how

DMT was a space for caregivers to release inner tension and burdens through movement. DMT also provided participants with opportunities to reframe their caregiving journey and process acceptance-beliefs or find new ways forward. Participant 5 expressed this about DMT: “you're providing an opportunity to not only just emote, but to actually have a way forward in some way, for oneself...we keep saying there's not a lot of space for a caretaker to really spend that kind of time.” This statement, and others like it, support previous research findings about how learning to accept the unchangeable trajectory of dementia (Wrede et al., 2024) can impact the extent to which burden is translated into depression symptoms. Overall, this study shows that through a variety of factors present in the DMT environment, caregivers' subjective burden was lessened, despite the ongoing challenges of caregiving.

5.1.1.2 DMT and Benefit Finding. Benefit finding has been associated with better personal adjustment and relationship quality among other types of caregivers such as cancer caregivers (Kim et al., 2007) and Parkinson's caregivers (Mavandadi et al., 2014). Caregivers in the present study expressed high levels of benefit finding at baseline ($M = 3.89$) and at follow-up ($M = 4.03$) on a scale of 1 to 5, with 5 representing finding more benefits. Benefit finding did increase slightly pre-to-post intervention on average, but this was not significant. Furthermore, benefit finding was associated with less burden and more resilience at baseline and at follow-up, as expected. However, none of these correlations were significant. No themes from qualitative data were identified which corresponded to benefit finding among caregivers. Benefit finding, (Kim et al., 2007) which is related to positive reappraisal occurs when personal growth or perceiving positive changes occurs when faced with a stressor.

Importantly, most of the sample had been caring for their loved one for quite some time already. Fifty percent of participants had been caring for their loved one with dementia for 3-6

years and 30% for 7+ years. Thus, it is possible that they already perceived that they had grown and found aspects to appreciate about caregiving over the years. The instrument which was used to measure benefit finding was found to be reliable, (T1 $\alpha=.70$; T2 $\alpha=.76$) however, perhaps a more specific measure about positive reappraisal or caregiving beliefs would have been more relevant to see if DMT changed specific beliefs.

Participants spoke about how DMT helped them to change their attitude or develop a greater acceptance of what they are facing in the theme under enhanced coping of ‘attitude change: acceptance & reframing.’ Most of these quotes were not about how caregiving was perceived as positive or growth-promoting, but rather how they are learning to accept that things will continue to get harder no matter what they do. For example, under the sub-theme of ‘caregiving exhaustion and overwhelm,’ caregivers described facing the ‘permanency of the disease.’ As summarized by Participant 10: “the hardest part is realizing that no matter what you do, the problem is still there.” Yet, participants did report experiencing shifts in their mood and coping through experiencing DMT in the qualitative interviews and journal entries. This discrepancy between the quantitative and qualitative data may indicate that while the benefit finding measure performed reliably, that it was not sensitive to the effects of the intervention (Orsmond & Cohn, 2015). It is possible that the shifts in thinking by caregivers which transpired through DMT could have been better measured with subscales of acceptance and/or positive interpretation from the COPE inventory (Carver et al., 1989) (e.g., “I’ve been accepting the reality of the fact that it (living with dementia) has happened”), as has been done in other DMT studies on resilience (Shim et al., 2019).

5.1.1.3 DMT and Resilience. Research consistently shows that dementia caregiving can result in compounded stress, which leads to negative impacts on caregiver wellness (Kim &

Schulz, 2008). However, given the progressive nature of dementia, identifying resources and factors which can enhance well-being for caregivers is of recent interest (Palacio et al., 2020). This shift in paradigm from evaluating how to decrease dysfunction, to considering how to enhance strengths-based outcomes such as resilience is related to the adoption of Positive Psychology approaches (Palacio et al., 2020). As a process-outcome, resilience can fluctuate over time, as someone encounters and manages stressors as they come up. Accordingly, longitudinal research is important to establish how resilience changes over time. Furthermore, before one can aim to promote resilience, they must begin with the question “Resilience to what?” (Bonanno et al., 2015). Understanding the nature and intensity of the aversive experiences (chronic or acute) is important to understanding the resilience process. In the present study, caregivers reported that the ongoing experience of caring for their loved one with dementia was highly burdensome and exhausting (based on quantitative scores on caregiving burden and thematic themes of caregiving descriptions). Even throughout the duration of the 6-week DMT program, caregivers experienced different crises with their loved one, ranging from wandering scares to aggressive outbursts. In this sense, dementia caregiving includes both acute and chronic experiences of adversity (Bonanno et al., 2015). Thus, the need for caregivers to access and utilize a variety of resilience resources over time is apparent.

In 2021, Zhou and colleagues proposed a comprehensive model of resilience for dementia caregivers, in which personal traits and environmental resources impact the resilience process, leading to outcomes related to adversity and/or personal growth outcomes. A variety of factors or resources have been associated with caregiver resilience including experiencing positive emotions, cognitive flexibility, meaning-making, and social support (Champagne, 2024). In the present study, the Brief Resilience Coping Scale (BRCS) was utilized to measure

resilience as an outcome at T1, T2, and immediately following DMT in weeks 3, 4 and 5. This scale measures an active, resilient, coping pattern (Sinclair & Wallston, 2004) which aligns with the conceptualization of resilience as a process-outcome (Zhou et al., 2021). Additionally, resilience factors were explored by measuring therapeutic mechanisms of DMT such as active creativity, which is related to cognitive flexibility, and therapeutic factors of DMT which included scale items about positive emotions (joy/pleasure), and synchrony with the group.

The quantitative findings from the study indicate that resilience as an outcome did increase pre-post intervention, but not significantly. However, resilience immediately following DMT was significantly associated with higher resilience post-intervention ($r = .853^{**}$), and significantly reduced burden post-intervention ($r = -.759^{*}$). Furthermore, quantitative scores on active creativity and therapeutic factors of DMT were moderate to high across all time points of measurement, indicating that DMT elicited strong experiences of feeling empowered, being free to decide, creative, effective/impactful, happiness, beauty, pleasure/joy, expression, body/mind unity, and synchrony with the group. Qualitative themes of experience converged with these findings, such as that DMT elicited ‘experiences of joy and playfulness,’ ‘feeling lighter and empowered’ and ‘group intimacy: building safety, trust, and cohesion.’ These themes which emerged inductively from the data suggest that participants experienced resilience factors such as positive emotions, cognitive flexibility, and meaning-making in the DMT intervention. Together, these findings indicate that although the quantitative change in resilience as an outcome was nonsignificant statistically, that DMT was perceived as resilience-building for participants. These thematic findings will be discussed further in relation to *Research Question 3* below.

5.1.1.4 DMT and Psychological Flourishing. Palacio and colleagues (2020) conducted a systematic review of resilience in caregivers and found that outcome variables outside of

psychological dysfunction (depression, anxiety, stress) have scarcely been explored. They suggested that other psychological aspects which contribute to resilience and positively influence well-being such as personal growth should be evaluated (Palacio et al., 2020), which aligns with suggestions from other systematic reviews on caregiver intervention research (e.g., Cheng et al., 2020, Won et al., 2024). Accordingly, in the present study we measured resilience as well as psychological flourishing as outcome measures to explore positive psychological indicators. Diener et al.'s eight-item flourishing scale (Diener et al., 2010) which asks about perceived growth and meaning in life, was administered at T1 and T2.

According to the findings of this study, caregivers did not have enhanced psychological flourishing from experiencing the DMT program. Flourishing at baseline was significantly associated with flourishing at follow-up ($r = .746^*$), but it remained constant and did not significantly increase or decrease. The flourishing scale has items pertaining to leading a purposeful, meaningful, and engaged life. Other items ask about perceived competence and contribution to the happiness of others. As anticipated, higher flourishing was associated with less caregiving burden at baseline and follow-up, and more benefit finding and resilience, however, these associations were not statistically significant. It is possible that the lack of power restricted the ability to detect a significant effect, due to the small sample size.

5.1.2 Hypothesis 2: Impression of change

It was hypothesized that participants would report a positive impression of change from their participation in the DMT program. Responses from the follow-up survey show that participants did perceive a positive impression of change on their well-being and caregiving from the DMT program. Based on responses to the Patient Global Impression of Change Scale (Guy, 1976), administered at T2, 50 % of participants felt moderately to a great deal better after the

DMT program, 30% felt somewhat to a little better, and 20% felt no change or almost the same. These results indicate that most participants perceived positive changes from experiencing the DMT program, as predicted. When asked to expand on what changes they perceived, those who reported feeling moderately to a great deal better emphasized the benefits of feeling free in DMT, physically releasing tension through movement, and improved coping (e.g., emotional regulation). These perceived benefits of DMT were further expanded upon in the qualitative themes such as ‘feeling free: releasing and letting go,’ and “enhanced coping.”

5.2 Research Question 2: How do DMT therapeutic factors impact caregiver well-being?

In response to the second research question (if DMT factors had a positive impact on psychological indicators post-intervention?), findings show that DMT factors and resilience immediately following DMT had some significant associations with psychological indicators post-intervention. The two DMT-specific scales which were administered (Lange et al., 2018; Koch et al., 2016) served to explore quantitatively if there was evidence of anticipated resilience factors, according to Champagne’s (2024) model (see *Table 6* for specifics).

5.2.1 Hypothesis 3: Resilience after DMT with well-being at follow-up

It was hypothesized that resilience immediately following DMT would be positively associated with higher resilience post-intervention. The findings of the study show that when participants reported higher resilience immediately following the DMT session in week 4, that this was significantly associated with lower caregiving burden at T2 ($r = -.759^*$) and significantly higher resilience at T2 ($r = .853^{**}$) as hypothesized. By assessing resilience at different time points (T1, week 3,4,5, and T2) we were able to account for the process-nature of resilience, and consider predictors of resilience outcomes, in alignment with psychological

models of resilience more broadly (e.g., Bonanno et al., 2015) and models of dementia caregiver resilience specifically (e.g., Zhou et al., 2021).

5.2.2 Hypothesis 4: DMT therapeutic factors and well-being at follow-up

It was hypothesized that when participants rate active creativity and therapeutic factors in DMT more highly, that this would be positively associated with greater resilience post-intervention, greater psychological flourishing post-intervention, and lower caregiving burden post-intervention. Active creativity and DMT factors were rated quite highly across all weeks of the program. The scores from week 4 were utilized to compare with T2 outcomes, since all participants were present in week 4. The findings of the study show that higher active creativity and DMT factors were not significantly associated with higher resilience post-intervention or higher psychological flourishing post-intervention. However, experiencing more therapeutic factors in DMT was associated with less caregiving burden and more resilience at follow-up, with a medium effect size. While these associations were not statistically significant, these findings indicate that DMT elicited high levels of active creativity, as well as experiences of high levels of positive emotions and connections to others. Moreover, the qualitative findings from the present study indicate that resilience was perceived to be enhanced for caregivers, through anticipated mechanisms such as experiences of positive emotion in DMT (hedonism: pleasure and play) and the opportunities for making sense of ongoing challenges in a supportive group (enactive transitional support, meaning-making). These qualitative findings will now be discussed in relation to *Research Question 3*.

