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The Importance of a Creative Arts Program for Senior Housing Residents

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Dedication

For Mary Jo, my pride and joy.

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Abstract

The goal of this interdisciplinary quasi-experimental mixed methods study with older adults living in congregate senior housing was to describe participants' experience of a creative arts program and evaluate its impact on quality of life. Fourteen older adults completed this study. The program was offered weekly for 2 hours over a 12-week period. The quantitative outcome measures included the *Montreal Cognitive Assessment* (*MoCA*), the *Geriatric Depression Scale* (*GDS*), the *Short Form-36* (*SF-36*) quality of life measure, and the *Abbreviated Torrance Test for Adults* (*ATTA*), a test of creativity. None of the quantitative outcome measures showed significant improvements after the intervention when compared to the baseline period. Qualitative data collected through individual semi-structured interviews were transcribed, coded, and analyzed. Qualitative results revealed six main themes: 1) Novel and engaging group artistic experience provides opportunity to test and overcome limits, 2) Feelings of trust, acceptance, and comfort within the group support self-expression, 3) Transformative creative experience in expressing true self, trying new things, and imagining endless possibilities, 4) The program was experienced as energizing and fun, generating a positive outlook on life, 5) Music and dance fostered mutual knowledge, emotional connection to one's own heritage, and cultural understanding, and 6) The program resulted in increased social interactions and a stronger feeling of community. Although those findings are encouraging, more studies using a variety of methodologies and interventions are needed to inform art-based health promotion efforts in the older adult population.

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Introduction

The purpose of this study is to explore the benefits of art making for the quality of life of seniors living in congregate housing. There is growing interest in the benefits of creative arts for successful aging. Evidence shows that music, dance, and storytelling contribute to cognitive, emotional and physical health and well-being in older adults (Castora-Binkley, Noelker, Prohaska, & Satariano, 2010; Cohen et al., 2006; Palo-Bengtsson, Winblad, & Ekman, 1998; Sevdalis & Keller, 2011). Historically, shared artistic activities have been a vital part of bringing people together and strengthening culture in a community. The research on the impact of community-based creative arts programs for older adults is still limited (Castora-Binkley et al., 2010; Cohen et al., 2006). Understanding the influence of creative arts programs on quality of life, emotional and physical well-being, and sense of community and culture may promote the future use of these programs in congregate senior housing communities.

This collaborative study used an occupational science perspective. Occupational science is an interdisciplinary field of study in social and behavioral sciences that seeks to understand the nature and structure of the interrelationship between *occupation* and health to promote optimal well-being and participation in life (Wilcock, 2007). Occupations encompass activities people engage in throughout their daily lives, including contributing to social communities. They hold meaning, often reflect cultural values, and provide structure to living (AOTA, 2014; Hasselkus, 2006). Occupations are an essential

component of living a meaningful life, and they include enjoying and participating in creative activities.

It is well established that creativity impacts occupational performance and emotional and cognitive function. Occupational science traditionally grew from an artistic core and belief that participation in creative arts occupations promotes health and well-being (AOTA, 2014; Eriksson et al., 2011; Pereira & Stagnitti, 2008). Creative arts occupations include any artistic occupation that evokes creative processes in an individual, such as music, dance, painting, drawing, textile arts, and crafts (Perruzza & Kinsela, 2010). The limited evidence supporting the link between creativity and health and well-being, and the recent decline in therapeutic use of creative occupations by health care professionals, were motivations for this study (Perruzza & Kinsela, 2010). Identifying joint creative artistic occupations as an essential human activity going back to prehistoric times may contribute to understanding the benefit of those activities within senior housing communities.

As emphasized by anthropologists, culture is central to community living. However, the concept of culture is often not defined clearly in the social science literature (Abraham, 2013; Eriksson et al., 2011; Iwamasa & Iwasaki, 2011; Kreutz, 2008; Maramaldi, Berkman & Barusch, 2005). Culture is considered a dynamic construct that has continuously evolved at both individual and group levels, making it challenging to identify the exact origins of its creation. Anthropologists share a belief with occupational scientists that values, roles, and beliefs are characteristics of daily occupations and expressions of culture (AOTA, 2008; Maramaldi et al., 2005). *The Occupational Therapy Practice Framework: Domain and Process, 3rd Edition* (AOTA, 2014) lists culture as a

contextual factor that can influence one's health and function. The aspects of culture focused on in this thesis are social interactions and joint artistic endeavors shared by people living in congregate senior housing through a creative arts program.

The focus of the overall interdisciplinary project is to determine the importance of a participatory dance and story-telling program called *Kairos Dancing Heart*™ to the quality of life of older adults. A total of four thesis projects thus far have been completed to explore the impact of the Kairos Dancing Heart™ program, namely three qualitative descriptive studies (Bruesewitz, 2012; Rydholm, 2011; Schafer, 2011) studying nursing home residents, and one study conducted with seniors living in congregate housing using a baseline controlled quasi-experimental mixed methods design focused on memory (Holmes, 2015). The current thesis is using the same participants as the Holmes study, but while Holmes analyzed the data relating to memory and cognition, the current study will focus on the information pertaining to creativity and quality of life.

In gathering literature to provide sufficient background information for the present study, the dynamic interactions between a person, occupation, and environmental context were critically analyzed, focusing on benefits of active participation in the arts among all older adults. Lifestyles of older adults were examined to explain further how understanding the multifactorial elements that contribute to an individual's experience of aging provide the foundation for this creative arts study (see Appendix A). This review aimed to describe various aspects of art-making and communicative processes involved. The importance of creativity and aging was also examined, focusing on the research linking art and creativity to the quality of life in older adults. Lastly, the research

evidence of the effects of art as therapy for older adults living in congregate senior housing facilities was explored.

Review of Literature

The following sections will discuss a review of literature on the following topics: art-making, art-making in communities, shared art-making, creativity and aging, neuroscience of creativity and aging, art, creativity and quality of life in older adults, art as therapy, and the benefit of creativity and art-making. Additional literature can be found in the appendix.

Art-Making

Art, in various forms, is embraced by almost all human cultures and has been regarded as one of the defining characteristics of human existence (Anderson, 2004; Camic, 2008; Morriss-Kay, 2010; Reynolds, 2004). The arts that will be focused on here include music, dance, rituals, and some form of communicative language, such as poetry, song, and storytelling. At each life stage, the cognitive potential to create art exists. Research has shown that social cognition provides complex symbolic meaning and attachment to art-making (Morriss-Kay, 2010). The process of art-making connects thoughts and emotions through a physical act of aesthetic construction, often eliciting an aesthetic and positive response (Acord & DeNora, 2008; Anderson, 2004; Camic, 2008; Reynolds & Lim, 2007). Art-making can be an all-encompassing experience involving the mind, conscious and unconscious, the soul and body (Anderson, 2004).

Communicative aspects of art-making have been widely reported in the research literature (Acord & DeNora, 2008; Anderson, 2004; Reynolds & Lim, 2007). Sound,

ritualized movement and visual sensory components are a well-known part of human artistic communication (Morriss-Kay, 2010). Additionally, art-making for enjoyment or pleasure has been described as a method for igniting a creative, communicative response (Anderson, 2004; Lawton & La Porte, 2013). Creative moments are typically achieved in art-making through discovering, connecting and engaging in unexpected processes and contexts in connection with each other. The process of art-making can also stimulate memory and communicate reflection through exploration of feelings and experiences (Anderson, 2004; Reynolds & Lim, 2007; Lawton & La Porte, 2013). Synthesis of personal experience encourages reflective thought through art-making, which, in turn produces intrinsic meaning (Anderson, 2004; Camic, 2008; Reynold & Lim, 2007; Lawton & La Porte, 2013). Because art-making involves an expressive integration of emotions with an empathetic response, symbolic meaning can often be achieved (Anderson, 2004; Reynolds & Lim, 2007). In addition to this joint creation, the arts are also often experienced as a group. Expressing beliefs and conveying meaning through movement and sound, such as in theatre or music, affords to the social aspect of the artistic experience.

Art-making in Communities

Studies on culture and art have revealed that music as a form of art-making provides meaning, opportunity for awareness and reconciliation, and a sense of connectedness to diverse individuals (Acord & DeNora, 2008; Valient). Social groups have been able to identify with music's ability to highlight an emotional connection to the communal activity (Acord & DeNora, 2008; Garrido & Davidson, 2013). Research has

shown that particular rhythmical characteristics of music, as well as its tonal and lyrical properties, provide grounds for creating joint artistic, musical improvisation and are linked to cultural recognition. In addition to this general description of a group or individual response to music, cognitive and emotional properties are aroused and influence one another (Acord & DeNora, 2008; Garrido & Davidson, 2013). Neuroscience studies have looked at the power of music to influence emotion (Levitin & Tirovolas, 2009). Literature about the cognitive neuroscience of music suggests that music is distributed throughout the brain in both hemispheres (Vitale, 2011). As a result, music contributes to both cognitive and emotional processing (Amer et al., 2013; Levitin & Tirovolas, 2009; Thomas et al., 2011; Vitale, 2011). Particularly, the conveying of emotion has been regarded as one of the most influential properties of music (Levitin & Tirovolas, 2009).

Participatory music activities provide a vehicle for facilitating emotions, reaching intrinsic feelings, and an effective tool for improving quality of life, including in older adults (Yin Yi et al., 2010). Different types of music can evoke a variety of emotions, also allowing an opportunity for self-expression (Ahmadi, 2013). In combination with movement, music has stimulated responses to rhythm both intrinsically and socially across generations and cultures (Kreutz, 2008). Being involved in music activities can help a person connect with personal life experiences and other people (Levitin & Tirovolas, 2009, Yin Yi et al., 2010).

Dance is another form of art-making that is commonly celebrated socially across generations and cultures (Acord & DeNora, 2008; Anderson, 2004; Camic, 2008). Dance is a widely recognized form of art involving the mind, body, spirit, and emotions (Acord

& DeNora, 2008; Arnold, 2005). Various elements of dance have been reported in the literature, including personal, intimate, communicative, social, and creative aspects (Arnold, 2005). Research has revealed that the arts promote social activity within communities, creating trust, honesty, patience, and respect, all of which helps to build social networks and relationships (Stacy & Stickley, 2008). In particular, social dance can be both a traditional and contemporary art form, pointing to the importance of interpersonal relationships regardless of the style. In a study that evaluated experiences gained by participants in a social dance group, the authors found that the emotionally stimulating nature of the group allowed for the collective expression of feeling through laughter, sharing, and reassurance (Stacy & Stickley, 2008). Findings also suggested that participation in social groups provide a sense of belonging to a community (Stacy & Stickley, 2008; Stav, Hallenen, Lane, & Arbesman, 2012). In dance, interpretation, and aesthetic meaning can be ignited through the interaction between movements (Acord & DeNora, 2008). Research has revealed that the connection between the mind and body through artistic expression provides a catalyst to embodied meaningful action (Acord & DeNora, 2008). Participation in art activities such as dance has the potential to positively contribute to overall health, quality of life, and well-being (Keogh, Kilding, Pidgeon, Ashley, & Gillis, 2009; Stacy & Stickley, 2008).

Storytelling is also widely recognized as a method of joint art-making and communication (Fels & Astell, 2011; Gunnarsson, Jansson, & Eklund, 2006; Lewis, 2006). Storytelling is believed to extend across cultures and emerge as a social activity early in life. Stories can be presented in different forms, including myths, folktales, legends, fictional, autobiographical, metaphors, or as expressive creativity (Fels & Astell,

2011; Gunnarsson et al., 2006; Lewis, 2006). When storytelling happens in a social group, the audience becomes involved in the story-making process. One of the more common styles of storytelling occurs via self-narration, in which individuals tell stories about their own lives or lived experiences (Fels & Astell, 2011). In this sense, narrative storytelling usually comprises everyday occurrences and events determined by the storyteller. Narrative storytelling also encompasses influences of language and the genres of storytelling inherited from the past and present life situations, culture and traditions (Fels & Astell, 2011; Gunnarsson et al., 2006; Lewis, 2006). Self-narrated storytelling has the power to evoke a reaction, such as learning, or provide a sense of community (Fels & Astell, 2011; Mancuso et al., 2011). Since a story can represent a problem, commonly specifying a solution as well, storytelling can be viewed as motivating and an entertaining problem-solving activity.

The concept of telling and sharing memories with others also plays an important role in making and maintaining relationships within social groups. Connections with other people can develop from sharing experiences and finding similarity or points of commonality within in a group (Fels & Astell, 2011). It is unclear exactly why certain stories resonate more than others, but some authors propose that stories are brought to life by their storyteller, transcending experience to a spiritual place (Lewis, 2006). Integration of personal experience takes place through the telling of stories, often resulting in spiritual reciprocity, the defined moment when the story and storyteller converge (Gunnarsson et al., 2006; Lewis, 2006). The art of storytelling allows us to recount and reassess the meanings of our past actions (Lewis, 2006). Because it has been a paramount

way in which people make sense of life experience, storytelling is integral to human life (Fels & Astell, 2011; Lewis, 2006).

Shared Art-Making

Art-making is a form of social activity through which new social identities and practices can occur (Acord & DeNora, 2008). The anthropological literature indicates that artistic expression is a fundamental human activity (Burdukiewicz, 2014; Morriss-Kay, 2010; Schultz, 2008). Cultures across time have participated in art-making through combining sounds to create music, synchronizing movements into dances, combining words to make stories, and integrating sounds, movement, storytelling, and visual images into ceremonies and rituals (Camic, 2008). Shared art-making is an activity involving active participation and ongoing dialogue with other individuals and groups, distinctive by its inclusive nature (Murray & Crummet, 2010). The anthropological perspective of shared art-making provides strong evidence for social and cultural ties to engagement in the arts (Maramaldi et al., 2005). Because art is sociocultural in nature, its understandings have been and can be transmitted across generations (Anderson, 2004; Madyaningrum & Sonn, 2011; Morriss-Kay, 2010).

Many forms of art provide an opportunity for social engagement, including bands, orchestras, choirs, and groups that engage in dance and storytelling. Since shared art-making involves meaningful interpersonal interaction, it fosters sustained involvement, increased motivation, and social inclusion (Cohen, 2006; McGrath, O'Malley, & Hendrix, 2011, Moody & Phinney, 2012). Involvement in shared art-making is a highly valued occupation that can provide a sense of purpose (Cohen, 2006; Murray & Crummet, 2010;

Tzanidaki & Reynolds, 2011). Also, personal continuity can be attained from art-making, in part from a manifested desire to maintain family and cultural traditions (Tzanidaki & Reynolds, 2011). Quality of life has been linked to participation in valued occupations embedded in an individual's culture, further contributing to one's perceptions of general health and quality of life (Maramaldi et al., 2005).

Creativity and Aging

Creativity is an essential part of human life and can be thought of as an innate drive that exists in all human beings. Creativity holds various meanings in different contexts leading to variable definitions. However, creativity has been notably described as bringing something new and valued into existence, and involving a connection between thought and imagination (Cohen, 2001; 2006; Dikici, 2014; Gnezda, 2011; Flood & Phillips, 2007). Creativity has the power to arise where there is a combination of factors at any time or place, yet there is no precise formula for making it happen (Edmonds et al., 2005). The application of creativity is linked to the ability to think innovatively. In this respect, creativity has also been frequently regarded as a cognitive process (Edwards, 1979; Evans, 1991; Fink et al., 2010; Flood & Phillips, 2007; Sternberg, 2005). Cognitive processes such as problem solving, orientation, attention, perception, memory, judgment, reasoning, planning, and language are recognized as essential aspects of daily pursuits, social interactions, and routines. More recently, creativity has been described as involving a combination of emotional and cognitive processes, thereby contributing to improved capacities for problem solving and planning (Fink et al, 2010; Flood & Phillips, 2007; Gnezda, 2011; Sternberg, 2005). The creative

process, holds potential for providing valued meaning and purpose to actions, and can be associated with cognition and emotions such as happiness, joy, and autonomy (Fink et al, 2010; Flood & Phillips, 2007; Gnezda, 2011; Sternberg, 2005). Creativity inherently contributes to daily life via the production of unique ideas and ability to problem-solve (Gnezda, 2011).

At different times throughout the adult life, creativity can be energized and explored in new ideas and through the process of making desired changes. Cohen (2001) suggested that life is viewed and experienced through mental, emotional, and intellectual senses molded by factors such as age, history, and environmental contexts. Previous notions regarding aging and creativity suggested that there was a decline in creative processes as one aged. Despite former misconceptions, research has shown that the capacity for creative expression does not reduce with age (Cohen, 2001, 2006; Flood & Phillips, 2007). Due to this broader understanding of creativity, there is greater acceptance of the fact that individuals can deepen their understanding of self and cultivate purposeful and meaningful involvement through creativity regardless of age (Flood & Phillips, 2007; Gunnarsson et al., 2006).

Given the many health, functional, and financial barriers that might develop throughout the life cycle, some degree of creative adaptation naturally occurs with age. Studies have revealed that a response to change has the potential to provide a person with a sense of control driven by new challenges (Cohen, 2001; 2006; Flood & Phillips, 2007). The combination of age, emotional and practical experience, knowledge, and brain function allow humans to integrate and achieve insight that can be later applied to different situational circumstances (Cohen, 2001; 2006; Flood & Phillips, 2007). Cohen

(2001) reported that the application of this more subjective and integrative thought process has been shown to become more prevalent with age, resulting in the developmental concept of maturity. Maturity is considered a developed behavior representative of emotional and cognitive responses influenced by experience. Not directly associated but often coinciding with maturity, wisdom has been linked to age, mostly due to being correlated with emotional and practical life experience (Cohen, 2001; 2006). The literature on creativity and aging has shown that maturity and wisdom have been linked to transformation and accompanied by a revelation of new opportunities. Changes occurring throughout the aging process have provided many older adults with opportunities to assume new valued roles. Inevitable changing life characteristics, once presumed undesirable, could be reframed as desirable events lending opportunities for creative response to change (Cohen, 2001, 2006; Flood & Phillips, 2007).

Active participation in creative activities has been shown to improve problem-solving abilities and help facilitate a more flexible approach to handling everyday challenges (Polenick & Flora, 2012; Flood & Phillips, 2007; Gnezda, 2011). Research shows that active participation in creative activities improves the ability to recognize a problem and produce novel and useful ideas or products to express a vision or idea and solve the problem (Flood & Phillips, 2007; Fink et al., 2010; Sternberg, 2005). Several well-established factors of creativity, such as learning about oneself and contributing to society, can also enhance personal and spiritual growth and further transcend some of the challenges directly associated with aging (Flood & Phillips, 2007). Since creativity can result in work that is original, useful, and generative, participation in activities that result in the production of new thoughts and ideas can promote a sense of purpose and increase

feelings of competence and control (Cohen, 2001; Cohen et al., 2006; Fink et al., 2010; Polenick & Flora, 2012). In this sense, creativity has been characterized as an empowering trait, offering several benefits in older adulthood, including increased confidence, by strengthening one's self-perception in areas of competency, value, and self-worth (Flood & Phillips, 2007; Fink et al., 2010). Studies on creativity and aging have shown that older adults who experience a sense of control also experience positive health outcomes. Creativity offers opportunity for individuals to increase self-efficacy and has been linked to social, psychological, and physical benefits among older adults (Cohen, 2001; Cohen et al., 2006; Flood & Phillips, 2007; Polenick & Flora, 2012). Furthermore, engagement in creative activities have been linked to decreased reports of anxiety and depression and may be effective in maintaining cognitive performance in older adults (Flood & Phillips, 2007, Polenick & Flora, 2012).

Neuroscience of Creativity and Aging

Evidence on the neuroscience of creativity and aging is starting to evolve (Abraham, 2013; Rutter et al., 2012) and cognitive processes are being examined to understand age-related changes in creativity (Roskos-Ewoldsen, 2008). Studies have shown that challenging and new creative experiences enhance brain health by fostering repair and growth of brain structures (Cohen, 2006; Flood & Phillips; Patterson & Perlstein, 2011). This well-known phenomenon regarding the brain’s ability to adapt and keep itself vital is referred to as neuroplasticity. Neuroplasticity means, not only the generation of new synaptic connections between existing neurons, but also the growth of new neurons, a process known as neurogenesis. One common misconception regarding

creativity and aging is that older adults become less inventive and creative as they age. Now, research supports that when the mind is being challenged, the brain responds in positive ways regardless of age (Cohen, 2001, 2006). In part due to a different, more extensive definition of creativity, people realize that creativity is part of wisdom and generative thinking and is very much alive in older adults.

Problem solving tasks are beginning to be used in creativity research to try to identify the brain areas involved in creative thinking including flexibility, fluency, originality, and elaboration (Gnezda, 2011; Srinivasan, 2007). Many studies have investigated the neuroscience of higher level cognitive processes during creative cognitive tasks. These studies have shown that the prefrontal cortex, the area of the brain in charge of abstract thought, thought analysis, and regulating behavior is activated during problem solving tasks and has a significant role in creative tasks (Srinivasan, 2007). Other studies have looked at the interaction between creativity and brain activity, focusing on hemispheric function. Different areas of the brain are often activated contingent on the type of problems and the various cognitive processes used (Gnezda, 2011; Srinivasan, 2007). Depending on the task, one side of the brain may be used more than the other. Additionally, art has been described as an activity that ignites several connections on both sides of the brain (Gnezda, 2011). Cohen and colleagues (2006) suggested that any activity that ultimately uses both sides of the brain is valuable to overall brain health and ultimately produces a continued desire to sustain engagement in that activity.

One of the many reasons that participation in creative activities is so useful for brain health is that it activates and exercises a wide range of brain areas (Flood &

Phillips, 2007; Gnezda, 2011; Patterson & Perlstein, 2011). Research has shown that creative art activities are especially good for brain health because they are more likely to be sustained and involve simultaneous brain functions, integrating left and right brain capacities (Abraham, 2013; Abraham et al., 2012; Cohen, 2006; Patterson & Perlstein, 2011). There is a growing body of evidence that active participation in creative activities additionally provides a broad range of benefits, including the promotion of health, positive emotions and an active social life (Bungay & Clift, 2010; Flood & Phillips, 2007; Gnezda, 2011). The degree of complexity associated with some creative activities presents a mental challenge that has also been associated with prevention of cognitive decline, and a decreased risk of dementia. Creative art activities in general have a reputation for being fun and may additionally have beneficial effects for individuals participating in them such as decreasing stress while increasing self-efficacy and a sense of mastery (Patterson & Perlstein, 2011). Lifelong engagement in creative activities leads to better brain health.

Art, Creativity and Quality of Life in Older Adults

Art and creativity can be linked to an enhanced sense of achievement and increase self-worth (Bungay & Clift, 2010; Flood & Phillips, 2007; Lipe et al., 2011). Even in highly challenging situations, art and creativity can provide interpersonal and meaningful engagement that contributes to the overall health and quality of life of the individual and the wider community (Bungay & Clift, 2010; Cohen, 2006; Flood & Phillips, 2007; Patterson & Perlstein, 2011). The management of life roles and situational changes can shape one’s sense of self-efficacy, which in turn can increase continuous life satisfaction,

self-esteem, and well-being across the lifespan. In the face of adversity, such as acquired chronic health conditions, financial barriers, and social stigma, older adults often seek creative and effective motivational strategies to promote their successful aging (Flood & Phillips, 2007; Stevens-Ratchford, 2005; Stav et al., 2012).