5.3 Research Question 3: How did caregivers experience the DMT program?

In response to the third research question (how dementia caregivers experienced the DMT program, what does their feedback reveal about therapeutic mechanisms and perceived

benefits, and what suggestions do they have for future iterations of this program?), findings from the inductive open-coding show that participants were exhausted, overwhelmed, and felt constrained in their everyday life as caregivers, which provided the context for holistic engagement, liberation and connection in the DMT environment. These experiences led to perceived improvements of well-being and coping. Caregivers suggested that future iterations of the program should have more sessions, longer sessions and time to debrief, more social time, and considered alternative formats.

5.3.1 Caregiving Descriptions

Caring for a loved one with dementia is associated with accumulative stress, which can negatively impact health outcomes (Schulz et al., 2020). The first theme which emerged out of the inductive coding of the interview data and post-session journal entries was caregivers' unprompted descriptions of their everyday challenges. These quotes provide thick descriptions which contextualize the themes which emerged out of the DMT experience. Caregiving descriptions fell into two main categories: "exhaustion and overwhelm" which included 'managing tasks,' 'facing the permanency of the disease,' and 'questioning purpose and identity.' The second category, "lack of freedom" included 'feeling constrained' and 'hard to find time for self-care'. The visualization of the themes (refer to *Figure 6*) which came out of the qualitative analysis represents these caregiving descriptions as the murky water, from which the lotus flower of DMT experiences springs forth. Caregivers brought their ongoing challenges and stressors of caregiving into the DMT space.

First, under the theme of "exhaustion and overwhelm," caregivers reported that they were burdened by the sheer number and types of tasks which they had to manage, since their loved ones' dementia diagnosis, while simultaneously processing their grief of the progressive nature

of dementia. These experiences led to caregivers questioning their own sense of identity, as they felt unsure about who they were now, apart from being a caregiver. These themes reveal correspondence with previous research on caregiver beliefs and caregiver needs. Importantly, care-related beliefs can moderate associations between objective demands and subjective burden, depression, and anxiety (Wrede et al., 2024). Specifically, holding to dysfunctional beliefs about caregiving standards and about dementia is associated with increased subjective burden (Wrede et al., 2024). *Dysfunctional beliefs* about caregiving standards include assuming sole responsibility, leading to guilt and sadness when one cannot meet their own standards. Dysfunctional beliefs about caregiving can also prevent family caregivers from seeking help, or allowing themselves time to rest and rejuvenate (Risch et al., 2023).

On the other hand, *functional beliefs* may protect against the onset of mental health problems when encountering a chronic stressor, such as believing that engaging in leisure and regeneration is essential, and accepting that one cannot control the trajectory of dementia (Risch et al., 2023). Results from the current study indicate that participants in the present sample hold to some dysfunctional and some functional beliefs about caregiving. Pertaining to dysfunctional beliefs, participants talked about the personal responsibility they felt to manage “everything” for their loved one with dementia. This sense of obligation and ownership was experienced as draining and “exhausting.” For example, Participant 5 expressed “the complexity of the journey is, especially as the partners get more progressed, as you’re taking care of absolutely everything.” Furthermore, participants described how they felt they had to sacrifice their time and their identity to fully focus on caregiving. For example, as expressed by Participant 10:

I honestly don't have an identity apart from being a caring, a carer, I don't, I don't know what I have out there in the world. I don't, I really don't. I prefer to just be at home now,

but we don't have to get into all of that, but it does, does do strange things to you, to a person.

These quotes illustrate some evidence of dysfunctional care-related beliefs, which may have been contributing to the high levels of burden reported by participants.

The second theme of “lack of freedom” explored how participants in the present study experienced diminished autonomy due to caregiving and they struggled to attend to their own needs. Participants explained how their whole focus was attached to their loved one with dementia. For example, Participant 1 describes how “your whole life is subsumed into trying to keep things even, keep the ship afloat, to make life as agreeable as you can for the other person, because you know that what they are going through is not their fault.” Furthermore, Participant 3 expressed: “day to day life and not be able to take care of myself. I don't pay attention to myself very well. It's always focusing, you know, other person, partner and other kind of outside kind of logistics and stuff like that.” These quotes are some examples of how the participants in the present study adopted some dysfunctional beliefs about caregiving. Participants expressed how their freedom to do what they wanted to do was limited by striving to be good caregivers.

However, over the course of the program, caregivers also reported a shift in their thinking, to adopt more functional care-related beliefs. Primarily, this shift can be seen in the participants being willing to participate in a 6-week DMT program, just “for them.” Caregivers expressed how they rarely take the time for themselves, apart from basic medical appointments. Many caregivers shared how DMT was a refreshing experience, because it was a space for them to experience joy and respite. This shift in attitude represents the adoption of some functional beliefs, such as about the importance of self-care (Risch et al., 2023). One participant even described DMT as an experience which helped her learn to not feel “guilty” about taking time for

her own pleasure and creative expression: “I loved doing it. I loved it. It was, it was me being frivolous and feeling lovely about it and not feeling guilty.” (P1)

Furthermore, the subthemes of ‘facing the permanency of the disease’ and ‘attitude change: coming to acceptance & reframing’ indicate further evidence of caregivers learning to adopt *functional acceptance-related beliefs* which include dealing with unchangeable suffering and the progressive nature of dementia which is beyond their control. For example, Participant 10 describes how she has experienced an attitude change because of DMT: “I’m more accepting of what, um, it’s going to be or isn’t going to be, and I’m also more at peace with knowing I can’t control it, whatever, and that did, that did come out of all the movements.” Additionally, DMT appeared to provide opportunities to actively resist giving into dysfunctional beliefs about perfectionism or needing to always “do more” for their loved one with dementia. Participant 1 expressed: “the sense of freedom with this group is, literally, the highlight of the week. Like a three-year-old, just space for oneself without any judging.”

Taking time for self-care and personal leisure apart from one’s partner or parent with dementia is another important factor which contributes to maintained wellness for caregivers (Waligora et al., 2019). Identified barriers to self-care for caregivers include polarization of gender roles (e.g., female caregivers feel obligated to fulfill gender standards), self-sacrificing, and burden of caregiving (Waligora et al., 2019). On the other hand, enablers for self-care include acknowledging the personal consequences of caregiving and learning to balance self-care needs. In the present study, there was some evidence of barriers to self-care such as caregivers reporting feeling “guilty” for not doing “enough” in the “I am” activity in week 5.

Yet, as the DMT program progressed, participants expressed giving themselves permission to engage in something fun and rejuvenating for themselves and DMT provided a

platform to regain control: “The movements were freeing and exhilarating because we were choosing them ourselves and we were in control. No judgement, no rules. I give myself permission.” (P10). Furthermore, speaking about dancing, Participant 1 expressed:

It's as though I almost need permission to do that, which is ludicrous at my age, but it's true. Intellectually, you can rationalize things, but emotionally, okay, it's, it's quite different. Your body doesn't tell you that you're almost 80. It, responded as though I was, you know, 30, and able to enjoy this.

Ultimately, the caregiving descriptions provided context or grounding for what emerged in the DMT environment. The burden reported by participants corresponds with previous work on caregiving beliefs and barriers to leisure participation. Now, the themes pertaining to experiences of DMT and the perceived benefits of DMT (enhanced coping) will be discussed.

5.3.2 DMT Experience Themes and Perceived Benefits

5.3.2.1 Holistic Engagement. The first experienced theme in DMT was “holistic engagement”, which had sub-themes of ‘body connection & vitality,’ ‘DMT compared to support groups and talk-therapy,’ ‘getting in touch with emotions,’ and ‘discovering & expanding of self.’ DMT was experienced by participants in the present study as a “whole-person” modality (Serlin, 2020). Participants expressed how engaging with other caregivers through creative movement was “new,” “creative” and “empowering.”

Caregivers talked about how moving their bodies in an open space, with a supportive group and warm facilitator helped them to re-connect to their bodies, which in turn, helped them to get in touch with deep emotions and discover new aspects of themselves. For example, when participants engaged in *authentic movement* (Whitehouse, 1956) they reported getting in touch with parts of their past that they weren’t previously aware of, or thought they had already

processed. Participants expressed how moving their bodies freely brought authentic emotions to the surface, which they could then explore creatively. Indeed, as an *embodied approach*, DMT is based on the premise that cognition and affect are grounded in sensorimotor processes (Koch & Fischman, 2011). Accordingly, in DMT, moving one's body can influence affect, and emotion is expressed through movement. For example, in week 1 of the program, participants intentionally considered body-places of emotions, and this activity led to an improvisation of re-connecting to body parts which felt 'numb-like.' Furthermore, *vitality*, or investing people with the power to live, has been identified as a core therapeutic benefit of DMT (Schmais, 1985). Through sustained improvisational motion, group members can feel a boost in energy and strength which furthers expressions.

The DMT program also acted as a space in which caregivers gave themselves permission to take the time to delve into their emotions. Caregivers expressed how having the space and time to do so was a relatively novel experience for them. Speaking of her experience in DMT, Participant 4 emphasized: "you come face to face with your deep feelings, your, your fears, your hopes, your, your emotions and how things you know are affecting you at different times." These opportunities to reconnect to their bodies and process emotions were contrasted to other support programs which caregivers had experienced, namely, caregiver support groups and verbal/cognitive therapy. DMT was perceived as unique by caregivers because of how it engaged not just their minds, but also their bodies, souls, and emotions simultaneously. Participant 10 expressed this poignantly:

I'm not dismissing by any means the problem solving and support group approach, but I think this (DMT) is a whole other domain that that that has infinite possibilities... We

could have, we could have done so many wonderful things if we'd had more time that would speak to what is going on in the whole person, the whole personal thing.

These themes emphasize the need for caregivers to have access to programs which engage them holistically, rather than only cognitively (e.g., learning about the progression of dementia). Indeed, one of the core premises of DMT is that attention to the body and movement allows for body-mind connections and for holistic therapeutic change to occur (De Witte et al., 2021). *Body awareness* and *experiencing the body* have been identified as important factors of change in DMT research, along with the non-verbal nature of DMT (De Witte et al., 2021). Participants in the present study emphasized the benefits of connecting to and moving their bodies in a creative way.

Yet, most interventions designed and facilitated for caregivers have been based on stress-coping models (Schulz et al., 2020) and aim to teach caregivers strategies to deal with dementia. Some researchers have advocated for the integration of physical activity within multicomponent caregiver interventions (Schulz et al., 2020), but DMT goes beyond aerobic exercise, as it engages the creative, social, and emotional systems simultaneously (Serlin, 2020). Furthermore, while Ong et al. (2010) suggest that mind-body approaches which integrate mental and physical health may be optimal for older adult resilience, the development and evaluation of such programs is scarce. Broadly, the effects of exercise on buffering depression are well-established. A recent meta-analysis of randomised control trials found large effect sizes (e.g., .96) for dancing to reduce depression, above and beyond walking, yoga, aerobic exercise, or cognitive-behavioural therapy (Noetel et al., 2024). DMT represents an underexplored intervention for caregivers but represents an area which should continue to be investigated. A quote from Participant 8 bluntly summarizes some of these points:

And, and the talk therapy is mostly about giving me information about dementia. I know everything there is to know about dementia. Talk to me about what's going on with me...but when I did stuff with movement, I knew, ah, I can't talk my way out of this. I can, you know, I can go deeper than and figure, try and figure, and that's what I want.