As humans mature, familiar play activities from childhood often transform into leisure activities (Patterson & Perlstein, 2011). Similar to creativity, leisure activities can be intrinsically motivating and can facilitate continued learning (AOTA, 2014; Patterson & Perlstein, 2011; Stav et al., 2012). Motivation is an important factor to active leisure participation because leisure activities are selected by choice. Choosing and participating in creative leisure activities have the potential to develop further autonomy and health (Majnemer, 2010; Stav et al., 2012). Whether the intent is for acquiring new learning, socializing or relaxing, time spent in leisure activities is linked to opportunities that enhance self-efficacy and self-worth (Stav et al., 2012). The increased feeling of competence and social acceptance along with the stress relief it provides, make active engagement in leisure activities particularly valuable for older adults (Majnemer, 2010; Stav et al., 2012). Research has shown that positive health benefits, such as mental health, spiritual health, and well-being, are linked to participation in meaningful leisure activities for older adults (Pereira & Stagnnitti, 2008; Price et al., 2014; Stav et al., 2012). Engagement in active leisure such as dance, reading, and the arts provides opportunities to re-energize and rest and is thereby necessary for physical, mental and cognitive health (Majnemer, 2010; Flood & Phillips, 2007; Price et al, 2014; Stav et al., 2012). Engagement in an activity that provides a sense of control and ability to disengage from concerns can be therapeutic and empowering. Engagement in active creative leisure

activities in particular is vital to growth and development and overall quality of life regardless of age (Majnemer, 2010; Price et al, 2014; Stav et al., 2012). More traditional creative activities such as poetry, journaling, and art therapy have been linked to positive outcomes in older adults as well (Flood & Phillips, 2007; Price et al, 2014).

Art as Therapy

Creative art occupations have been used therapeutically by occupational therapists since the beginning of the profession (Levine, 1987; Thomas, Gray, McGinty, & Ebringer, 2011). Although experimental studies on the use of art as therapy have been relatively scarce, there is a more recent growth of evidence supporting that art and creativity positively contribute to health and well-being (Bungay & Clift, 2010; Flood & Phillips, 2007; Lipe et al., 2011; Noice & Noice, 2009, 2013; Thomas et al., 2011). The most recent Occupational Therapy Practice Framework reported that lifestyle "will…maintain and improve health and well-being if it allows people to be creative and adventurous physically, mentally, and socially" (AOTA, 2014, p. S14). For this reason, occupation-focused health promotion interventions, including creative art occupations, are frequently used as a therapeutic means to intentionally promote health, well-being, and support participation in life (AOTA, 2014). Exploration of the value of art and creativity in occupational therapy practice has implications for use in a variety of settings (Thomas et al., 2011), because art interventions can be directed at groups and communities or individualized to a particular person (AOTA, 2014).

Art interventions encompass a broad range of populations, settings, and types of activities. The term participatory arts involves art-making, such as dancing, and can be

contrasted to experiencing art as observers, as in watching dance performances (Noice, 2013). Participatory creative arts programs include painting, writing, poetry, jewelry making, dancing, material culture, and use of music in forms of singing (Cohen et al., 2006; Palo-Bengtsson et al., 1998; Sevdalis & Keller, 2011). Furthermore, some creative arts programs emphasize both movement-based artistic expression and cultural perspectives to increase motivation and provide meaning (Castora-Binkley et al., 2010; Cohen et al., 2006). For these reasons, creative arts activities can be used as an intervention for a variety of mental and physical health conditions. The unique design of each creative arts program may provide an array of health benefits for the participants involved.

Benefit of Creativity and Art-Making

Several authors have explored the value of therapeutic art activities to promote benefits in a variety of settings (Boehm, 2014; Erickson & Young, 2010; Geue et al., 2013; Hall, 2013; Mandić Gajić, 2013; Montag et al., 2014; Van Lith et al., 2013). Although research is still in its infancy, creative arts programs can reduce emotional and social withdrawal in a group setting, permit groups working together as a cohesive unit, increase social support, and help build self-esteem (Erickson & Young, 2010; Mandić Gajić, 2013). There are limited empirical studies investigating the effect of therapeutic art activities on quality of life and treatment (Boehm et al., 2014; Van Lith et al., 2013). The previously cited studies collectively suggest further research is needed to support the use of art as therapy. In particular, there is a growing need for mixed method studies that integrate qualitative and quantitative research (Van Lith et al., 2013).

Although weak, evidence illustrating benefits from participatory arts programs specifically for health and aging does exist. Creative arts programs have been shown to promote health and wellness, health maintenance, empowerment and disease prevention. Changes in cognitive, mental, physical, and emotional health, and well-being, reduced need for medication and doctor visits, decreases in number of falls, and greater occupational engagement have been reported in the literature after participation in creative arts programs (Castro-Binkley et al., 2010; Cohen et al., 2006; Palo-Bengtsson et al., 1998; Sevdalis & Keller, 2011, Stephenson, 2006). Noice, Noice, & Kramer (2013) systematically reviewed a total of 31 studies on the enhancement of healthy aging in well elders through active participation in the arts. However, most of these studies were not well controlled and used variable outcome measures, making it difficult for future researchers to build on the current evidence base. More collaborative studies using standardized outcome measures with established participatory arts programs and more diverse populations are needed (Noice et al., 2013). Case studies presented by Price et al. (2014) and Creech et al. (2013) demonstrate how art used as therapy can lessen some challenges of ageing by instilling hope, enhancing community, permitting management of emotions, and encouraging life review. Using structured creative art programs as a health promoting service for older adult populations may also provide an opportunity for participation in meaningful occupations (Noice & Noice, 2009; Thomas et al., 2011). Since participation in creative arts programs is voluntary, it demonstrates a level of motivation and routine (Stav et al., 2012; Thomas et al., 2011). Development of positive routines provides consistency and coherence to life in a goal-directed way.

For people who are experiencing life changes associated with aging, regular participation in creative arts activities can stimulate occupational engagement with others (Stav et al., 2012; Thomas et al., 2011). In a study exploring the role of a shared arts program among older adults, the authors found that participation in the program supported social inclusion (Moody & Phinney, 2012). Social inclusion is a major factor in overall health and well-being, especially for older adults. Newly established relationships strengthen community cohesion through group collaboration (Moody & Phinney, 2012; Stav et al., 2012). Based on the literature, shared artistic expression can be linked to personal well-being, creative expression, and feelings of community.

Shared creative art activities have the potential to minimize health concerns while sustaining the personal values and needs of older adults. In a phenomenological analysis exploring the meaning of making traditional arts and crafts, semi-structured interviews were used to collect qualitative accounts from 12 older adult women living in rural Crete. The authors found art-making to be an effective method for promoting social status and spiritual well-being (Tzanidaki & Reynolds, 2011). However, since the sample, the authors of the study suggested future studies looking at engagement in culturally traditional forms of art-making should involve other communities and include both male and female perspectives (Tzanidaki & Reynolds, 2011). Another systematic review conducted by Stav et al. (2012) provided additional evidence linking engagement in social activities to decreased cognitive and physical decline and improved quality of life. Although this evidence supports the importance of shared occupations during older adulthood, it is important to note that these studies do not report causation. Moody & Phinney (2012) suggested further research using a variety of methodologies to explore

social benefits over time, and better understand links between creative and social aspects of art-based interventions is needed.

Benefit of Music. Music is a widely used therapeutic art activity that has various benefits for different populations. Within the past 15 years, the use of music for mood regulation and intervention has become more mainstream across general health contexts (Garrido & Davidson, 2013). The American Cancer Association reports that music, when used in conjunction with conventional treatment, may provide an overall sense of well-being and help reduce pain, as well as mitigating less desirable side effects and symptoms caused by chemotherapy (American Cancer Association, 2015). One qualitative study investigated the role of music and in influencing well-being for 17 participants diagnosed with cancer (Ahmadi, 2013). By creating a new identity, music provided a coping mechanism by helping those participants identify with a situation different than their own (Ahmadi, 2013). Although limited, there is also evidence to support music therapy's benefit for reducing symptoms of Parkinson's disease, including symptoms affecting activities of daily living (ADL), motor coordination, bradykinesia, emotional functions, and quality of life (Ulbricht, 2011). A systematic review of the literature found that music therapy interventions may be beneficial for improving gait parameters in stroke patients, but that more research is needed to evaluate effects of music therapy on other cognitive, sensory, and emotional functions before recommendations for clinical practice can be made (Bradt et al., 2010).

The therapeutic use of music has been shown to provide a variety of benefits to older adults as well. In a review of the literature, Eells (2014) found that music can help older adults manage pain and psychological suffering by relieving anxiety and

depression. Eells also noted that listening to music is a safe way to positively influence personal well-being and quality of life regardless of age by providing enjoyment, social interaction, improved memory and social inclusion. However, evidence included in this review was based on variable methodologies and small sample sizes, thus making interpretation of these findings difficult (Eells, 2014). In another study examining physical, social, and emotional benefits for older adults participating in a choral program, Clements-Cortés (2014) found significant results for an increase in mood, energy, and happiness, and a decrease in pain. Through self-report, observational, and interview data collected from Likert scale ratings of mood, pain, anxiety, happiness, and energy, at the beginning and end of each choral session, the study identified nine main themes, including community building, climate of positivity, and increased mood, energy and alertness (Clements-Cortés, 2014). There is some evidence to support that listening to music contributes to greater social networks as well. Social networks that focus on participation in creative, active and social leisure activities such as music have been found to contribute to recovery of depression and maintenance of personal well-being (Creech et al., 2013). However, there is further need for stronger evidence in this area, especially about how these outcomes positively contribute to overall health and well-being for older adults.

Benefit of Dance. Dance is used therapeutically in a variety of settings. In academic contexts, dance has provided an array of benefits (Becker, 2013; Jounghwa et al., 2013). Research specifically looking at therapeutic effects of dance in well older adults is scarce (Fernández-Argüelles, Rodríguez-Mansilla, Antunez, Garrido-Ardila, & Muñoz, 2015; Keogh et al., 2009). Keogh et al. (2009) conducted the first review of the

physical benefits of dance for healthy older adults. They found that there was relatively strong evidence that dancing can significantly improve the aerobic power, muscle endurance, strength, and flexibility of the lower body; static and dynamic balance, and gait speed of older adults (Keogh et al., 2009). However, this evidence is based on nine studies and presents concerns regarding the variability and reliability of measures used. Drawing from that body of previous work, another review aimed to identify the therapeutic effects of dancing on physical performance in healthy older adults (Fernández-Argüelles et al., 2015). In spite of some limiting aspects, a total of seven studies that met inclusion criteria showed positive effects on the risk of the following fall-related factors: balance, gait and mobility, strength and physical performance. Thus, Fernández-Argüelles and colleagues indicated that that the small number of studies focused on the benefits of dancing in well older adults warrants further studies with an improved methodology.

More recently, dance therapy is being evaluated as a potential tool in the rehabilitation of chronic diseases (Gomes Neto, Menezes, & Carvalho, 2014). A systematic review examining randomized controlled trials studying effects of dance therapy in patients with chronic heart failure found two studies noting a significant difference in peak oxygen uptake and health related quality of life (HRQOL), suggesting that dance therapy was as effective as conventional exercise training (Gomes Neto et al., 2014). Although this preliminary study failed to provide enough detail to assess potential risk of bias, it showed that dance therapy could be as effective as conservative exercises in cardiac rehabilitation (Gomes Neto et al., 2014).

There are additional preliminary findings proposing that dance can have a positive influence on both cognitive and physical functioning in a variety of populations (Dhami, Moreno, & DeSouza, 2015). Dhami et al. (2015) reviewed current literature exploring the use of dance to aid with cognitive functioning in neurorehabilitation concluding research thus far has shown support for the use of dance in improving various physical domains, but that there is a lack of research on how dance can enhance cognition. These authors suggest dance as a tool to help fight against neurological disorders (Dhami et al., 2015).

Overall, reliable and current evidence supporting the use of dance therapeutically is limited (Dhami et al., 2015). Moreover, the evidence reviewed here does not examine the positive, emotional and social benefits of dance for healthy older adults. More research is necessary to further examine how to sustain positive effects of dance therapy over time and to determine characteristics of dance for optimal effects on overall health and quality of life (Gomes Neto et al., 2014).

Benefit of Storytelling. Storytelling is another creative arts activity that remains functionally important for people of all ages and at all stages of the lifespan (Fels & Astell, 2011). As a method of intervention in psychosocial occupational therapy, storytelling has been explored and used as a means of encouraging self-reflection and supporting client-directed future possibilities (Clark, 1993; Gunnarsson et al., 2006). Although limited, more recent studies have been conducted to explore benefits of using storytelling in various settings including in the workplace (Yang, 2013) and in crisis management (Kopp, 2011). In an analysis of ethnographic studies on nomadic society and modern work organizations, the author of one study concludes that the narrative component found through storytelling is a functional mechanism for enhancing

community cohesion under various conditions, including contemporary workplace environments (Yang, 2013). However, outcomes of such studies previously cited often rely on self-report data, limiting empirical strength in the use of storytelling and generalizability of results across settings. Current literature supporting the general therapeutic use of creative storytelling remains preliminary in spite of previous efforts to explore its benefits. Future research examining how changes in participant outcomes occur over time continues to be needed.

Storytelling has also been used as a strategy for facilitating change and providing an opportunity to improve quality of life and well-being (Blasting, 2006; Fritsch et al., 2009). In one observational study using an experimental design, Fritsch et al. (2009) evaluated outcomes of a group creative storytelling program to staff and residents from 20 nursing home facilities in two states, ten of which were randomly selected. Results revealed that residents of the intervention facilities were more engaged in interactions with others, whereas nonsocial engagement was more prevalent in the control facilities. These studies suggest that the art of storytelling encourages older adult residents to become more involved within their community, with others, and may induce a broad range of emotional and cognitive responses (Fritsch et al., 2009). In a comparison group experiment study using 122 community-dwelling older adults, Noice & Noice (2009) found that a theater-based arts intervention group performed significantly better from pretest to posttest on multiple cognitive measures. Noice & Noice also found that participants who received the art-based intervention presented higher pre- to posttest ratings in personal growth compared to the no treatment control participants. However, validity and reliability of this study's outcome measures are unclear, and memory was

only tested at pretest. It remains for future studies to determine if art-based interventions would produce improvement in cognitive health for older adults (Noice & Noice, 2009). Consistent with the previously cited studies, future research is needed to examine how changes in participant outcomes occur over time.

Benefit of Creativity for Older Adults. Current research supporting benefits of creativity as an outcome of creative engagement in older adulthood remains limited. In an evaluative study using 37 older adult participants with dementia, participants achieved improvements in creative self-expression, communication, pleasure and enjoyment, and general engagement following creative therapy, including dance, drama, music and movement activities (Rylatt, 2012). Although Rylatt's findings are based on staff members' observations regarding perceived changes and not self-report by participants nor use of a pre and post assessment tool, it does suggest that creative approaches to health care may provide beneficial outcomes for a variety of patients (Rylatt, 2012). In another experimental within-subjects study using 20 older adults without dementia recruited from a skilled nursing and assisted living facility, Polenick & Flora (2012) examined the possibility of increasing creativity in this population. The authors used an object uses task, where they asked participants to give either a usual use or an unusual use for a series of common objects and provided social recognition for appropriate responses. Participants were then given two generalization tasks, one of which was a drawing task, without social praise. Polenick & Flora (2012) found that participants increased generalized creativity following social praise during a conventional task or unconventional task. Although this preliminary study did not measure cognition and also used a non-standardized measure of creativity, it indicates that social praise as a

behavioral reinforcement may increase creativity in older adults without dementia (Polenick & Flora, 2012).

The evidence reviewed suggests that creative arts programs improve well-being, yet the benefits of providing creative arts programs in community-based senior housing remain to be studied. Creativity has been regarded as an effective treatment to improve self-esteem, promote achievement and develop social networks for those who are depressed or socially isolated. Moreover, creative arts-based therapies could be used as a conservative approach to help older adults reduce social isolation or depression and improve the quality of life, ultimately reducing the need for expensive medical treatments. Overall, the literature presented suggests that creativity could provide numerous health benefits to older adults living in congregate housing. Further research is also needed to uncover the factors within the artistic activity which contribute to improved overall health and well-being, as well as to explore ways to improve access to services and ways in which creative arts-based programs can be optimized to improve quality of life.

Based on the literature, shared artistic expression can be linked to personal well-being, creative expression, and feelings of community. Shared artistic activities have the potential to minimize health concerns while sustaining the personal values and needs of older adults. Exploring the benefits of creative art therapies further could provide support to many older adults, including older adults living in congregate senior housing communities. A total of three master's theses were written previous to this study, conducted with Kairos Alive!™, which did look at the program's outcome. These studies did find physical and cognitive benefits for the quality of life of older adults living in

long-term care facilities (Bruesewitz, 2012; Rydholm, 2011; Schafer, 2011), including increased social interactions and enriched environment. Further studies with a more controlled design may contribute to understanding and identifying the benefits and impact on overall health and well-being more fully. The extent to which art interventions combining music, dance and storytelling are helpful for well elders living in the community remains an open question. There are some suggestions that interventions using single modalities do help, but there is no definitive study showing the benefits of interventions aimed at enhancing creativity. There is a need for additional research on the health outcomes of creative arts programs, particularly in senior housing communities.

The intent of the Kairos interdisciplinary research involving St. Catherine University occupational therapy and physical therapy, graduate students and a community partner, Kairos Alive!™ is to determine the importance of a participatory creative arts program for the quality of life of older adults living in congregate senior housing. Previous research in that project using a retrospective methodology did find beneficial effects of the Kairos Alive!™ creative dance and story program on nursing home residents. The goal of this present research is to use a more controlled within-subject methodology with a population of community-dwelling older adults who will be able to provide more extensive insights into their experiences of the program. The general question of the overall collaborative research project is: *What is the importance of a creative arts program for senior housing residents?* The sub-questions for this thesis are: *(a) what are the artistic, creative and emotional experiences within the program for participants, and (b) what is the social and cultural experience of the program and perceived impact on well-being?*

Method

Research Design and Questions

This research is a part of a larger multi-year study aimed to conceptualize the importance of a creative dance and story-telling program for older adults living in congregate senior housing. This thesis study sought to understand the human experience of creative expression, quality of life as well as feelings of emotional, social and cultural connection. Since artistic expression is a highly subjective experience, a qualitative methodology was essential to understanding the full meaning of creative leisure occupations. However, quantitative tools were equally important to inform the level of change in this outcome study. The interdisciplinary team implemented a mixed method design study (Creswell & Clark, 2007) to fully capture both types of outcomes. The study used a quasi-experimental baseline controlled methodology in which participants were tested using several quantitative tools at the first baseline, one month later at the start of the weekly creative group programming, and three months later, at the end of the intervention. Semi-structured qualitative interviews with a subgroup of participants were also conducted at post-test, three months after the start of the program. The within-subject design was selected over a between-subject methodology due to variability among participants and the anticipated small number of subjects in this naturalistic study.

Tools

The quantitative outcome measures of this mixed method study consisted of the *Montreal Cognitive Assessment* (*MoCA*), *Geriatric Depression Scale* (*GDS*), *Short Form-36* (*SF-36*) for testing quality of life, and the *Abbreviated Torrance Test for Adults* (*ATTA*) for assessing creativity. The qualitative component of the mixed methodology came from semi-structured interviews that asked participants about their experience of the dance program (see Appendix E). Interviews followed a semi-structured format to explore the value of the art program to participants and to ascertain the meaning of their experiences. Interviews included questions about the program, why they attended, how they first became involved and the perceived benefit of participation in the program. The interview data was analyzed by using the Framework Analysis method. Evidence supports the use of self-reports as a viable method for obtaining useful health care data from older adults (Cohen et al., 2006; Lubeck & Hubert, 2005). Because this study viewed quality of life as a multidimensional concept, it was important to measure both physical and mental components of health combined with self-report when evaluating how various factors influence quality of life. All the quantitative tools used were valid and reliable (see Appendix B).

Setting and Intervention

An interdisciplinary group of researchers conducted this pilot study using a naturalistic intervention in three congregate senior housing facilities in metropolitan areas of Minnesota. One of the residences was an urban low-income, independent living in the same building as assisted living with a high proportion of multiethnic populations. The

other was income restricted, independent living senior apartments. The third was a suburban combined assisted and independent living facility.

The creative arts intervention called Kairos Dancing Heart™, a program involving creative movement techniques and shared story-telling, was implemented in those facilities by professional artists on a weekly basis. The Kairos Dancing Heart™ program is a nationally recognized group-based participatory creative arts program designed by Kairos Alive!™ specifically for, but not limited to, older adults. Sessions feature the creation of guided free expression drawn from personal life experiences and are structured to appeal to diverse populations and all abilities. These creative movement improvisations are performed either sitting or standing, with music and incorporate story-telling, story-making and singing.

Population

Within the three facilities, a total of 34 participants ranging in age from 60 to 88 years old initially enrolled in this study and were involved in the first baseline testing following consent. Due to attrition during the baseline period (no intervention), a total of 29 participants were tested at the second baseline (time 1), the week the program started. The average size the group at each of the weekly sessions was 15. Following the intervention, a total of 19 participants were involved in post-test testing (time 2). Of those 19, 14 met inclusion criteria across the three sites and were interviewed after 12 weeks.

Criteria for inclusion in the analysis were to be an older adult living in the selected facilities age sixty or older and having attended the program for at least 50% of the sessions. Individuals were excluded from the study if their cognitive level or English

language fluency prevented them from understanding the consent form and giving consent. All persons interested in participating in this study met criteria for participation.

Procedure

The research was approved and conducted following St. Catherine University's institutional review board (IRB) approval. Participant recruitment for the Kairos Dancing Heart™ group program was achieved via volunteer sign-up sheets that were placed in three congregate senior housing facilities. Researchers were present during the information session, one month prior to the start of the program, to inform potential participants about the research opportunity. Interested participants who agreed to participate in the Kairos Dancing Heart™ program and who met the inclusion criteria were invited to be involved in this research study. The subset of participants who volunteered for the study then went through the research participant consent process at that time and participated in the baseline testing.

Prior to starting the program, it was made clear that participation in the research is entirely optional and that residents may be involved in the Kairos Dancing Heart™ group without taking part in the study. They were told that participation in the research study would also involve additional time outside the program with the researchers to complete the assessments. If selected, participants were informed that they might be chosen to be interviewed and audio-recorded on a 1:1 basis about their impression and experience of the program. Participants were also informed of a $15.00 gift card stipend offered for participating in the study at the end, and an additional $5.00 gift card if selected to participate in an interview, for a total of $20.00. Interested participants were then asked

to sign a consent form indicating that participation was entirely voluntary. All participants were given the opportunity to ask questions or express concerns prior to signing the consent form. All participants completed a consent form before enrolling in the study. Following consent, all participants were approached and asked to fill out a self-report demographic survey. Those who consented were also invited to individually complete the assessment measures for baseline testing, one month prior to the start of the program. Participants were then retested at the end of the baseline period, just prior to the first Kairos Dancing Heart™ intervention session (time 1). Three months (12 weeks) after the start of the program, participants who had attended at least 50% of the sessions were contacted for post-test testing (time 2). A gift card stipend was then offered following the final testing as gratitude for participation.

All data collection for this study was conducted face to face in the person's room or a quiet location within the facility. Help was provided by filling out the quantitative tools if participants were not able to fill them out themselves. The qualitative interviews lasted approximately 30 minutes and were administered by researchers within a couple of weeks before the end of the program, about three months after the start of the program. Prior to the interviews, participants were reminded that the information provided would be anonymous and confidential. All interviews were recorded using the Easy Hi-Q Recorder™ digital recording system, which was installed on interviewers' computers prior to interviewing. When transcribing the interviews, the Express Scribe™ program was used to play back the recorded interview and allow for easier verbatim transcription.