This quote from Participant 8 relates to DMT theory about the importance of experiencing and feeling one's body for effective therapy:

The problem with most verbal therapies of today that aim to promote personal growth and change is that they have failed to recognize that the felt-level of experiencing must precede the conceptual-verbal level... movement therapy is founded on the premise that it is possible to discover the meaning of our felt experience by exploring fully our potential for authentic movement (Alperson, 1974, p. 158, 160)

Furthermore, participants in the present study emphasized how caregiving is associated with being “in their head” a lot, as they feel they must manage so many details for their loved one with dementia. DMT represented a refreshing contrast, by being “in their body” in a creative way which kept them attuned to their present moment experience. This relates to a core premise of DMT: “Dance/movement therapy advocates for experiencing rather than analyzing” (Koch & Fischman, 2011, p. 63). Participants spoke to their own surprise at the effectiveness of representing their stories with movement, rather than focusing on verbal means of expression. Quantitative reports of body-mind synchrony from the therapeutic factors scale in the present study also correspond with these results. Together, these findings indicate that DMT provided opportunities for caregivers to engage holistically, which was perceived as beneficial and distinct from other types of support programs they had previously experienced.

5.3.2.2 Liberation. The second, and most prolific theme which was coded for about caregivers' experiences in DMT was "liberation," with the subthemes of: 'feeling free: releasing and letting go,' 'experiencing joy and playfulness,' and 'authentic expression.' Within the DMT environment, caregivers reported how "that sense of freedom was antithetical to everything in my life" (P1). Primarily, caregivers reported how unlike their everyday life, which was described as constraining, DMT provided opportunities for autonomy. Participants described how liberating it was to move how they wanted to, in the freedom of the open space. For example, they had the choice to interact with other participants or explore movement individually. Having opportunities to make intrinsically-motivated choices and foster autonomy is integral to an overall sense of well-being (Ryan & Deci, 2000) In DMT, creative movement acted as a catalyst for releasing negative emotions and experiencing positive emotions. Kinesthetic engagement and experienced safety to release accumulated emotion through the body was experienced as a "letting go" which was enjoyable to participants. Their movements had both physical and psychological expressions of "freedom." Claire Schmais, a dance/movement therapist poignantly stated the following in her capstone article on healing processes in DMT:

Dance therapy, because its medium is motion, can relieve anxiety and loosen the rigidity that Wilhelm Reich (1949) aptly called "armour". Repetitions of a rhythmic phrase gradually reduces physical inhibitions and permits covert feelings to come into awareness, freeing the impulse to act and the energy to do so. The flow of motion connects limbs to torso and feelings to actions. (Schmais, 1985, p. 25)

This quote corresponds with caregivers' descriptions of the DMT program. Participants explained how in comparison to their day-to-day life as caregivers, which feels "bound" and "constraining," DMT was a space where they could be "uninhibited" to release inner burdens

through movement with others. These experiences relate to the findings of a resilience-building DMT intervention for individuals with chronic pain. Shim (2015) found an effect of “breaking-free” in DMT. Participants described their life with chronic pain as being ‘stuck’ or ‘trapped’ and the DMT experience “allowed them to break off/out of this state and to move toward a more open, free, and insightful state of being, such as having ‘freedom’” (Shim, 2015, p. 147). This “letting go” in the present study brought up emotions of joy and playfulness. Caregivers explained how DMT elicited strong feelings of pleasure, joy, and lightness. Moving with others in creative ways evoked a joyful “childlike space.”

In Fredrickson’s *broaden-and-build theory*, the positive emotional state of joy “creates the urge to play and get involved” and “the durable resources created through play are the skills acquired through the experiential learning it prompts” (Fredrickson, 2013, p. 4). Evidence of this connection between experiencing joy and playfulness was clear in quotes such as “day to day life as a caregiver, I seldom feel great or free. This program gave me an opportunity to be like a child and it felt really great” (P3). Group 1 even came up with “embracing play” as one of their guiding principles for their DMT group (Table 3). Furthermore, through creative-movement improvisation, which elicited feelings of joy, participants reported a “broadening” effect of their action and thought tendencies, which led to the “building” of more effective coping. For example, Participant 10 explained how processing her caregiving narrative with movement was fluid, whereas she would have gotten “stuck” trying to do this verbally:

I hadn't ever really thought it through in a movement manner. Certainly, thought it through, but I probably would have got stuck in the middle and resented the beginning, I would have resented the beginning and then got stuck in the middle of the present and then afraid to present anything for the future.

This quote represents one example of how expressing aspects of self with movement was liberating and free from the constraints of what one “ought to think.”

Furthermore, the data showed that facilitators of positive emotions in DMT included the joy of body movement, the release of negative emotions and worries, and being meaningfully engaged in a group which was perceived as supportive and “connected.” The positive emotions which were reported indicate some experiences akin to *flow* – where caregivers were pleasantly absorbed in the DMT activities (Csikszentmihalyi, 1996). Dancing to rhythmic music in particular can elicit such psychological states, as participants are “fully invested” (Dieterich-Hartwell et al., 2022). Experiencing play enabled participants to leave the session feeling ‘lighter and empowered,’ a theme which will be discussed under “enhanced coping.” Furthermore, participants reported how they felt free to express authentically through movement in DMT:

It was also impactful for me to see other people expressing their journey. And I could see it... in a visceral way, what they were going through in a way that was so symbolic and that you can't always express with words or would take too long to go through the intellectual processes to communicate what you're feeling. So, this artistic expression just got to it, got to the heart of it in a very immediate way, and you don't have many opportunities to do that. (P5)

Symbolic expression is a core tenet of DMT, whereby movement is a pathway to confront and process emotions and thoughts (Capello, 2009). Both cognitive and affective symbolizing (Koch, 2017) (reframing life events and expressing emotions with movement) are facilitative of meaning-making. Providing holistic opportunities for meaning-making has been highlighted as an important avenue to foster positive caregiver coping (Chen et al., 2024). Caregivers in the present study identified how DMT gave them meaningful opportunities to express their stories

without words, which was experienced as liberating. Symbolic expressions in dance have three therapeutic implications: in its creation, the illumination it affords, and in the participation in the collective product (Schmais, 1986). In DMT, these symbols are metaphors for internal themes which are expressed through the moving body (Koch, 2017). Sharing these symbols with the DMT can reinforce feelings of being validated, seen, and lead to the feeling of “I can deal with this” (Koch, 2017), which is related to self-efficacy and a sense of competence (Ryan & Deci, 2000). Correspondingly, in the present study, seeing other caregivers express their stories authentically was related to experiences of being ‘moved’ and feeling ‘seen,’ under the theme of “connecting to others.”

5.3.2.3 Connecting to Others. As a group-therapy approach, DMT enacts unique therapeutic processes which bring about individual change (Schmais, 1985). For example, being in synchrony with other individuals leads to feelings of cohesion and solidarity with other group members (Schmais, 1985). “In dance therapy, this social bond exists in both the content and the form of the dance” (Schmais, 1985, p. 30). This quote illustrates how group members may feel a shared story with both what the dancing is about (content) and as they participate in the shared experience of the dance itself (form). Fostering a sense of belonging is a fundamental human need which is associated with well-being outcomes (Ryan & Deci, 2000). Specific techniques in DMT such as *mirroring*, or the use of circle formations can enhance these connections. Circle formations in DMT help to elicit feelings of safety or containment in the session, togetherness and attachment to other group members through multi-mirroring, and physical support through holding hands (Karampoula & Panhofer, 2018). In the present study, participants reported how DMT fostered experiences of “connecting to others” with sub-themes of ‘group-intimacy: building safety, trust, and cohesion,’ and experiences of being ‘moved’ and feeling ‘seen.’ Group

intimacy was built through non-verbal movement interactions, creative-play, and shared experiences of caregiving.

Group principles which were co-created by participants in week 1 included confidentiality, vulnerability and non-judgement. These principles were then enacted as participants supported the verbal and non-verbal sharing of others throughout the weeks of the DMT program. Participants described how they felt safe to express themselves because they knew that other group members could empathize with the challenges of caregiving. For example, Participant 4 described:

It was a time where I was able to just go and kind of be free because everybody else, everybody else in this is in a similar situation, in one way or the other, you know, and you knew that you shared so much in common, so you didn't feel, you felt comfortable with letting you know, letting your emotions and your feelings and your thoughts and your hopes and your fears be very open.

This freedom to be vulnerable was facilitated by group cohesion and felt safety. Participants were surprised at how “deep” and “intimate” the DMT group became, only over a few short weeks. Speaking about movement interactions she had with other group members, Participant 9 described:

They were deep, and they were heartfelt, and they felt sincere, and they felt like, I felt like they understood what they were going through...That was, yeah, a little bit, kind of profound in its own way, even though they're basically strangers.

This quote highlights evidence of ‘kinesthetic empathy’ between participants, in which one gains insight into another person’s experience through attuned body movement (Roskin-Berger, 1956). Kinesthetic empathy can build connections and group belonging (Capello, 2009).

Furthermore, participants reported experiences of being ‘moved’ by seeing other group members express themselves through dance. In their model of ‘embodied affectivity’, Fuchs & Koch (2014) describe a cyclical process of *affection*: to be moved, impression, and *e-motion*: to move, expression. Both phenomena were evident in participant experiences of DMT. To be *moved* or “touched” by an event implies experiencing bodily sensations in response to another person (Fuchs & Koch, 2014), whereas to *move* represents a bodily action readiness. In the present study, participants reported being powerfully ‘moved’ by witnessing other caregivers express authentically through movement. For example, participants frequently reported how “touched” they were by witnessing the caregiver movement journeys in week 4. They were left with deep impressions which connected them to other group members. Participant 4 recalled the impression this movement activity left on her: “I’m getting goosebumps just thinking about it...And it was very powerful... you know, looking on to others, you really, really felt, you know, their journey, their pain, their hopes.”

Participants also reported how being able to express their own stories and be seen by a supportive group provided reassurance and comforting feelings of being less alone. Participants felt safe to be ‘seen’ as they shared deep parts of themselves with the group. This relates to what Schmais (1985) expressed about symbolism in DMT: “with group support, people can symbolically move through transitional stages, endure emotion, and master skills” (p. 34). Participant 8 summarized her experience of mirrored movement as eliciting both being moved and moving:

I liked feeling what they were feeling being transmitted through movement, and in a way that helped me. It helped me just to be able to share that with what they were going

through, what I was going through, and saying, yeah, there's a kinship here, and it's and it's supportive.

Together, these findings illustrate examples of how DMT facilitated meaningful connections to other caregivers. The DMT environment was described as “safe” and facilitative of resilience through group cohesion: “I would say that every time I left, but I felt good, that I had a feeling of, okay, and that I'm not alone in this sort of very isolating journey” (P5). These findings indicate that DMT provided opportunities to bolster caregiver perceptions of social support.

5.3.2.4 Enhanced Coping. DMT was experienced as holistically engaging, liberating, and connecting. These factors led to the perceived benefits of “enhanced coping”: ‘feeling lighter & empowered,’ ‘attitude change: acceptance and reframing,’ and ‘emotional regulation.’ Perceived benefits of DMT encompassed kinesthetic, cognitive, and emotional domains.

Kinaesthetically, participants reported changes in their bodily state to one that felt “lighter” and “empowered” or “stronger.” Whereas caregiving was described as burdensome and “exhausting”, DMT provided opportunities which brought up feelings of “lightness.” Rudolf Laban describes the movement efforts of weight and flow. *Weight* can be either heavy or light, with heaviness representing being pressed down or feeling resistance, whereas lightness can include states akin to floating. Participants reported how after DMT, “I felt lighter, I felt that the world wasn't coming down, that I could handle things better” (P9). Each time this sensation of lightness was described, it was related to a perception of being more able to cope. For example, “I think everybody left much feeling a whole lot lighter, and that they could, okay, you know, I can, I can go home, and I can cope with this now, because I've had this time.” (P5). Furthermore, *flow* as a movement element represents how movement can be bound: tense, tight, and

uncomfortable or free: moving with ease and freedom (Levy, 2005). Participants reported being able to experience free flow in the DMT environment. Together, these internal shifts which reportedly occurred through what transpired in DMT had the impact of improving caregivers' perception of their own efficacy to cope at home.

By releasing their burdens through movement, in a safe and supportive environment, participants reported feeling 'empowered' to reface the challenges of caregiving. These findings are related to perceptions of self-efficacy, which can buffer the impacts of stress on health outcomes. Self-efficacy has been the target of some psychosocial interventions for caregivers (Tang et al., 2016), but these have focused specifically on psychoeducation of dementia, and case management. Tang et al. (2016) suggested that future research considers how to elicit positive appraisals of efficacy beliefs and developing more interventions based on theoretical structures. In the present study, DMT appeared to impact efficacy beliefs, through a holistic approach which went beyond learning about dementia. Rather than analyzing, the experiencing which occurred in DMT led to participants feeling:

Very powerful, which I which wouldn't have been my feeling before, like I have been. I don't know, It's wild. I have been feeling powerful, and I think I came back one day after to say to you, "I'm not afraid anymore." And that's true, because sometimes I get, I've been paralyzed with fear, really. (P10)

This sentiment captures the shift in embodied sensations which occurred through DMT. This participant expressed how DMT helped her to experience her own effectiveness, through the agency she had to explore and create through movement. Indeed, DMT is based on the premise that through movement, one can activate, recognize, and experience their abilities and effectiveness (Goulding et al., 2018; Koch, 2017; Sheets-Johnstone, 2010).

The next theme of “enhanced coping” was ‘attitude change: acceptance & reframing’. As discussed above, when caregivers can learn to adopt functional beliefs of accepting dementia, this is associated with better well-being outcomes (Wrede et al., 2024). Furthermore, when caregivers have experiences which foster meaning creation, meaning appraisal, and meaning adherence (Chen et al., 2024), this is related to more positive coping outcomes. Participants in the present study reported how processing their caregiving stories and identity through movement enabled them to experience a change in thinking and come to a place of acceptance. These cognitive shifts were the result of inspiration, broadened thinking/feeling states which were explored in creative-movement. For example, in the “I am” and “I need” activity in week 5, Group 3 finished their movement poem with a gesture for the word “acceptance.” They deliberated using the word “hope” at first but then decided that hope did not accurately depict how dementia could not be stopped for their loved one. Rather, they decided that trying to come to accept this was the best way to end their journey. This is summarized by Participant 4, who expressed how she felt leaving DMT sessions:

You left kind of not with the light heart, but at the same time, it brought an awareness, you know, that I was able to delve into that place and admit to it and go there and an acceptance, yes, instead of, you know, fluffing over it.

As such, DMT gave participants the freedom and space to be confronted with the realities they face and consider healthier ways to think about them. Rather than denying and suppressing negative emotions, which can mediate the relationship between caregiving burden and depression (Gilhooly et al., 2016; Khalaila & Cohen, 2016), DMT provided opportunities to face ongoing challenges in a supportive environment.

Emotionally, DMT had the benefits of helping caregivers to regulate the presence and intensity of negatively-valenced emotions. Through the release of negative emotions and experiencing positive affective states in DMT, participants felt more “calm” as a result. This regulated emotional state functioned to decrease “tantrums” or “meltdowns” outside of the session. Furthermore, participants explained how when they can learn to remain calm, this in turn benefits their loved one with dementia, for example: “What can I do to make my life better, for me and for him, when I'm better. You know when I'm calmer, he's calmer” (P8).

As an embodied therapy, DMT can help to support a healthy nervous system. Caregivers in the present study expressed that in their day-to-day life, they often feel on edge or on the verge of breaking down. These experiences relate to Porges’ (2011) polyvagal theory which illustrates how the nervous system responds to assessment of danger and safety. When individuals perceive a threat, this may activate their fight/flight stress response, or even shut down (Porges, 2011). Dementia may leave caregivers feeling ‘on edge’ due to the unpredictability of their loved ones’ symptoms, such as wandering behaviours. The data supports the idea that DMT provided opportunities for caregivers to regulate through releasing negative emotions and find a more grounded state in connection with group members and the therapist, “I found this a unique and immediate way to release pent up emotions that needed to be released” (P5). Indeed, recent DMT approaches are being established which integrate polyvagal theory to facilitate improved coping outcomes (Gray & Fagnoli, 2022).

The felt ‘safety’ in DMT helped to facilitate comfort and ‘serenity.’ These findings are important, because one can be most present and engaged when they feel ‘safe’ (Porges, 2011). Yet, participants also expressed wanting to be able to integrate what they experienced in DMT into more of their day-to-day life. Participant 1 expressed that in DMT, she was “somebody

almost other than me in a safe environment. And I would like to have taken some of that out, but it's difficult. It's difficult, but I did have it inside me for the Monday.” Statements like this one indicate that perhaps learning ways to integrate DMT principles or experiences outside of the weekly session may have benefited participants.

5.3.3 Suggestions for Future Programs

Given that the novel 6-week DMT program for caregivers was the first of its kind, asking participants for their feedback and suggestions was imperative. These preliminary participant responses align with markers of feasibility, since they focus on processes (Orsmond & Cohn, 2015). In qualitative interviews, participants were asked how suitable the location, timeframe, and duration of the intervention was for them, as well as other topics including group size. The reoccurring plea from participants was for more time: longer sessions in duration, as well as a continuation of DMT beyond the six weeks. While a six-session programme is common among dementia caregiver interventions (e.g., Baker et al., 2018; Davidson & Almeida, 2014), participants expressed a sense of loss and grief when the group ended. I too, wished we could have explored more and expanded on the meaningful processing which was coming out of the DMT sessions. Participants explained how they ‘looked forward’ to DMT each week with anticipation, for the “pleasure,” “letting go” and “connection” which it offered to them. Thus, it was challenging to process that they could not “come back” and enjoy these experiences again the next week when the program ended.

Synthesizing different participant suggestions indicates that 90-minute sessions, rather than 60-minute sessions could be beneficial, to enable more time for debriefing both verbally and in movement. Some participants felt that anything beyond 90 minutes would be ‘too long’ and add other types of stress such as leaving their loved one for prolonged periods of time.

Furthermore, continuing to explore DMT beyond six weeks, such as on an ongoing weekly basis, was an expressed desire by most of the participants. “We could have done so many wonderful things if we'd had more time that would speak to what is going on in the whole person, the whole personal thing” (P10). This feedback indicates that DMT does show promise of being a successful intervention with the intended population (Orsmond & Cohn, 2015).

5.4 Research Question 4: Is there evidence of anticipated resilience factors, as identified through merging the quantitative & qualitative data?

In response to the fourth research question (if the DMT program elicited experiences of anticipated resilience factors, as identified through the quantitative and qualitative data), the results indicate that there was quantitative and qualitative evidence of participants experiencing anticipated therapeutic mechanisms and resilience factors (Champagne, 2024). First, DMT elicited factors associated with well-being as predicted, including positive emotional states (e.g., joy and playfulness), which are related to the therapeutic factors of hedonism: pleasure and play, self-efficacy, aesthetics and generativity (Koch, 2017). Quantitative scores and qualitative themes on these variables were congruent. Participants spoke about how having open space to move freely and create with no ‘rules’ reinforced self-efficacy beliefs about their own ability to ‘face’ the challenges at home with their loved one.

Furthermore, participants reported that their coping was enhanced. Participants reported feeling empowered and more open to changing their attitude/reframe ongoing stressors. As expected, DMT provided opportunities for meaning-making, with experiences of affective, cognitive, and transpersonal symbolizing (Koch, 2017) being mentioned quite frequently in journals and interviews. Weeks 4 and 5 of the intervention were the most apparent for cognitive and affective symbolizing specifically, as participants expressed their caregiving identities and

journeys with movement narratives. For example, affective symbolizing was evident in the theme of ‘authentic expression,’ and cognitive symbolizing in the theme of ‘attitude change: acceptance and reframing.’ Transpersonal symbolizing in the spiritual sense was not identified; however, it was evident in terms of connecting to other individuals, in the theme of ‘group intimacy: building safety, trust, and cohesion.’ These opportunities for meaning-making led to perceived benefits such as being more accepting and having improved emotional regulation.

Importantly, therapeutic factors such as body connection were not explicitly expected by the original theoretical model, yet they were commonly mentioned by participants in the inductively coded qualitative data. This indicates that the embodied and holistic nature of DMT, which is a contrast to cognitive or verbal support groups, was of particular benefit for caregivers. Furthermore, it was unexpected that DMT would be described most prominently as ‘liberating’. The liberating nature of DMT was described as a meaningful contrast to the confines of caregiving. These results indicate that both the holistic nature of DMT to engage the whole-person and the potential for DMT to help caregivers loosen up and make autonomous, creative choices may be therapeutic mechanisms which are especially potent in this population.

Most caregiver interventions which are presently available are psychosocial in nature, based on principles of psychoeducation. These interventions aim to meet caregiver information needs and adaptive strategies for dementia (Schulz et al., 2020). Yet, the impact of these interventions is mixed. DMT appeared to meet the perceived needs for space to not learn ‘about dementia,’ but rather, for caregivers to learn about themselves and their own thoughts and feelings. In response to the lack of quality in caregiver intervention studies, Schulz et al. (2020) recommended that perhaps, interventions could be deemed as helpful when clinical changes are seen (such as burden reduction), but also when consistent improvement is seen in “multiple

indicators such as health, happiness, and social connectedness and engagement, reflecting one's ability to enjoy a normal life" (p. 18). The results from the present study indicate that DMT could be a fruitful approach to meet these ends.