Data Analysis

Of the 34 participants tested at the first baseline, only data collected from the 14 participants that attended at least half of the weekly sessions was included (see inclusion criteria). The quantitative analysis for the first research question partly came from the *ATTA* data. A single rater, blind to the participant and time of testing (baseline, time 1 or time 2) first rated all the drawings using standardized coding instructions. Dependability of the *ATTA* data was achieved through member checking and peer debriefing. To provide a more in-depth understanding of creative abilities assessed by the *ATTA*, two trials for the inter-rater agreement were performed. The first attempt at the inter-rater agreement on the composite measures was 83.6 %. Following refinement of the interpretation of results, a new participant was randomly selected to be independently scored by the two student researchers that yielded a reliable 96.7 % agreement. The quantitative data from the sample was then entered into analysis-ready spreadsheets and analyzed using SPSS. Descriptive statistics were tabulated for all variables to evaluate the demographic characteristics of the sample. Changes in the primary variables (cognition, mood, creativity, and quality of life) were assessed using a one-way repeated measures analysis of variance (ANOVA) to determine significant within-subject differences between time 1 and time 2 (treatment effect) when compared to baseline vs. time 1 (within-subject control). Pairwise comparisons with a Bonferroni adjustment were completed for any significant *F*-values on the main effects. Levels of $p < 0.05$ were deemed to be statistically significant.

The qualitative component of the mixed methodology for this study came from analyzing the interview data using the Framework Analysis method (Lacy & Luff's,

2001). Framework Analysis is a suitable systematic method for the qualitative data analysis task in this mixed methods research design (Ward, Furber, Tierney, & Swallow, 2013). Researchers closely followed the five data analysis steps of Lacy & Luff's (2001) Framework Analysis to more thoroughly understand the essence of the group experience from the subjective perspective of the participants. In the familiarization stage, student researchers read all 14 participants' interview transcripts multiple times to familiarize themselves with the data. In identifying a thematic framework (coding sheet), researchers compiled a preliminary coding framework based on the combination of predetermined ideas from the literature, research questions, and issues that emerged from the transcripts during familiarization. Researchers developed the coding sheet through a collaborative process between the students and faculty advisor. The two student researchers coded one transcript independently to establish inter-rater reliability. Upon first trial, less than 80% of the codes were agreed upon, suggesting refinement was needed. Following refinement of the coding framework, a new transcript was chosen to be independently coded by the two student researchers that yielded a reliable 84% agreement. Line by line coding of all the data was completed by the student researchers with the use of the revised coding framework. Following coding, the charting stage was completed, in which textual excerpts corresponding to each code were sorted into Excel spreadsheets across all participants. The sorting of the data by code allowed researchers to read what verbal dialog was shared about each code and also view information about the number of times each coded excerpt appeared across participants. Finally, during the mapping and interpretation phase, researchers used a thematic analysis process and identified themes for each code and coding category. The compiled charts helped identify patterns,

associations, or relationships that appeared in the data. Those patterns were then formulated into themes across charts that were developed by taking into account the original research questions. Results of this analysis are presented separately next in this study.

Results

Quantitative Results

A total of 14 participants, all who took part in at least half of the weekly sessions over the 12-week intervention, were included in the data analysis. Their ages ranged from 61 to 88 years old (M = 76.5, SD = 8.61).

Table 1

Demographic Characteristics as a Percentage of the Sample at Onset

Characteristic	Site 1 (n = 3)	Site 2 (n = 10)	Site 3 (n = 1)	%
Native Language				
English	2	10	1	92.86
Other	1			7.14
Race/Ethnicity				
Caucasian	1	8	1	71.43
African-American	1	2		21.43
Hispanic	1			7.14
Education				
High school	1	5	1	42.86
Some College	2	4		50.00
2 year degree		1		7.14

Note. N = 14.

Most participants lived in an independent senior apartment building while three participants lived in the independent units of low income congregate senior housing facility with shared common areas with assisted living. All participants lived alone and were female, mostly widowed or separated (92.86%), with none married and only one

single (7.14%). The average cognitive level (*MoCA*) of the sample at baseline was 23.57 (*SD* = 3.72). A *MoCA* score of 25 or below is suggestive of mild cognitive impairment (MCI). The basic demographic data and characteristics of the sample are summarized in Table 1 above.

The quantitative outcome measures related to experiences of creative expression as well as feelings of social and cultural connection included in the analysis were tests of creativity (*ATTA*), mood (*GDS*), and physical and mental quality of life (*SF-36*). Lower scores for the *GDS* measure suggest lower levels of depression. Since this is a baseline controlled study, no improvement was expected at baseline (between baseline and time 1). Improvements between time 1 and time 2 would signify a positive impact of the program.

Table 2

Mean Values for With-in and Between Subject Comparisons for Creativity, Mood, and Quality of Life Variables

Measure	Baseline 1 Month Before *M* (*SD*)	Time 1 Start of Intervention *M* (*SD*)	Time 2 End of Intervention *M* (*SD*)
ATTA	58.57 (16.89)	61.21 (9.66)	65.14 (15.53)
GDS	3.36 (3.05)	2.93 (3.00)	2.36 (2.47)
SF-36 [a]*P*	35.25 (9.98)	39.54 (9.79)	38.49 (9.20)
SF-36 [b]*M*	52.05 (12.00)	53.72 (11.00)	54.21 (11.65)

Note. *n* = 14
ATTA = Abbreviated Torrance Test for Adults; *GDS = Geriatric Depression Scale*; *SF-36 = Short Form 36*; [a]*P* = Physical subscale; [b]*M* = Mental subscale.

As shown in Table 2, the descriptive analysis showed improvement in the mean scores on creativity, mood and quality of life mental and physical subscale measures at post-test, with high variability in all measures. For example, the *ATTA* test improved by almost four points following treatment (between time 1 and time 2), but the standard deviation was very large (9.66 at time 1 and 15.53 at time 2).

A one-way repeated measures analysis of variance (ANOVA) was conducted to assess within-subject differences between the three measures at each time point. Results shown in Table 3 indicate that the only significant difference in the overall analysis was found for the *SF-36 P* during baseline.

Table 3

Analysis of Variance for Creativity, Quality of Life, Cognition, and Mood Variables

Measure	*MST (df)*	*MSE (df)*	*F*	*P*
ATTA	153.07 (2)	409.46 (13)	1.46	.25
GDS	3.52 (2)	19.37 (13)	1.40	.27
SF-36 [a]P	70.04 (2)	244.51 (13)	3.93	.032*
SF-36 [b]M	18.02 (2)	349.62 (13)	.70	.51

Note. *ATTA = Abbreviated Torrance Test for Adults*; *GDS = Geriatric Depression Scale*; *SF-36 = Short Form 36*; *N* = 14.
[a]P = Physical subscale; [b]M = Mental subscale.
*$p < .05$

Pairwise comparisons were then conducted for the significant ANOVA results. The change in the *SF-36 P* between baseline and time 1, which happened before the onset of the treatment, was significant at $t(1) = 2.36$, $p = .03$. This suggests that there was an improvement in physical function between baseline and time 1, which was not expected.

The important comparison for this baseline controlled study was following treatment, between time 1 and time 2. Because there was no significant differences following treatment, improvements in the physical function score of the *SF-36* were likely not caused by the intervention. Since the main effect of creativity (*ATTA*) or mood (*GDS*) were not significant on the overall ANOVA, no follow-up analysis was conducted for those measures.

Qualitative Results

The following are analyses of the 14 participants included in the study relative to the two research questions. Illustrative quotes are included to identify the common themes present across participants. Pseudonyms are used to protect confidentiality.

What are the artistic, creative and emotional experiences within the program for participants?

This first research question aimed to identify the artistic, creative, and emotional experience of the program expressed across and within participants. The three themes identified for this question were 1) *Novel and engaging group artistic experience provides opportunity to test and overcome limits,* 2) *Feelings of trust, acceptance, and comfort within the group support self-expression,* and 3) *Transformative creative experience in expressing true self, trying new things, and imagining endless possibilities.*

Novel and engaging group artistic experience provides opportunity to test and overcome limits. Participation in the Kairos Dancing Heart™ program provided opportunities to test and overcome limits. Many participants were surprised how much they could participate and how imaginative and physically active the group could be, all

while feeling able to participate at their pace. Participants also reported using laughter and positivity to overcome challenges. The program provided opportunities to overcome limitations by coming up with new ways to do things and engaging in new experiences. Some participants remembered things they haven't thought about in years, often connecting with or triggering positive life memories. Ethel explained initial difficulty with expressing self and acting silly, yet reported feeling more motivated to move and actively participate in a group atmosphere:

> "I feel I'm not really doing things to the extent that other people are but nobody seems to be bothered, you just do what you're able to do….I'm sure that it's been good for me because you try a little harder. Because when you're home alone you don't have to try [laughs] but when you're in there with a group of people and they're all doing and you're trying to do it to."

As they pushed their limits, many participants consistently noted achieving an overall increased level of participation throughout the course of the program, with increased wakefulness, physicality, and feeling more engaged. Some participants reported feeling more active now after participating in the program than ever before.

> Lucy: "I have noticed a difference in the strength and such…I got so I could stand for a little while anyway…I like the idea that it's making my arms stronger…you know I find myself moving to the music on the TV and stuff."

> Ester: "When they started I could not get up and do it. On Monday when we had it I was able to stand and keep time with the music and do it, it was a great improvement for me."

> Norma: "Well I think it made a difference…I'm actually doing more now than I ever did when I had the walker, more active."

Many participants also referenced producing new movements connected to the music. Bernice discussed how the group and its artistic elements increased her body movements and intrinsic motivation:

> "I think it's easier to do the movements when you have background music and you're doing it with a group versus just doing something on your own. You probably wouldn't be doing it if you were doing it on your own."

The program continued to afford a variety of new and arousing experiences such as discovering new ways to dance, move arms, and be active each week.

> Regina: "By telling the stories and listening to the music you get some exercise by kind of having it blow in the wind or something and we are all doing it so it is kind of cool it is a way to get your arms getting up"

> Norma: "One of the things I learned because we did different things; I learned I can move different parts of my body I didn't know I could move."

> Annie: "I thought it was kind of fun exercise that was a lot of fun. Something to do in the afternoon other than play dominoes all day…the music makes it so much more fun, so much more easier to do."

The program stimulated creativity by encouraging creativity and artistic expression. Staff frequently cheered for and motivated participants, boosted energy and overall morale of the group, and provided shared excitement in fun creative ways. The program's energetic atmosphere was unanimously contagious, and participants frequently mentioned feeling a desire to be more active and energetic outside the program. Regina described feeling more motivated to engage in instrumental activities of daily living at home:

> "Well it seems like I can stand a little bit longer and that is after I have had the program and I am more energized like in my thinking I think now you can get this done and I used to not be able to get dishes done in one whole you know all 15 minutes or something and now I seem to have a little bit more desire to or challenge myself to say you can do all of it the washing, the drying and putting away so I think that has helped."

Norma mentioned the program being more physically engaging than expected but that she felt safe, as staff wanted participants to partake to the best of their abilities and were available to assist as needed:

> "…they always gave everybody a chance at something.…they're so good at adapting things that I can do in a wheelchair and somebody else can do with a walker."

All participants expressed positive thoughts about staff and their genuine enthusiasm for the program. The staff was also noted to be very knowledgeable in the arts and frequently offered participants choices, many referenced examples of staff using their experience in the arts. Staff encouraged participants to tell stories and often asked what music participants would like to hear.

> Marlene: "They know everything about the stars that they listen to and it just amazes me…they ask us what kind of songs we would like to hear and then sometimes they just go with the season, Thanksgiving, Christmas."

> Ester: "They make you feel at ease even if you're just sitting down they will come and participate with you."

> Edna: "I guess because of the way they just the little bit that the way they would tap into the music or even when we didn't have any music how they created things for all of us to participate…I've never been a part of anything like that before."

Although some participants reported initial uncertainty about the program, it more than exceeded the expectations of most and overall was an enjoyable experience.

Feelings of trust, acceptance and comfort within the group support self-expression. The first part of this theme is addressing the research question above focused on the trust, acceptance and comfort element. Supportive team building and creative problem solving produced a fun experience that was helpful in gaining insight into their own and other's emotional feelings and personal thoughts. Many participants reported learning more about others and feeling accepted by others. Some participants also mentioned vicariously living through other's life stories and re-living their cherished memories. Most felt relaxed and confident due to an increased level of social acceptance

and sense of freedom. Many participants alluded to the provided opportunity to reflect on past life experiences within the group. Participants reported feeling positive self-perceptions and the ability to be their self in the group; feeling accepted. Most participants mentioned that feeling supported, respected, and more comfortable in the group contributed to a sense of purpose. Audrey further illustrated finding value in actively contributing to the group and being a part of something:

> "To my health well it just mainly do something that I wouldn't do you know cause otherwise I just sit when I'm at home pretty much. This kinda made me get out there and try doing things. Made it fun doing it with other people you know that's about it…because otherwise I just sit."

Participants felt safe to participate in any way they were able. Correspondingly, Ethel described feeling secure and that the program was respectful of all skill levels.

> Ethel: "…you just do what you can do and I think I felt that the whole way through…I see some of these women who are nearly as old as I am out there kind of kicking up their heels in a way I don't feel comfortable doing but there's certainly no pressure except what I put on myself."

> Bernice: "…they talk about people maybe they have met and their experiences and how creativity stimulates and helps you go."

Many participants found various elements of the program fun and entertaining, precisely describing that it was fun to listen to music, see others try new experiences, laugh with the other group members and observe others giggling and smiling. The program's atmosphere contributed to an overall positive mood within the group and often was referenced as a prerequisite to acting silly and increasing self-expression. The increased trust and playful interactions helped Norma open up to the group:

> "When you hear people's stories, you feel like you really know them, and then you talk about other things, and kind of tease, and that was really helpful."

Participants also reported consistently trying new dances and movements with other participants during sessions, as described by Audrey:

> "It was fun. You know doing different moves and everything and making up things to do [laughs]. It was fun. And everybody working together you know it was working together to come up with moves or moves or different things to do."

Many participants mentioned that they would share stories, sing songs, and joke around, fueling a youthful energy, playful attitude and friendly vibe within the group.

> Annie: "And it was so much fun watching some of the ladies that would never do nothing but stay in their rooms. But they would come down and start moving around…they would laugh and have such a good time"

> Bernice: "…dance right with the tune or the movement…like we're teenagers and you can do anything….and that's what's kinda neat."

> Ethel: "It charges your imagination and then it also gives you a chance to see this side of people that you normally don't get to see and I thought that was great."

The second part of this theme focused on the self-expression component with emphasis on how group support influences self-expression. Participants indicate the orchestrated style of sitting in a circle further increased participation, social interaction and ease of sharing ideas. Lucy described feeling more connected to the group:

> "They had us go around and tell something about yourself and you get to know people that way… they are all willing to share and they support each other so it has been a pleasant experience."

Many participants reflected on collaborating to create imaginative outcomes and found the overall experience of listening to others' life stories and creative thoughts to be fun, invigorating, and inspiring. Participants unanimously enjoyed responding to others with improvisational techniques. For Norma, being challenged to creatively problem solve and think on her feet was a new experience:

> "…it was so funny because you would be thinking about what you were going to do and all of a sudden it was your turn just so you had to be thinking too about

> what were you going to do that was different. Just kind of pass the imaginary ball at certain people and catch and throw the ball."

There were also frequent mentions of an increased ability to be genuine and express one's true self among others in the group. Edna described:

> "Well I guess when we would first come in and start you kind of tend to be a little more reluctant and then as time progressed and…the more we did the more you felt relaxed and were able to participate better."

Participants also frequently described how the group contributed to increasing confidence and self-awareness:

> Regina: "…I'm more expressive with myself…they kind of relax you to the point where you just do it. You don't worry am I doing it right because you're expressing your feelings not anyone else's."
>
> Annie: "It made me a lot more comfortable in myself….It made me a lot more comfortable with my situation and my life."
>
> Ester: "I realized you can be more freer with people if you are freer with yourself….well I just think well should I say this or shouldn't I say that and I feel more free to be able to say it because we've gotten to know these people a little better."

Over time, participants found themselves to be more outgoing and less worried about being judged and whether or not they were right or wrong.

Transformative creative experience in expressing true self, trying new things, and imagining endless possibilities. Analysis of the transcripts revealed that involvement in the program enhanced self-expression, leading to a positive transformative creative experience. Participants reported feeling captivated from connecting with others and articulating their thoughts in the group, which, in turn instilled confidence and poise. Some participants described various ways in which the program would trigger positive memories and foster opportunity for self-reflection of past life accomplishments and reminders of a lifetime of achievements. Participants correlated this experience with

feeling emotionally stronger through positive thinking. Many participants also stated that observing and imitating one another's movements, along with an inclusion of all ability levels, helped with self-esteem and personal validation. Participation in the program provided an increased sense of freedom to express self.

> Annie: "It's something you should do that helps one's self-esteem and you can exercise and move and you meet new people and new ideas."

> Bernice: "I would say the ladies here in Kairo have kinda probably brought that out in me more…I feel I have a lot more energy and I'm not going to put myself down anymore."

Participants often recounted an increased value of self and level of comfort to manifest new thoughts, ideas and create new ways to do things, be inventive and learn through the use of creativity and imagination. Ester described how the program gave her the liberty to be creative:

> "It's good because no one cares what you're doing and you're free to do what you know what the music is saying to you…well I don't know how else to explain it it's just a pleasure."

Some participants described identifying themselves more and disclosing more about self to others. For many, the program was an opportunity to be one's authentic self and to feel young at heart. For Bernice, this resulted in feeling more self-empowerment and creative:

> "And now I know through Kairos to enjoy life and go out and do these foolish things that I didn't think I could do or should do."

Most participants described an engaging experience from the opportunity to use their imagination. Ethel illustrated how the program stimulated creativity through imaginative thought:

> "…you have to use your imagination and sometimes when it gets around to you it seems like everything that could be said has been said and so you have to be digging for something new."

Participants also identified experiencing a personal sense of achievement, as Ester described:

> "Now I said mine was a pillow and I slept but you can't tell them what it is, they have to guess...it made people think. When we talked about it afterwards a lot of them said I never thought of looking at a spoon and making it something else…as you took that spoon I would never look at that spoon and say this is a pillow you know but I did."

Many participants found it invigorating to reenact other participants' movements and imagine that you were another person. Norma described feeling young at heart when participating in the program:

> "So many of the activities we did, we were just giggling…so that was kind of fun, it was fun to giggle and laugh and be kids again. You would imagine…that we are young and beautiful…it was kind of fun to pretend."

Music and imaginative thought inspired participants to try new things. Pearl described:

> "It's the movement that has gotten me involved in it…the music and the movement and their imagination which helps us."

In example, these creative, artistic elements inspired Regina to set new goals:

> "…makes me want to learn to play the piano which I have always wanted to do [laughs] and because it is fun when there is music around it lightens things a lot."

Bernice also elaborated on discovering endless possibilities through imaginative storytelling:

> "But you are also using the imagination…therefore you could be a Frank Sinatra or any dancing queen there was back in the days when we danced…and you feel like you're like one of them dancing queens."

The program helped participants prepare for the unexpected through the use of creativity.

What is the social and cultural experience of the program and perceived impact on well-being?

The second research question focused on experience and outcomes related to quality of life. The following three themes emerged through transcript analysis: 1) *The program was experienced as energizing and fun, generating a positive outlook on life*, 2) *Music and dance fostered mutual knowledge, emotional connection to one's own heritage and cultural understanding,* and 3) *The program resulted in increased social interactions and a stronger feeling of community.*

The program was experienced as energizing and fun, generating a positive outlook on life. This theme focuses on the experience of the program followed by the program's influence on life. Participants often mentioned finding the program to be engaging for their body and mind and described positive mental and physical health benefits. The program provided a heightened sense of appreciation for life, a strong sense of gratitude, and increased life satisfaction. While many participants anticipated the program and getting out of the house, Norma also revealed benefits from exchanging strategies that promote healthy lifestyles with each other:

> "It was one more place I could go to be active because sometimes it's hard when you're in your apartment and saying "come on, you've gotta do this, it's not that hard, come on do it." So I think when you're with somebody else, it helped...you could share things too and it felt good to maybe help somebody else."

Some participants reported that observing the uplifted spirits of others during sessions was helpful in preventing depression and negative self-talk, and resurfaced fun, youthful moments, as noted by Bernice in her interview:

> "A few people here that have depression and I think it helps that….They seem to be a little bit more talkative and more active and not always sitting like they're depressed and nothing is going to help….the program definitely helps people who

> have been in depression and have emotional problems…because it takes away from the stress of the everyday life."

The creative movement facilitated by the program carried over outside of the program and increased participants' functional mobility, strength, and energy endurance, providing a heightened sense of personal well-being.

> Bernice: "I have the energy more than I have before…I keep myself motivated…I seem to have a little extra oomph…It helps the breathing and it helps the joints….It keeps you younger and more active."

> Ethel: "I know it's made me want to do better which is pretty special and not to do better so you look better than someone else but so that you feel good about yourself, about the way you are doing things."

Participants regularly described the program as fun and entertaining and reflected on feeling enjoyment from observing other participants having fun and socializing more. A large number of participants also described feeling youthful and increased energy when moving and following movement in others. The camaraderie with others in the program was also fun and contributed to positive feelings from celebrating life, acting silly and laughing, as exemplified by Ethel:

> "And it's just a really nice hour or so to get together with people who are having a good time and that's a really nice feeling. It's easy to get down when you live by yourself and I don't mind living by myself but you don't stand around and make jokes and laugh at yourself you know."

Participants also mentioned how the opportunity for sharing joyful life moments related to increased participation, jokes and laughter.

> Audrey: "This kinda made me get out there and try doing things. Made it fun doing it with other people…because otherwise I just sit"

> Annie: "Other residents coming in that you would never think would come down and sit and enjoy that kind of activity. But they all would come in and sit and were there to join in… and it was a lot of fun."

> Bernice: "…we were enjoying the music they were playing and we were dancing like we were sixteen….it motivates you to want to do what you used to do."

Most participants noted an overall positive mood and outlook on life. Some of them further described experiencing a rewarding feeling when supporting others and observing others overcome self-defeating thoughts and behavior. The program provided an opportunity to reminisce about personal interests, occupations, memories, past experiences, and success stories about overcoming barriers. Many also referenced experiencing a rewarding feeling when others were in a positive mood, such as an example described by Marlene:

> "I feel really, real, good. It's worth being there, you know. Actually, I feel very relaxed and just kind of I'm glad I was here. Well, they make you feel good all over. Whatever they play or whatever we do, they make you feel just great."

Norma also found happiness to be contagious:

> "It always helps when you smile, it always makes a difference and we did that almost every time."

This rewarding feeling often followed the sharing of treasured memories; it felt good to share personal stories. The program was stimulating and helpful in lifting mood and warding off loneliness and depression, as Audrey described:

> "Yeah it gives me a positive mood it does. I enjoy it and it gives me a positive mood because there's lots of times when I'm in a depressed mood so when I go to that I have fun a feeling and [laughs] decide to act crazy or whatever [laughs]."

Multiple participants recounted an increased sense of self-satisfaction and self-worth. Regina described a noticeable positive change in her mood and uplifted spirit:

> "…just more feeling of satisfaction and feeling better about myself that I did do something, even though I battle with fatigue all the time that I get something done ….I think that's an improvement…I think I'm more satisfied. When [family] call and ask what I did today they say…that they can tell I like Kairos because I'm in a better mood."

Most participants mentioned that they did not want the program to end. The program was an important part of participants' weekly routine; it was the highlight of their week.

> Ethel: "It's been a really good experience for me and I like all the people we've gotten to know…I always come away from it feeling good and I always feel good during the hour… I think about it afterwards…I really enjoyed it and always look forward to it."
>
> Marlene: "I look forward to it because I like being there.
>
> Regina: "I really enjoy it. It is my favorite thing here to do."