5.5 Conclusion

The main purpose of this study was to explore the preliminary experiences and benefits of a novel theory-driven DMT program designed for dementia caregivers. Moreover, this study aimed to explore some of the potential mechanisms which may have led to positive outcomes, by exploring the suitability of a comprehensive theoretical model (Champagne, 2024). Quantitative findings revealed that DMT significantly reduced caregiver burden from baseline to follow-up. The increases in resilience and psychological flourishing did not reach statistical significance. Yet, when participants reported more resilience immediately following DMT, this was significantly correlated with more resilience at follow up, and DMT factors had a moderate effect on well-being outcomes. Quantitative scores on DMT therapeutic factors and active creativity remained high across all weeks of the intervention, indicating that positive emotions, cognitive flexibility, and self-efficacy were activated in the program. Qualitative results indicated that participants felt overwhelmed and constrained by caregiving, which set the context for liberation in DMT. Perceived beneficial outcomes of DMT included enhanced coping through feeling 'lighter and empowered,' cognitive shifts in 'attitude changes: coming to acceptance,' and improved 'emotional regulation.' The experiences which led to these outcomes were: "holistic engagement," "liberation," and "connecting with others" in the DMT environment.

Consistent with research on the benefits of DMT in other populations, DMT provided meaningful opportunities for creative engagement and synchrony with others. The whole-person approach of DMT (Serlin, 2020) was experienced as a pleasurable contrast for dementia

caregivers who reported getting stuck ‘in their heads’ due to all they were trying to manage. Furthermore, broaden-and-build and loosening effects in DMT which have been observed in other populations (e.g., Shim et al., 2019) were apparent in the present study.

Irons et al. (2020) conducted a systematic review of creative-arts therapies for people living with dementia and their family caregivers. Their results indicated that caregivers frequently dropped out of these programs, due to the burden of trying to co-facilitate the activity for their loved one with dementia (Irons et al., 2020). The authors suggested that perhaps creative-arts therapy programs need to be designed for caregivers to attend on their own (Irons et al., 2020). Some preliminary programs such as a songwriting intervention for dementia caregivers have been explored (García-Valverde et al., 2019), but the benefits of DMT have not been investigated in detail.

Resilience in the context of dementia caregiving can be defined as being able to draw on personal traits and environmental resources lead to growth outcomes (Zhou et al., 2021). In the context of dementia, caregivers must strive to effectively navigate multiple stressors over time (Bailey & Harrist, 2018). In the present study, caregivers reported how DMT enabled them to navigate the challenges of caregiving through providing a meaningful platform for creative expression and respite with other caregivers who could understand. These experiences indicate that DMT provided opportunities to create and fortify personal resources. As summarized by Participant 10: “I think it was inspiring because we were using our own "resources" to move around, and we were then able to share our experience with another which is so comforting.”. Thus, while the increase in resilience as an outcome did not reach statistical significance, the qualitative findings suggest that resilience resources were meaningfully enhanced over time as participants engaged in DMT. The thematic findings and weekly measures of therapeutic factors

align with resilience factors identified for caregivers, such as experiencing positive emotions and self-efficacy. In other words, while the quantitative variables did not all significantly change post-intervention, participants reported that the DMT program made a difference to their life, as indicated by their global perception of change, high scores on DMT active creativity and therapeutic factors, and the qualitative themes of experiences and benefits. Participants expressed that they would desire to continue with the DMT program, should it be accessible to them. This study suggests that DMT is a promising intervention for caregivers, for the unique ways in which it engaged them holistically, was liberating, and fostered meaningful social connections.

5.5.1 Theoretical Implications

Much research has indicated that dementia caregivers can experience distress because of caregiving burden over time (e.g., Schulz et al., 2020). However, interventions which aim to enhance Positive Psychology constructs such as positive emotions and resilience have scarcely been explored. In 2022, Kinchin et al. identified four types of caregiver needs: knowledge and information needs; physical, social, and emotional support needs; care partner self-care needs; and care recipient needs. Most interventions which are available to caregivers currently focus on meeting knowledge and information needs (Schulz et al., 2020). While some of these interventions, such as cognitive-behavioural therapy (Tang et al., 2016) have been shown to provide some benefits, more holistic interventions which are theory-driven, and explored for mechanisms are needed. Additionally, interventions which integrate body-mind approaches are currently lacking for caregivers and have been suggested as useful to explore (Ong et al., 2010; Schulz et al., 2020). The present study explored how DMT, a holistic and creative form of group therapy, could foster positive experiences and resilience outcomes over time, through a longitudinal study design.

In 2024, Champagne proposed a comprehensive theoretical model, which explained the innate correspondence between caregiver resilience factors and DMT therapeutic mechanisms. This model suggested that DMT could elicit meaningful experiences of resilience factors such as self-efficacy, positive emotions, cognitive flexibility, meaning-making, and social support in a holistic manner. In this study, a 6-week DMT program was designed based on that theoretical model (Champagne, 2024). Preliminary evidence of anticipated resilience factors (e.g., positive emotions, self-efficacy, meaning-making) was found in the present study. Other factors which were important to participants which were not anticipated based on Champagne's (2024) theoretical model included how liberation through dance was an important facilitator of enhanced coping.

While DMT has been explored as a resilience-building intervention in other populations such as individuals living with chronic pain (Shim et al., 2019), it has seldom been tested for how it could benefit caregivers. The creative-arts therapy programs which are currently accessible to caregivers have been mostly designed for the individual living with dementia (Irons et al., 2020). Furthermore, while DMT techniques to foster resilience have been proposed (e.g., Serlin, 2012; Wengrower, 2015) the present study extended and applied these theoretical ideas to meet the specific needs of caregivers. For example, the movement activity in week 4 of creating a caregiver identity poem in movement brings together work on movement narratives by Shim (2019) with authentic movement principles of being witnessed (Whitehouse, 1956). These movement activities which were developed for the present study are examples of ways which caregivers can engage in meaning-making processes in a more holistic fashion.

Furthermore, recent theoretical models about dementia caregiving beliefs (Risch et al., 2023) were applied into specific DMT activities which were designed to facilitate functional self-

care related beliefs and functional acceptance-related beliefs. For example, the “I am” and “I need” group co-creation experience in week 5 helped caregivers to attend to their own self-care needs. Furthermore, DMT provided a space for caregivers to acknowledge the personal challenges of caregiving, which in and of itself is an enabler for self-care (Waligora et al., 2019). This research revealed that extending theoretical ideas about DMT to dementia caregivers shows promise for future support programs.

5.5.2 Practical Implications

In terms of practical value, findings from the present study have notable implications for dementia caregivers and community organizations. Primarily, increasing access to DMT programs like the one explored in the present study may enhance caregiver well-being. Caregivers reported feeling both a sense of loss over the program ending and surprise that similar options were not available to them, through community organizations such as the Alzheimer’s Society. High levels of caregiving burden in the present study corresponds with ample research which has shown the negative impacts of caring for a loved one with dementia (Kim & Schulz, 2008). Accordingly, the creation and evaluation of programs which meet caregiver needs is of essential importance. While dementia caregivers may be able to attend creative-arts programs with their spouse or parent with dementia, these programs may not relieve caregivers of their burdens (Irons et al., 2020). Research indicates the importance of caregivers attending to self-care in order to protect their own health (Waligora et al., 2019). The present program led to reduced caregiving burden and meaningful experiences of holistic engagement, liberation, connection, and enhanced coping. Thus, finding ways to extend the DMT program developed in this research is of practical value for caregiver wellness.

Sharing the findings of this study with organizations such as the Alzheimer's Society, the Canadian Centre for Caregiving Excellence, and the Ontario Caregiver Organization may be avenues to help subsidize such programs. For example, partnering with community organizations to offer caregivers more DMT sessions may benefit participants. Specifically, offering longer sessions (90 minutes in duration) was expressed as a desire from participants. Furthermore, if such programs could be offered, implementing other participant suggestions such as having more social time before and after the session could benefit caregivers. Additionally, finding ways to help caregivers integrate DMT principles outside of the session may be beneficial. For example, participants could be sent music to explore creative movement at home in between sessions.

These possibilities are limited, however, by the lack of trained dance therapists in Canada. To combat this, offering caregivers co-facilitated sessions with other creative-arts therapists (e.g., music therapists) could offer some DMT techniques, with other creative approaches to self-care woven together. Additionally, therapeutic dance practitioners in other spaces, such as Dancing with Parkinson's teachers, could be trained on some of the activities and techniques utilized in the present study.

5.5.3 Limitations

The current study had several limitations. First, due to the difficulty aligning caregiver schedules, the recruited sample was smaller than anticipated. This small sample size limited the power to find more relationships among quantitative study variables and changes from pre- to post-intervention. At the same time, these recruitment challenges shed light on the reality of caregiving for a loved one with dementia: caregivers are limited with their time and abilities to engage in their own activities. Therefore, for future studies, it is recommended to work with dementia community programs so that caregivers could attend DMT while their partner is

simultaneously in another program. More power could enable mediation analyses to be conducted, so that quantitative mechanisms could be explored.

Second, the use of self-report measures at the end of DMT sessions may have been rushed for some participants given the timeframe. Furthermore, these in-person measures led to missing data when participants missed that session. If we had more time and less absences, DMT measures from more weeks could have been explored. Third, while the study utilized a range of data collection methods (quantitative and qualitative), it is possible that response biases were present, given that the facilitator of the intervention was also the interviewer and analyst of the data. Thus, it may be optimal in future studies to have a third-party researcher assist with interviewing, and/or to have more member checking for theme development.

5.5.4 Future Studies

This research is the first to design and evaluate the impact of a DMT program on dementia caregiver well-being. Findings indicated that reduction in caregiver burden resulted from participation in the DMT program. However, the present research did not find significant quantitative improvements in resilience or psychological flourishing outcomes. Qualitative results indicated that DMT led to perceptions of enhanced coping, through experiences which were holistically engaging, liberating, and connecting. For future research, it is suggested to study the benefits of an extended DMT program to find out how this may impact resilience outcomes. Providing participants with both longer sessions and more sessions may have given opportunities for deeper processing and impacts to be reflected in quantitative changes. These extensions would also support the voiced suggestions of the caregivers in the present study who wanted to spend more time delving into DMT activities and connecting with group members.

A recent research project proposed best practices for music therapy research to support informal caregivers of terminally ill individuals (e.g., a loved one diagnosed with dementia) (McConnell et al., 2024). By engaging stakeholders in music therapy treatment and research, suggestions for future research design and aims were developed. McConnell et al. (2024) suggest that “future research could explore further how music therapy can contribute to carers’ emotional well-being and support their ‘transition’ from anticipatory grief to bereavement and coping with loss” (p. 5). The authors describe how music therapy could act as a “bridge” or connection point for carers to explore their identity as they go from being a carer to grieving their loved one. Methodologically, they recommend that mixed methods research should continue to be utilized to capture what benefits can occur from creative-arts therapies for caregivers, as well as why/how they occur (McConnell et al., 2024). Relatedly, future DMT programs might be explored specifically for how they could support caregiver grief in the context of dementia.

Participants in the present study shared about how ‘authentically’ they could express their grief through movement. However, while providing opportunities for caregivers to process their present or ongoing grief at the losses they experience with their loved one, this anticipatory grief will one day lead to loss, as their loved one passes away. Managing life after caring is an important need (Kinchin et al., 2022) which impacts identity and sense of purpose. As expressed by one participant about the DMT group: “I think it's only available to people who have someone that's not well, so if my mom is no longer with us, I wouldn't be able to be part of that group... When my mom's no longer here, then what happens? Where do I go?” (P2). Perhaps DMT could be a valuable arts-based platform for caregivers to process their identity and life after dementia (McConnell et al., 2024). Much research has documented how bereavement can lead to caregiver depression, as this loss deprives them of an important role and the attachment to their loved one

(e.g., Arruda & Paun, 2017; Schulz et al., 2006). Thus, providing opportunities for caregivers to process this grief through DMT could be beneficial.