Music and dance fostered mutual knowledge, emotional connection to one's own heritage, and cultural understanding. Analysis of the transcripts revealed that the program provided participants with opportunities to learn more about each other's lives and empathize with other community members. Participants connected through shared experiences and identified common interests. Many mentioned having gained a mutual understanding by learning more about each other's personal lives through the storytelling, as Regina explained:

> "You just kind of understand I think…well it is just kind of like you don't ever judge someone before you really know them because you don't know what they've been through."

Most participants shared musical interests and positive stories from their youth, sometimes from their years growing up on the farm, associating music with fun and laughter. While some mentioned losing touch with their active involvement in music they reported enjoying the opportunity to connect music with dance and storytelling during the program. Many participants positively reflected on having an opportunity to share cherished emotional experiences.

> Gloria: "People would talk about things they did when they were growing up. Those were kind of fun because everybody is so different…it was really fun to get to know people better."

> Regina: "There was a lot of us that grew up on the farm and so you can kind of relate to them and talk about you know the gardening we had to do things like that or what they did for play and activities."

Audrey reported feeling generational connections with other participants when listening to music from the past and reminiscing with other participants:

> "Just took you back to how you were years ago [laughs]...it just brought back memories [laughs]….You know going back to things we used to do…. It made us all think [laughs]."

Many treasured learning more about each other and listening to different life stories. This exposure to so many different sides of people provided opportunity to learn more about others.

> Bernice: "And it's nice we have conversations a lot about our teenage life and our past. You know stuff like that and things I've experienced in life…I love to listen to people's stories, you learn from that."

> Ester: "I think it makes you more compassionate towards other people…it's just good people have opened up and expressed themselves in a way they wouldn't express themselves over a cup of coffee."

The majority of participants felt the program was inviting and accepting of cultural diversity. Participants described listening to music played during the program that was from various cultural backgrounds, some reported sharing stories about their personal, cultural experiences for the first time. Some mentioned enjoyment from learning new information about some residents' cultural backgrounds and life experiences. In example, Norma reported:

> "There was some jazz and some dance stuff so it's kind of fun. But the really fun part was the stories, people's stories. I've learned so much about the people through it…if you live to be 86 years, you have stories to tell."

For Ethel, this also contributed to a better understanding of life challenges.

> "I think I probably look at some people in a different way…you get so caught up in your own problems that you don't realize all these people around you have

> problems probably very similar to yours….some things people say and stories they tell remind me of things that happened to me when I was younger."

Regina also elaborated on learning about some participants' experiences of racial segregation through shared stories:

> "You get little snippets of peoples' lives and that has been fun…it is just kind of interesting to hear and well sometimes you never know what people are going through in your lives and you hear someone the tragedies and you think oh how did they get through that but that is not something, some of those things you would not be discussing sitting in the lobby or something."

Program resulted in increased social interactions and a stronger feeling of community. Several participants indicated that learning more about each other increased efforts to build social connections within their community. The program was frequently described as a means to get out of the house and socially interact with others. Pearl reported that the program socially engaged other residents as well:

> "Just again being with people, that's the big thing. Now when they're all done, well a lot of us will just be sitting in our apartments you know. So the being together was an important part."

Many described increased social relationships, leading to a greater social network or support system. The program provided positive, social opportunities for community members to interact and share interests with other residents.

> Marlene: "And it's a group thing, you know, and like I said, I get to know a lot of things that I didn't know about the people there. I just like being there."

> Lucy: "In an exercise class I don't think you would have the interaction with people like you do with this program."

At times, participants reported wanting to be more social in their communities. Some participants reported an increased effort to socialize and acquaint self with other community members. Participants also felt that the program contributed to increased social interactions outside the program. Making social connections throughout the course

of the program was a highly valued experience, as many reported having made new friends in the group, as illustrated by Ester:

> "It brought some of the new people in and I think that's good because we are independent …and it's a little hard to talk to someone that you don't know…it's good we find that we have many things in common…"

Rose recounted how increased familiarity with other participants over the weeks also contributed to feeling safe and accepted:

> "I've thoroughly enjoyed the gathering of the people and I'm there to listen to their experience and their stories and for me that was a very rich part of the program. And wonderful for a newcomer to both the culture and the location to be able to do it in such a strong, safe context…. that part of it has been wonderful."

A large number of participants described an increased connection with others beyond their time together in the group, as reported by Lucy:

> "I feel closer than I did. A lot of them I didn't know when we first started. I got to know them better you know we would talk before and after sessions…and even during sessions they would share their stories…well there was one lady I didn't know when I first started and we always said hi and we got to know each other by the end and I know where she lives now and we can wave to each other across the balcony…I'm getting to know peoples' names because I didn't get out much before this… I started with that program and then I started playing cribbage with another group…now I have more people to interact with."

Data analysis revealed a greater sense of belonging to the community after the program. Edna described feeling alone prior to the group sessions and gaining a stronger sense of community and emotional attachment to place after participating in the program:

> "I feel I know them in a different way than I did before…just being in the group together I think has made a difference. I think that it brought the community closer together because we have things that were similar from the experience."

Participants mentioned feeling more connected socially and emotionally to others during and after Kairos. Most reported that the program fostered deeper, more meaningful

relationships with the other residents of their building who participated in the program, as illustrated by the following participants:

> Bernice: " Were one big happy family [laughs]….It creates a bond…you feel you're connected….and therefore you are more freely talking to one another…all because you were in this program together….I tell everybody were like sisters….the Kairos program builds your sense of community."
>
> Vivian: "I knew them before the program, but I found out more about them doing the group and sharing their stories."
>
> Norma: "I was going to supper or lunch one day and I was waving at some of the people and I thought, wow…I know a lot of people here…I smile and wave and talk to them in the elevator and stuff....We just put two tables together because we expanded a little bit, our group."

Living in a more close-knit community was a new experience for some of the participants, and many described previously living in rural communities. Marlene explained how the program facilitated the transition and acceptance into a new community:

> "I was kind of being new back in the area and I just felt like I wasn't part of the community. But now I sit with three or four ladies. I look forward to it because I like being there. And it's a group thing…I get to know a lot of things that I didn't know about the people there."

Some participants recounted making the transition to their current senior community within the past year and mentioned various challenges involved when transitioning into a new living arrangement often following the loss of a spouse. Many participants reported that the program helped them with the transition by connecting them with other members of community, as illustrated by Rose:

> "This is the first time when I've lived in a community of people…well it just made me way more comfortable with them. Because it was something we had shared….For me it helped. It is still helping, let's have that in the active sense of the word not in the passive."

Many participants described the program as an opportunity for building supportive relationships and social connections within their community. Edna reported feeling more connected to her peers on a personal level:

> "I think too it puts a personality on that person because they've been able to share that so it's kind of like an identity marker…and then there were some women I think that kind of surprised me…because I didn't know any of them very well some I didn't even know their name much less be able to tell you what their name was even if I had heard it."

Overall, these qualitative results strongly suggest that this participatory creative arts program was experienced as meaningful, fun and energizing and generated improved quality of life. Narrative analysis revealed that the participants experienced new learning about themselves or self-discovery through different aspects of the program. Mutual encouragement and support additionally helped many participants confront personal challenges and overcome health barriers. Lastly, comfort within the group and feeling valued provided freedom for self-expression, playfulness, and laughter, which fueled creativity and imagination, further contributing to improvements in overall well-being.

Discussion

This study represents a first attempt to investigate the relationship between artistic, creative, and emotional experiences within a participatory creative arts program for older adult participants using mixed methodology including a standardized measurement of creativity. Combining qualitative and quantitative data provided a comprehensive understanding of the importance and impact of a creative arts program for congregate senior housing residents than using either type by itself. The results of this study reveal that a creative arts-based program can lead participants to challenge their limits, enhance feeling of self-efficacy and positively impact creative and emotional experiences. Results also illustrate that such programs enhance a sense of community, well-being and overall quality of life. These findings extend previous research on the Kairos Dancing Heart™ program on the benefits of dance and music on physical performance, mood, and quality of life of older adults living in long-term care (Rydholm, 2011; Schafer, 2011). While limitations are present in this particular study, it adds to the literature supporting the benefits of the arts, and there are noteworthy implications for future research.

The two main findings will be included for discussion here. First, how participation in a creative arts program provided opportunity to test and overcome limits while comfort within the group supported self-expression, leading to a transformative creative experience. And second, participants perceived the program as having multiple benefits on a personal level and by enhancing social interactions, a stronger feeling of

community, and overall mood and quality of life. This discussion will incorporate quantitative and qualitative outcomes together.

Creative Experience

Art and creativity enhance a sense of achievement, increase self-worth, and contributes to social belonging through group participation (Bungay & Clift, 2010; Cohen, 2006; Flood & Phillips, 2007; Patterson & Perlstein, 2011; Thomas et al., 2011). Although not as commonly in the US as in other parts of the world, creative art activities are being prescribed for people experiencing mental health problems and social isolation (Bungay & Clift, 2010). Art health initiatives use evidence to support that active involvement in creative activities can provide a sense of purpose, increased levels of empowerment and self-esteem (Bungay & Clift, 2010). The current mixed method research sought to contribute to this body of evidence supporting creative arts programs offered to older adults living in the community. The interview data concentrating on the codes related to emotions, meaning and artistic expression, and results from the *ATTA* creativity measure, were analyzed to identify the artistic, creative, and emotional experience of the program.

The participants described increased opportunities to overcome limitations through the use of creativity and imaginative thought. They also reflected on the benefits of the social and emotional supports they experienced in the group as well as of the physical activity involved in the dance movements. Many of them also felt that participation in the creative dance sessions improved their functional mobility outside of the program. This finding is consistent with results of Lipe et al.'s (2012) research in that

art-based intervention not only provided fun, socialization, creative expression and sense of belonging but also improved the ability to manage basic self-cares. For the most part, the participants increased self-worth and self-efficacy in spite of identified challenges and enjoyed engaging in creative and artistic pursuits.

Since most participants in this study did not identify creative experience by name, they identified other indirect signs of creativity such as silliness, playfulness and greater comfort with self-expression. It is noteworthy that these findings were also consistent with results of Rylatt (2012) in that art, and creative activities can provide improvements in creative self-expression, social communication, pleasure and enjoyment, and general engagement. The finding of the current study thus suggests that silliness, as in feeling unguarded with expressing one's self and free to act goofy, may be a proxy to creative and imaginative thought. The improved sense of trust in turn generated a greater comfort with self-expression. Thus, increased comfort with others and the ability to playfully express themselves were found to be intimately linked. These results are consistent with the current literature in suggesting that an enriched environment and social support may promote creativity in older adults (Flood & Phillips, 2007; Polenick & Flora, 2012). Future research may find that the way in which the arts can liberate participants from particular social inhibitions could help both explain the conditions for creative expression and highlight the mechanisms by which joint art-making leads to greater sense of community. There is some literature on how the arts enhance self-discovery (Lipe, 2012; Flood & Phillips, 2007), yet this would be an area worth exploring further.

Although the qualitative results clearly demonstrate the program's positive impact in self-expression, the results of the quantitative measure of creativity were more difficult

to interpret. The quantitative results showed that there was an improvement in the mean scores on creativity at post-test, with an increase of 6.57 points on the *ATTA* between the beginning and end of the intervention. This finding suggests that the *ATTA* tool could be a promising measure of creativity. However, this difference did not reach statistical significance. In addition to low power due to the limited samples size, another reason could have been the high variability of the scores (*SD* = 9.66 at time 1 and 15.53 at time 2). An explanation for this high variability could be that the participants' cognitive status may have compromised the validity of the *ATTA* tool, or that the validity and reliability of the tool itself could influence results. Descriptive statistics demonstrated that participants' *MoCA* scores were suggestive of MCI at baseline 1 (*M* = 23.57, *SD* = 3.72) and at post-test (*M* = 25.07, *SD* = 3.87). More research needs to be conducted on the validity of the *ATTA* with older adults who have MCI, including normative data. Secondly, given the growing incidence of MCI in community-dwelling older adults, research with those populations needs to use measurements that have established validity regardless of cognitive status. These results are consistent with Holmes (2015), the student collaborator in this research study who further elaborated on implications related to memory and cognition in her thesis. Larger sample size might also yield positive results with the use of this creativity assessment.