Additionally, utilizing different standardized measures for some of the study components may have been useful. First, rather than benefit finding, it is suggested that scales which are more specific to caregiver thought styles such as the Caregiver Thoughts Scale (Risch et al., 2023) could be utilized. Using such scales would enable the exploration of if/how DMT impacted functional and/or dysfunctional thought patterns quantitatively, as this was reported in the qualitative components of the present study. Second, adding more comprehensive measures to capture specific resilience factors such as active coping strategies may be more sensitive to finding effects such as subscales from the COPE inventory (Carver et al., 1989). Caregiver-specific scales could also be administered to assess specific resilience factors, such as the revised scale for caregivers self-efficacy, which measures three domains: obtaining respite, responding to disruptive behaviours, and controlling upsetting thoughts (Steffen et al., 2002). This scale has been recommended for evaluating creative-arts therapies for caregivers (McConnell et al., 2024). Last, trying to get more time points of the DMT-specific scales (active creativity and therapeutic factors) would have enabled explorations of changes in DMT factors over time.

This study also has broader implications for the importance of applying Positive Psychology to caregiver support programs. Positive Psychology is based on the premise that participating in meaningful activities can enhance personal strengths, which in turn contribute to improved well-being (Seligman & Csikszentmihalyi, 2000). Most caregiver interventions which are currently available focus on reducing dysfunction (e.g., depression, anxiety) (Cheng et al., 2020). These approaches have largely emphasized information needs such as what caregivers can expect with dementia. Yet, attending to other types of needs such as for self-care and emotional

support is vital (Waligora et al., 2019). Given that the trajectory of dementia cannot be reversed, shifting to a strengths-based approach may be fruitful (Palacio et al., 2020) such as through providing spaces for caregivers to experience positive emotions (i.e., joy, excitement), engagement (i.e., flow), connection with others (sharing both life's challenges and difficulties), and feel empowered and self-efficacious (i.e., PERMA) (Seligman, 2011).

DMT is based on the premise that creative-movement can foster the social, physical, cognitive, and emotional integration of the individual (ADTA, 2022). As an inherently strengths-based modality, opportunities to experience of positive affect (Koch et al., 2007), flow (Dieterich-Hartwell et al., 2022), relationship (with group members and the therapeutic alliance) (McGarry & Russo, 2011) and feelings of achievement (Koch, 2017) are plentiful. By providing creative opportunities for caregivers to face their emotions in a safe environment, engaged coping may be improved. Overall, it is not possible to eliminate the progression of dementia and the challenges which come with it. However, by adopting a strengths-based approach, rather than merely aiming to reduce dysfunction (e.g., Cheng et al. 2020) it is possible to help caregivers cultivate resources to remain resilient, by building in experiences of joy, connection, liberation, and holistic support which reinforce self-efficacy beliefs. DMT is a promising avenue to continue to explore, as more and more Canadians take on the vital role of caregiving. To conclude with the voice of a participant, about how resilient she felt after DMT:

I can go home, and I can cope with this now, because I've had this time. I've had this release, I've had this sharing, I've had this joy mixed in with the sorrow, you know, and now I can go home and face what I have to face. (P4)

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Appendix A: DMT Journalling Page

Creative-Movement Journaling Page

Date: _____

Journal Prompt: Which movement activity or experience was the most inspiring and/or impactful for you today, and why?

<i>Describe:</i> What was the movement experience which was the most inspiring and/or impactful for you today? • What did you do? • Who did you interact with? • What were your movements like?	<i>Explain:</i> why was this movement experience inspiring and/or impactful for you?

Creative Movement Experience

Instructions: Please respond to how the following statements apply to your current state right now, by circling: with (1) representing “not at all” to (5) representing “exactly true”

Momentarily I feel...

Empowered	1	2	3	4	5
Free to decide	1	2	3	4	5
Effective/that I have impact	1	2	3	4	5
Creative	1	2	3	4	5

For the next set of items, please fill in the questionnaire as spontaneously and completely as possible from (1) for “not at all” and (10) signifying “very much”

When you think back on the past hour of movement...

	Not at all									Very much
How happy have you been?	1	2	3	4	5	6	7	8	9	10
How much beauty did you experience?	1	2	3	4	5	6	7	8	9	10
How much pleasure/joy did you experience?	1	2	3	4	5	6	7	8	9	10
How well could you express your feelings?	1	2	3	4	5	6	7	8	9	10
How fluently could you verbally express yourself?	1	2	3	4	5	6	7	8	9	10
How fluent were your movements?	1	2	3	4	5	6	7	8	9	10
How close was your experienced connection between body and mind?	1	2	3	4	5	6	7	8	9	10
How strongly did you experience unison with your partner/the group?	1	2	3	4	5	6	7	8	9	10

Consider how well the following statements describe your behaviour and actions in general.

	Does not describe me at all	Does not describe me	Neutral	Describes me	Describes me very well
I look for creative ways to alter difficult situations	1	2	3	4	5
Regardless of what happens to me, I believe I can control my reaction to it.	1	2	3	4	5
I believe I can grow in positive ways by dealing with difficult situations	1	2	3	4	5
I actively look for ways to replace the losses I encounter in life	1	2	3	4	5

Appendix B: Emotion Body-Mapping Activity (Week 1)

FEELINGS MAP

CHOOSE A COLOR TO REPRESENT EACH FEELING.
THEN COLOR IN THE FIGURE BELOW TO SHOW WHERE EACH
FEELING IS LOCATED IN YOUR BODY.

KEY: ☐ HAPPY ☐ SAD ☐ WORRIED ☐ ANGRY ☐ CALM ☐ SCARED



Appendix C: Information-Consent Letter

Study Title: Dance/Movement Therapy for Family Caregiver Resilience

Faculty Supervisor: Dr. Steven Mock, PhD, Department of Recreation and Leisure Studies, University of Waterloo. Email: smock@uwaterloo.ca

Student Investigator: Eden Rose Champagne, PhDc, MA, Department of Recreation and Leisure Studies, University of Waterloo. Email: erchampa@uwaterloo.ca

This letter explains what the study is about, possible risks and benefits, and your rights as a research participant. You may print/save a copy for your records. If you do not understand something in the letter, please ask one of the investigators before consenting to participate.

Invitation to participant/what is the study about?

You are invited to participate in a research study about how a creative movement support group can improve well-being for individuals who are a primary caregiver of an individual living with a neurodegenerative condition (e.g., dementia, Parkinson's disease). Creative movement has been shown to benefit other individuals who face complex challenges. The current study is for a doctoral thesis project and will recruit approximately forty caregivers from the greater Toronto area to participate in a six-week intervention entitled "Caregiver Creative Movement" developed based around dance/movement therapy techniques. The current study will help us understand whether creative movement can improve family caregiver well-being and reduce burden.

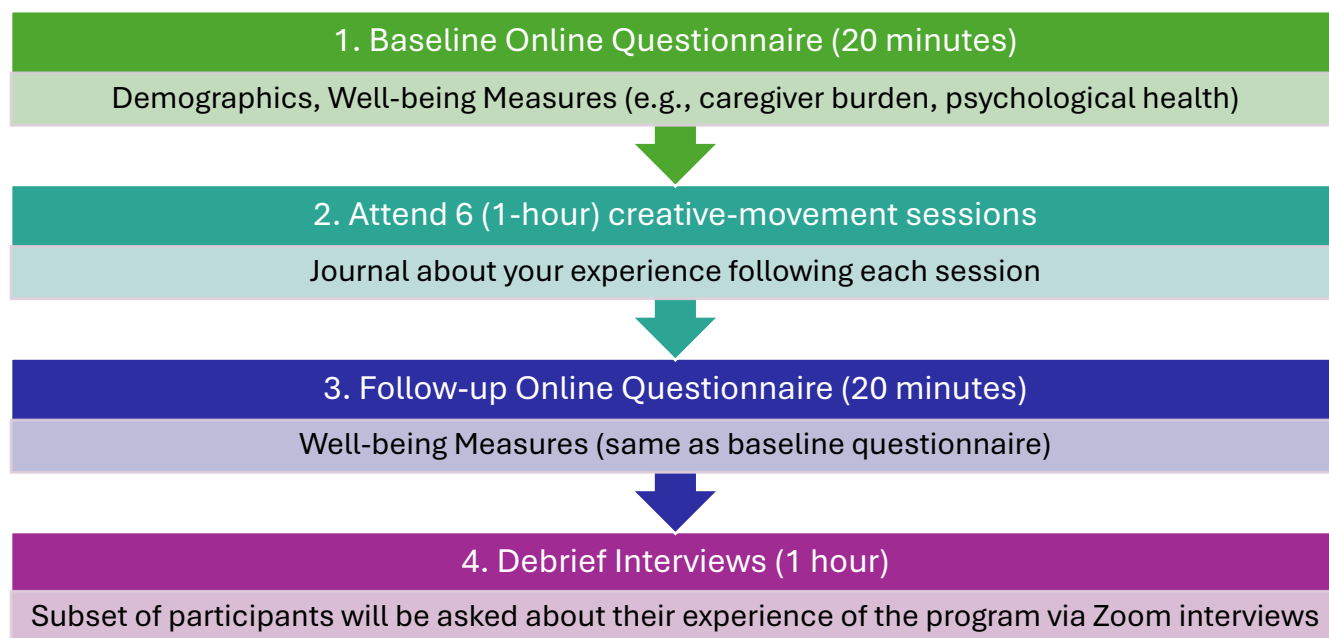
What does participation involve?

Participation in the study will consist of:

1. A single baseline, online **questionnaire** that takes approximately **20** minutes to complete, with Qualtrics platform. You will first be asked some demographic information such as age, gender, and education. The remaining questions ask about your experiences as a caregiver, and your well-being, including perceived burden, psychological well-being, and resilience.
2. Everyone in the study will then be placed in a group of approximately 8-10 caregivers to take part in a **six-week creative-movement intervention**, facilitated by the primary investigator of the study. Each dance/movement therapy session will occur in an accessible, community space. Each session will be **one-hour** long and will follow the structure of a warm-up and check in, exploration of a particular theme (e.g., emotional processing) with various movement activities (e.g., creating a movement phrase), and end with a cool-down and time for journaling (5 minutes) and responding to brief survey measures. You will be asked to participate in deep breathing, gentle movement exercises, expressive dance, role-playing, discussions about emotions or thoughts evoked by movement experiences. You will also be asked to create and perform a story of yourself

in relation to your caregiver identity and experience through movement in weeks 4 and 5 of the intervention. Dance/movement therapy emphasizes participant-led, improvisational movement practices, and can be completed in seating or standing, depending on participant preference and abilities. Sessions will incorporate music and may include other props such as fabric scarves or small instruments. The sessions will be tailored to individual ability and preferences of music and movement forms. No prior experience of dance or movement is required to participate in this program. Given the group format of these sessions, we will ask you to keep in confidence information that identifies or could potentially identify another participant.

3. Once the six weeks of creative-movement program are complete, you will be asked to repeat the **20-minute questionnaire** from the baseline survey on Qualtrics online platform, which takes approximately twenty minutes to complete. *Qualtrics* has implemented technical, administrative, and physical safeguards to protect the information from loss, misuse, and unauthorized access, disclosure, alteration, or destruction. However, no internet transmission is ever fully secure or error free.
4. Additionally, you will be contacted part way through the intervention to see if you may be willing to take part in one **debrief interview (1 hour)** on Zoom, to obtain your feedback about the intervention once it is done. In that meeting, you will be given the opportunity to tell us: what your experience of the DMT intervention was like, if the intervention helped you to build resilience/coping resources and experience well-being. With your permission, anonymous quotations from the interview responses may be used in papers and publications.



Who may participate in the study?

- To participate in the study, you need to identify as a primary caregiver for a loved one (spouse, partner, or parent) living with a diagnosed neurodegenerative condition (e.g., dementia, Parkinson's disease, multiple sclerosis, stroke, etc.).
- You also need to be able to respond to questions in English and attend an in-person creative-movement support group for six consecutive weeks.

Is participation in the study voluntary?

Your participation in this study is voluntary.

- For questionnaires/interviews, you may decline responding to any question(s) you prefer not to answer (e.g., leaving them blank, or by skipping the question).
- You may also stop participating in the program at any time.

Will I receive anything for participating in the study?

In appreciation of your time, you will automatically be entered draw for a Tim Horton's gift card, immediately following your completion of each online questionnaire (baseline and follow-up), each valued at \$20. Your odds of winning one of the prizes at each time is 2 out of 10.

Information collected to draw for the prizes will not be linked to the study data in any way, and this identifying information will be destroyed after the prizes have been provided. The amount received is taxable. It is your responsibility to report this amount for income tax purposes.

What are the possible benefits of the study?

We cannot promise any benefits to you or others from taking part in this research. However, possible benefits include that you may learn to better manage stress related to caregiving. You may learn new ways of dealing with your stress and expressing yourself, feel more positive about yourself, and feel supported by the other group members and therapist.

The results of this study may also benefit the field of dance/movement therapy since there is little research available at this time about the impact of dance/movement therapy for caregivers. If the results of this study and other studies like it are positive, this type of program may become available for other family caregivers of an individual living with a neurodegenerative condition in the future.

What are the risks associated with the study?

Although there are no anticipated risks associated with your participation in this study, there is a possibility that physical injury could occur within the DMT sessions. However, sessions are designed to be accessible, and gentle in nature and (e.g., can be adapted to be carried out entirely in seated position), or with other modifications. Additionally, you may experience feelings, emotions, or memories while engaging in the DMT process, discussing your caregiving experience and reactions to movement activities, or hearing other group members' reactions and experiences of caregiving. Sometimes these reactions may cause you to feel sad or nervous. If this happens, the therapist will talk to you and offer additional supports.

How is data collected, stored, and protected?

Identifying information such as names, emails, etc., will be removed from your responses (data) and stored securely and separately. This identifying information will only be accessible to the research team. Data collected for this study will be secured password protected UWaterloo OneDrive for at least 7 years. You may change your mind and ask to have your responses deleted by contacting us within this time. Please note it is not possible to remove data once results have been submitted for publication or otherwise shared publicly.

This survey is hosted by Qualtrics, which has multiple safeguards in place, although no Internet transmission is ever fully secure. Collected data will be securely stored on password-protected computers on UWaterloo OneDrive for at least 7 years. With your permission the data that you provide in this study (e.g., quotes from interviews) may be shared publicly without any names or other identifying information attached.

The short video clips and/or photographs of the dance sessions (weeks 3 and 4) will be stored securely and utilized for teaching and/or academic purposes, with participant faces blurred.

Who is sponsoring/funding this study?

This study is funded by the Social Sciences and Humanities Research Counsel (SSHRC) Canadian Graduate Studies- Doctoral grant.

Has the study received ethics clearance?

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Board (REB 45926). If you have questions for the Board, contact the Office of Research Ethics, toll-free at 1-833-643-2379 (Canada and USA), 1-519-888-4440, or reb@uwaterloo.ca.

Who should I contact if I have questions regarding my participation in the study?

If you have any questions about this study or need more information before you decide whether to participate, please contact one of the researchers named above.

Appendix D: Survey Instruments

Survey Instrument (Baseline)

Dear (caregiver name),

Below you will find a link for the online baseline survey pertaining to your caregiving experience.

This must be completed prior to your first creative-movement session.

The survey should take you approximately **fifteen minutes** to complete. It is recommended to complete it within one sitting.

Upon completing it, you will be automatically entered to win a \$15 Tim Horton's giftcard in appreciation for your time.

Sincerely,

Eden Champagne

Online Consent Form: Dance/Movement Therapy for Family Caregiver Resilience

By providing your consent, you are not waiving your legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

I have read the information presented in the information letter about a study conducted by **Dr. Steven Mock and Eden Rose Champagne**, Recreation and Leisure Studies, at the University of Waterloo.

I have had the opportunity to ask questions related to the study and have received satisfactory answers to my questions and any additional details.

I was informed that participation in the study is voluntary and that I can withdraw this consent, and any limitations to this withdrawal, by informing the researcher.

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Board (REB 45926). If you have questions for the Board, contact the Office of Research Ethics, toll-free at 1-833-643-2379 (Canada and USA), 1-519-888-4440, or reb@uwaterloo.ca.

Sometimes a certain image or photograph and/or part of a video of the movement group clearly shows a particular feature or detail that would be helpful in teaching or when presenting the study results at a scientific presentation or in a publication. *If the clip or image includes a participant's face or other identifying features, this will be obscured and you will not be identifiable.*

This online survey should take you approximately 15 to 20 minutes to complete. Thank you for your participation!

I agree of my own free will to participate in this study

- ☐ YES
- ☐ NO

I agree to be invited to partake in an interview, following the completion of the dance/movement therapy group

- ☐ YES
- ☐ NO

During the dance/movement sessions, I agree to be video recorded and/or photographed and I give permission for video clips and/or photographs of me to be used in teaching, scientific presentations and/or publications with the understanding that I will not be identified by name. (optional)

- ☐ YES
- ☐ NO

I am aware that I may withdraw my consent at any time without penalty

- ☐ YES
- ☐ NO

Baseline Questionnaire

To begin, we will ask you some demographics questions.

1. What is your age?
2. What is your sex?
 - a. Male
 - b. Female
 - c. Other identification, please describe:
3. What is your ethnicity/race?
4. What is your current occupation?
5. What is your highest level of completed education?
6. What is the nature of the relationship between you and the individual you are caregiving for?
 - a. They are my partner/spouse: husband
 - b. They are my partner/spouse: wife
 - c. They are my parent: father
 - d. They are my parent: mother
 - e. Other relationship, please describe:
7. How long have you been in this relationship with your partner/spouse? (in years)
8. Which neurodegenerative condition does your loved one have a diagnosis of?
 - a. Alzheimer's disease
 - b. Other dementia (e.g., frontotemporal dementia, vascular dementia, Lewy bodies, mild cognitive impairment) please identify:
 - c. Parkinson's disease
 - d. Cerebral palsy
 - e. Brain tumour
 - f. Huntington's disease

- g. Multiple sclerosis
- 9. Do you live with the individual diagnosed with the neurodegenerative condition?
 - a. Yes
 - b. No
- 10. Approximately how long have you been caring for this individual's symptoms for this condition?
 - a. 1-4 months
 - b. 5 months to one year
 - c. 1-2 years
 - d. 3-4 years
 - e. 5-6 years
 - f. 7+ years
- 11. On average, how many hours per day do you provide care to this individual?
 - a. 1-2
 - b. 3-4
 - c. 5-6
 - d. 7+
- 12. What (if any) formalized healthcare services are you currently using to support your care of this individual? (e.g., personal support worker, long-term care residence). Please describe the type and frequency of support below:
- 13. Do you attend any leisure, activity, or engagement programs currently with your loved one with the neurodegenerative condition? If yes, please describe which programs
 - a. Yes, describe below:
 - b. No
- 14. Do you attend any leisure, activity, or engagement programs currently without your loved one, for your own respite or benefit? If yes, describe which programs:
 - a. Yes, describe below:
 - b. No

Zarit Burden Interview

"This next set of 12 questions will ask you to evaluate your experiences of caregiving. Respond to the prompts by indicating how closely they align to your experience, from "never" to "nearly always"

Do you feel...

	Never	Rarely	Sometimes	Quite frequently	Nearly always
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That because of the time you spend with your relative that you don't have enough time for yourself?	0	1	2	3	4
Stressed between caring for your relative and trying to meet other responsibilities (work/family)?	0	1	2	3	4
Angry when you are around your relative?	0	1	2	3	4
That your relative currently affects your relationship with family members or friends in a negative way?	0	1	2	3	4
Strained when you are around your relative?	0	1	2	3	4
That your health has suffered because of your involvement with your relative?	0	1	2	3	4
That you don't have as much privacy as you would like because of your relative?	0	1	2	3	4
That you have lost control of your life since your relative's illness?	0	1	2	3	4
That your social life has suffered because you are caring for your relative?	0	1	2	3	4
Uncertain about what to do about your relative?	0	1	2	3	4
You should be doing more for your relative?	0	1	2	3	4
You could do a better job in caring for your relative?	0	1	2	3	4

Benefit Finding

“For this next set of seventeen questions, consider how well the following statements describe your caregiving experience, from “does not describe me at all” to “describes me very well”.

Providing care for my relative through his/her dementia (or other condition) experience has...

	Does not describe me at all	Does not describe me	Neutral	Describes me	Describes me very well
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Taught me how to adjust to the things I cannot change.	1	2	3	4	5
Helped me to take things as they come.	1	2	3	4	5
Led me to be more accepting of things.	1	2	3	4	5
Shown me that all people need to be loved.	1	2	3	4	5
Made me more aware and concerned for the future of all human beings.	1	2	3	4	5
Taught me that everyone has a purpose in life.	1	2	3	4	5
Made me realize the importance of planning for my family's future.	1	2	3	4	5
Contributed to my overall emotional and spiritual growth.	1	2	3	4	5
Led me to meet people who have become some of my best friends.	1	2	3	4	5
Helped me to become more aware of the love and support available from other people.	1	2	3	4	5
Brought my family closer together.	1	2	3	4	5
Made me more sensitive to family issues.	1	2	3	4	5
Led me to deal better with stress and problems.	1	2	3	4	5
Taught me to be patient.	1	2	3	4	5
Helped me become a stronger person, more able to cope effectively with future life challenges.	1	2	3	4	5
Helped me realize who my real friends are.	1	2	3	4	5
Helped me become more focused on priorities, with a deeper sense of purpose in life.	1	2	3	4	5

Resilience

Identify how closely these four statements describe your behaviours and actions from "does not describe me at all" to "describes me very well"

	Does not describe me at all	Does not describe me	Neutral	Describes me	Describes me very well
I look for creative ways to alter difficult situations	1	2	3	4	5
Regardless of what happens to me, I believe I can control my reaction to it.	1	2	3	4	5
I believe I can grow in positive ways by dealing with difficult situations	1	2	3	4	5
I actively look for ways to replace the losses I encounter in life	1	2	3	4	5

The following statements describe how some individuals may think, feel, or act during and after stressful events in life. Please indicate how well each of these statements describes your response to the stress of your caregiving experience.

In response to my caregiving experience, I tend to...

	Exactly like me				Not like me at all
Take action to fix things.	4	3	2	1	0
Not give up trying to solve problems I think I can solve	4	3	2	1	0
Find a way to do what's necessary to carry on.	4	3	2	1	0
Pray or meditate.	4	3	2	1	0
Face my fears.	4	3	2	1	0

Find opportunity for growth.	4	3	2	1	0
Calm and comfort myself.	4	3	2	1	0
Try to “recharge” myself before I have to face the next challenge.	4	3	2	1	0
See it as a challenge that will make me better.	4	3	2	1	0
Look at the problem in a number of ways.	4	3	2	1	0
Look for creative solutions to the problem.	4	3	2	1	0
Put things in perspective and realize I will have times of joy and times of sadness.	4	3	2	1	0
Be good at determining which situations are changeable and which are not.	4	3	2	1	0
Find meaning from the experience.	4	3	2	1	0
Find strength in the meaning, purpose, or mission of my life.	4	3	2	1	0
Know I will bounce back.	4	3	2	1	0
Expect that I can handle it.	4	3	2	1	
Learn important and useful life lessons.	4	3	2	1	0
Understand that bad things can happen to anyone, not just me.	4	3	2	1	0
Lean on my faith in God or a higher power.	4	3	2	1	0
Draw upon lessons learned from failures and past mistakes.	4	3	2	1	0
Practice ways to handle it better next time.	4	3	2	1	0

Flourishing

Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
I lead a purposeful and meaningful life.	1	2	3	4	5	6	7
My social relationships are supportive and rewarding.	1	2	3	4	5	6	7
I am engaged and interested in my daily activities	1	2	3	4	5	6	7
I actively contribute to the happiness and well-being of others	1	2	3	4	5	6	7
I am competent and capable in the activities that are important to me	1	2	3	4	5	6	7
I am a good person and live a good life	1	2	3	4	5	6	7
I am optimistic about my future	1	2	3	4	5	6	7
People respect me	1	2	3	4	5	6	7

Follow-up Survey Instrument

Study Title: **Dance/Movement Therapy for Family Caregiver Resilience**

This survey is a follow-up to your participation in the six-week creative movement program.

You will also be contacted to partake in an interview, should you wish to share your feedback on the program.

Upon completion of this survey, you will be entered to win a \$15 Tim Horton's giftcard.

This online survey should take you approximately 15 to 20 minutes to complete. Thank you again for your participation!

Patient's Global Impression of Change Scale (PGIC)

Since beginning participation in the dance/movement therapy program, how would you describe the change (if any) in activity limitations, symptoms, emotions, and overall quality of life, related to your caregiving experience?

No change	Almost the same	A little better	Somewhat better	Moderately better	Better	A great deal better
1	2	3	4	5	6	7

Explanation:

1 = No change (or condition has got worse)	5 = Moderately better, and a slight but noticeable change
2 = Almost the same, hardly any change at all	6 = Better, and a definite improvement that has made a real and worthwhile difference
3 = A little better, but no noticeable change	7 = a great deal better, and a considerable improvement that has made all the difference
4 = Somewhat better, but the change has not made any real difference	

Please explain what changes you have experienced since your participation in the creative-movement program:

Zarit Burden Interview

*“This next set of 12 questions will ask you to evaluate your **experiences of caregiving**. Respond to the prompts by indicating how closely they align to your experience, from “never” to “nearly always”*

Do you feel...

	Never	Rarely	Sometimes	Quite frequently	Nearly always
That because of the time you spend with your relative that you don't have enough time for yourself?	0	1	2	3	4
Stressed between caring for your relative and trying to meet other responsibilities (work/family)?	0	1	2	3	4
Angry when you are around your relative?	0	1	2	3	4

That your relative currently affects your relationship with family members or friends in a negative way?	0	1	2	3	4
Strained when you are around your relative?	0	1	2	3	4
That your health has suffered because of your involvement with your relative?	0	1	2	3	4
That you don't have as much privacy as you would like because of your relative?	0	1	2	3	4
That you have lost control of your life since your relative's illness?	0	1	2	3	4
That your social life has suffered because you are caring for your relative?	0	1	2	3	4
Uncertain about what to do about your relative?	0	1	2	3	4
You should be doing more for your relative?	0	1	2	3	4
You could do a better job in caring for your relative?	0	1	2	3	4

Benefit Finding

“For this next set of seventeen questions, consider how well the following statements describe your caregiving experience, from “does not describe me at all” to “describes me very well”.

Providing care for my relative through his/her dementia (or other condition) experience has...

	Does not describe me at all	Does not describe me	Neutral	Describes me	Describes me very well
Taught me how to adjust to the things I cannot change.	1	2	3	4	5
Helped me to take things as they come.	1	2	3	4	5
Led me to be more accepting of things.	1	2	3	4	5
Shown me that all people need to be loved.	1	2	3	4	5

Made me more aware and concerned for the future of all human beings.	1	2	3	4	5
Taught me that everyone has a purpose in life.	1	2	3	4	5
Made me realize the importance of planning for my family's future.	1	2	3	4	5
Contributed to my overall emotional and spiritual growth.	1	2	3	4	5
Led me to meet people who have become some of my best friends.	1	2	3	4	5
Helped me to become more aware of the love and support available from other people.	1	2	3	4	5
Brought my family closer together.	1	2	3	4	5
Made me more sensitive to family issues.	1	2	3	4	5
Led me to deal better with stress and problems.	1	2	3	4	5
Taught me to be patient.	1	2	3	4	5
Helped me become a stronger person, more able to cope effectively with future life challenges.	1	2	3	4	5
Helped me realize who my real friends are.	1	2	3	4	5
Helped me become more focused on priorities, with a deeper sense of purpose in life.	1	2	3	4	5

Resilience

Identify how closely these four statements describe your behaviours and actions from "does not describe me at all" to "describes me very well"

	Does not describe me at all	Does not describe me	Neutral	Describes me	Describes me very well
--	------------------------------------	-----------------------------	----------------	---------------------	-------------------------------

I look for creative ways to alter difficult situations	1	2	3	4	5
Regardless of what happens to me, I believe I can control my reaction to it.	1	2	3	4	5
I believe I can grow in positive ways by dealing with difficult situations	1	2	3	4	5
I actively look for ways to replace the losses I encounter in life	1	2	3	4	5

The following statements describe how some individuals may think, feel, or act during and after stressful events in life. Please indicate how well each of these statements describes your response to the stress of your caregiving experience.

In response to my caregiving experience, I tend to...

	Exactly like me				Not like me at all
Take action to fix things.	4	3	2	1	0
Not give up trying to solve problems I think I can solve	4	3	2	1	0
Find a way to do what's necessary to carry on.	4	3	2	1	0
Pray or meditate.	4	3	2	1	0
Face my fears.	4	3	2	1	0
Find opportunity for growth.	4	3	2	1	0
Calm and comfort myself.	4	3	2	1	0
Try to "recharge" myself before I have to face the next challenge.	4	3	2	1	0
See it as a challenge that will make me better.	4	3	2	1	0
Look at the problem in a number of ways.	4	3	2	1	0

Look for creative solutions to the problem.	4	3	2	1	0
Put things in perspective and realize I will have times of joy and times of sadness.	4	3	2	1	0
Be good at determining which situations are changeable and which are not.	4	3	2	1	0
Find meaning from the experience.	4	3	2	1	0
Find strength in the meaning, purpose, or mission of my life.	4	3	2	1	0
Know I will bounce back.	4	3	2	1	0
Expect that I can handle it.	4	3	2	1	
Learn important and useful life lessons.	4	3	2	1	0
Understand that bad things can happen to anyone, not just me.	4	3	2	1	0
Lean on my faith in God or a higher power.	4	3	2	1	0
Draw upon lessons learned from failures and past mistakes.	4	3	2	1	0
Practice ways to handle it better next time.	4	3	2	1	0

Flourishing

Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
I lead a purposeful and meaningful life.	1	2	3	4	5	6	7
My social relationships are supportive and rewarding.	1	2	3	4	5	6	7

I am engaged and interested in my daily activities	1	2	3	4	5	6	7
I actively contribute to the happiness and well-being of others	1	2	3	4	5	6	7
I am competent and capable in the activities that are important to me	1	2	3	4	5	6	7
I am a good person and live a good life	1	2	3	4	5	6	7
I am optimistic about my future	1	2	3	4	5	6	7
People respect me	1	2	3	4	5	6	7

Appendix E: Semi-Structured Interview Guide

Question and Potential Prompts
1. Tell me about yourself and your experience of the creative-movement intervention. • Why was this program of interest to you? • What were your initial expectations of the program? • How were these expectations met or changed? • Did any aspects of the program surprise you? How so? • Was this your first experience with creative-arts therapy? • Was this your first experience of a caregiver support group? • Have you noticed if the DMT sessions affected your general well-being? Energy? Mood? Resources? • Can you think of one or two examples you could share?
2. What did the process look like for you to begin to engage with others through dance/movement? To what extent did you: • Experience a sense of play, joy, and vitality in DMT as you engaged with other caregivers in creative movement activities? • Experience a sense of beauty and authenticity in your own movements, or a synchrony between your body and mind? • Have opportunities to make meaning of your caregiving experience and identity more broadly, through expressing personal themes in movement, and moving with other caregivers? • Did any negative or unwanted emotions come up for you as you processed through creative movement?
3. What was your overall level of satisfaction with the DMT program? • Logistically, how accessible, and feasible was this program for you to attend? • Is there anything you would recommend is changed about the DMT program for caregivers? • What challenges, if any, did you encounter in attending the group? • Should a program like this continue to be run, would you desire to continue? Why or why not?

Appendix F: Appreciation Letter

Date of study completion

I would like to thank you for your participation in the study entitled *Dance/Movement Therapy for Family Caregiver Resilience*. As a reminder, the purpose of this study is to explore the feasibility and potential benefits of a creative-movement support program for caregivers of an individual with a neurodegenerative condition.

The data collected during online questionnaires, in-person journal entries, and interviews will contribute to a better understanding of how the creative-arts may play a role in the development and implementation of holistic forms of caregiver support. This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Board (REB 45926). If you have questions for the Board, contact the Office of Research Ethics, toll-free at 1-833-643-2379 (Canada and USA), 1-519-888-4440, or reb@uwaterloo.ca. For all other questions contact Eden, at erchampa@uwaterloo.ca

Please remember that your identity will be kept confidential in study results. Once all the data are collected and analyzed for this project, I plan on sharing this information with the research community through conferences, presentations, and journal articles. If you are interested in receiving more information about the results of this study, or would like a summary of the results, please email me at erchampa@uwaterloo.ca, and when the study is completed, anticipated by June 2024, I will send you the information. In the meantime, if you have any questions about the study, please contact me by email or telephone as noted below.

Eden Rose Champagne
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Recreation and Leisure Studies Department
erchampa@uwaterloo.ca