Mood and Quality of Life

The secondary purpose of this study was to examine how the creative arts program provided benefits to quality of life, such as enhancing activity participation, social interactions, a stronger feeling of community, and overall mood. Many of the

participants interviewed disclosed feeling improved social and emotional well-being as the program provided an enriched environment and increased the opportunity to participate collaboratively in meaningful activities. Participating in the program rekindled memories of youthful moments that once brought the participants joy and now continue to provide happiness and contribute to increased life satisfaction. It also fostered opportunities for self-reflection of past life accomplishments. Consistent with research from Bungay & Cliff (2010), active involvement in creative activities can provide social inclusion, relationships, and friendships, and positively contribute to emotional health. These findings support a link between participatory creative arts and improved personal well-being.

In addition to individual-level impact, this creative arts program positively influenced the culture of congregate senior housing communities by enhancing feelings of community and overall quality of life. Similar to previous findings that newly established relationships contribute to strengthening community cohesion (Moody & Phinney, 2012; Stav et al., 2012), the participants in this study revealed that the camaraderie and closeness developed over the weeks persisted beyond the group, further increasing a feeling of community within their building. The participants also reported feeling increased energy and intrinsic motivation following participation in the program, including feeling more self-empowered to try new things and actively seek social interaction outside of the program. These findings are consistent with the literature reviewed in this thesis (see Appendix A) and support that quality of life is connected to the overall experience of social groups and communities.

Since HRQOL tends to equate life with physical and mental functioning, it can be measured by widely used self-assessment health status instruments. Descriptive analysis showed improvement in the participants' mean scores on mood (*GDS*-15) at post-test but not enough to reach significance. Perhaps this may have resulted from low power due to limited size and variability of the sample. However, the patterns of scores on the *SF-36* indicated no coherent results since it improved at baseline but not following the intervention. A possibility worth further exploration may be that the sensitivity of the instruments used in this study was not sufficient to adequately reflect the subjective changes in quality of life and emotional health that were evident in the qualitative results. From the interview data, it was clear that participation in the program generated a positive mood, mutual respect, and deeper, more meaningful relationships among the participants. For example, the qualitative results indicated that the participants of this study found that observing the uplifted spirits of others during sessions was helpful in preventing depression and negative self-talk. Findings such as these are difficult to ascertain with quantitative tools alone. Consistent with research evaluating quality of life, the use of mixed methodology is helpful in capturing that quality of life coincides with overall health and well-being (Blane et al., 2008; Grundy, Fletcher, Smith, & Lamping, 2007). Furthermore, more sensitive measures that are validated with individuals who have decreased cognition may help better identify how social support and creative engagement enhance quality of life and overall health and well-being. Measurements inclusive of spirituality and socio-emotional factors may also be able to capture better the meaning of creative activities.

Limitations

While many important themes and positive implications for further research and practice are presented in this study, there are also some limitations that may have affected the results. First, it is important to recognize that although the naturalistic design used has advantages because it allowed to study people in their natural context, this may be a limitation as it does bring in the potential of extraneous variables influencing the results. The baseline controlled design was used to introduce some quasi-experimental control, but this generated other problems such as differential attrition effect. The high attrition rate due to the irregular attendance by some participants may have resulted in the differential selection and reduced statistical power due to the small sample size. Since this study included exclusively women, it is unknown if results are generalizable to men. Future studies should replicate and improve procedures and expand the sample size.

Another area of limitation was related to methodological issues. The *ATTA* tool was found to be promising with that population, although high variability affected significance and improvements in creativity. Furthermore, mild cognitive issues may have increased variability and validity of the tools. More research is needed as to the interaction between the *ATTA* and cognitive levels. Tools that reliably measured creativity and artistic engagement in individuals who have compromised cognition are necessary to support further research in that field.

Implications for Further Research

Despite limitations, this study has important implications for supporting shared art-making as an essential human activity. Although promising, the research on the

benefits of arts for health is still in its infancy and larger studies, using a variety of methodologies and interventions, are needed to inform art-based health promotion efforts in the older adult population. This study demonstrates the benefits of a mixed method design in a naturalistic setting. Even though the quantitative results were not significant, the quasi-experimental baseline controlled design allowed to see within-participant changes following the creative dance program compared to the period of no intervention. This design fits well with a naturalistic context and could be replicated with more participants to increase statistical power. Future studies could include a larger sample and a crossover design that would allow comparison between groups as well as within-group differences.

Findings reported here also add support to the general theoretical proposition that creative self-expression is ageless and can positively influence overall health and well-being. Participatory creative arts programs have the potential to provide multiple benefits to older adults living in congregate senior housing. For example, the participants in this study described achieving an increased sense of self and ability to push one's limits, freedom from social inhibition which linked to creative expression, and a circular relationship between creativity and a feeling of community, all contributing to a greater quality of life. The present study also uncovered the potential benefit in future studies of using expressions of silliness and playfulness as proxies for creative self-expression, since participants rarely used the word "creativity" to describe their experience. Hence the importance of including the qualitative methodology to investigate the phenomenology of the creative process.

Implications for Occupational Science and Occupational Therapy

This research offers several implications for practice. Previous studies suggest that there is an increasing demand for the role of occupational therapy in community-based practice areas to effectively improve health and meet the everyday activity and health needs of the growing older adult population (Stav et al., 2012). Participation in creative arts programs among older adults living in congregate community housing can contribute to health and overall well-being by filling occupational voids, promoting a positive identity, allowing the expression of grief, and encouraging social support (Thomas et al., 2011). Findings reported here on how the program helped people get to know the other residents and facilitated integration may also help in the process of relocation by promoting a feeling of community. Because space transforms into a place when an individual feels attached and finds meaning in the space, the living environment found in a place can be characterized by feeling comfort in residing at home, which holds physical familiarity and social significance (Granbom et al., 2014). Using an occupational science perspective including the environmental context can further promote active participation in meaningful occupations among older adults, contributing to increased self-efficacy and quality of life (Zur & Rudman, 2013).

The overall aims of this research were to contribute to the occupational science and occupational therapy philosophy that health and well-being are linked to engagement in meaningful artistic occupations. Further research is needed to continue to help identify how exactly community-based creative arts programs affect older adult participants. The current study adds to the body of evidence suggesting that they may provide meaningful outcomes for community-dwelling older adults. Occupational therapy practitioners

understand the importance of engaging in meaningful activities for a persons' overall well-being. Identifying how creative arts programs may have stimulated a persons' physical, social, and emotional health is of importance to practice. In particular, determining how participation in a creative arts program may stimulate the mind, body, and spirit is further relevant to the fields of occupational science and occupational therapy because it may help to identify future creative arts health maintenance or prevention techniques. This research adds to the evidence on the benefits creative arts have on the older adult population, and clearly suggest that more programs of its kind should be implemented in communities.

Conclusion

This study demonstrates that a creative arts-based dance and storytelling group such as the Kairos Dancing Heart™ program can have a positive impact on the individual and the culture of congregate senior housing communities. The opportunity to reminisce and the sense of being valued as individuals in the creative arts group fostered a fun and safe environment promoting creativity, camaraderie and a sense of community sometimes lacking in congregate senior housing communities. The value of the occupational science perspective is that it led to a focus on the lived experience of dancing and story-telling, including reminiscence, meaning, enjoyment and creativity, which had received only minimal empirical attention. This study also demonstrates the potential benefit of a quasi-experimental mixed method design to include a level of within-subject control and address constructs that cannot be captured by quantitative tools alone. Since participation in creative art activities can promote health and well-being, this study will inform occupational therapists who are part of interdisciplinary efforts using the arts for health promotion and will help generate further research questions.

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Appendix A

Additional Literature Review

Lifestyles of Older Adults

Federal research data designates the U.S. population age 65 and older as older adult Americans (Administration on Aging [AoA], 2012; International Longevity Center [ILC], 2009). Since 1900, the population of older adult Americans has tripled (AoA, 2012). By 2030, there will be 72 million older adults, more than double the number reported in 2000 (Transgenerational, 2009). As the population ages, longer life expectancy is predicted to follow suit. Currently, a person age 65 can expect to live an additional 15 years (Transgenerational, 2009). Americans are now living longer than ever before. The term “longevity” is often used as a connotation for “life expectancy." However, life expectancy is often statistically represented, whereas longevity is referred to as a presumed life lived not only longer, but lived well (ILC, 2009; Grundy et al., 2007). As advances in medicine and improvements in living standards have taken place, more people have been able to live longer healthier lives (ILC, 2009). As a result of this increased longevity, changes in the quality of day-to-day life are often experienced.

Roles, such as being a worker, grandparent, or caregiver, can change during the aging process (McKenna, Broome, & Liddle, 2007). For instance, transitioning from a worker role to retirement can be a significant life adjustment that often gets overlooked (Hewitt, Howie, & Feldman, 2010). Worker roles have been related to the utilization of skills and knowledge, the development of relationships, self-image, and establishment of

an individual's status within the community (Hewitt et al., 2010). Since retirement frequently leads to increase in time availability, many older adults over age 65 experience changes of occupations due to changes in life roles (Hewitt et al., 2010; Kaplan, Seeman, Cohen, Knudsen, & Gurainik, 1987; McKenna et al., 2007). One theory of aging proposes that, as roles are assumed and relinquished, adaptive behaviors such as *selection, optimization* and *compensation* are often used to remain engaged in a fulfilling life (McKenna et al., 2007). The process of selection involves a reduction in occupations and roles through prioritization in those that are most valued (Mckenna et al., 2007). Optimization is viewed as an active approach used to engage in occupations and roles that maximize time, while compensation involves alternative methods to reach desired goals (McKenna et al., 2007). Desired roles can be maintained in spite of age-related losses in function (McKenna et al., 2007).

Considered to be building-blocks of roles, occupations of this life stage are often different due to retirement, allowing for more leisure activities, including artistic and social activities (McKenna et al., 2007). Leisure is defined as any nonobligatory activity that is intrinsically motivating and independent from obligatory occupations such as work, self-care, or sleep (AOTA, 2014). In a study that evaluated older adults' experience of retirement, the authors found that participation in occupations after retirement led to an overall positive experience (Hewit et al., 2010). In particular, engagement in meaningful activities was found to be linked to identity and life satisfaction (Hewit et al., 2010). Leisure participation also provides opportunity for enhancing social connections and support through active group participation (Hewitt et al., 2010). In addition, more time

spent engaged in active and meaningful leisure pursuits is associated with a greater life expectancy (Moore et al., 2012).

The meaning of roles and social relationships changes with age. In a study evaluating current research to explain why social relationships are more significant with age, the authors found that a number of social roles decrease as one ages (Luong, Charles, & Fingerman, 2011). Various life events may contribute to the refinement of social roles, such as retirement, being widowed, experiencing death of friends, or living alone (Luong et al., 2011). Although many perceive lifestyle role changes as counterproductive leading to greater isolation and loss of roles, lifestyle changes may actually be due to greater selectivity on the part of older adults as to who they socialize with and what roles they chose to engage in. Because many older adults are retired and free to decide how they want to spend their free time, interest in enhancing the quality of roles and relationships often increases with age (Luong et al., 2011; McKenna et al., 2007; Vaillant & Mukamal, 2001).

Engagement in the arts by older adults may derive from their greater interest in emotionally stimulating occupations, and social activities promoting a sense of community. Research has shown that older adults in retirement tend to enjoy engagement in emotionally stimulating and meaningful occupations (Habron, Butterly, Gordon, & Roebuck, 2013). Particularly, engagement in creative and productive occupations has been shown to reinforce self-identity and self-esteem, and be perceived as emotionally stimulating (Habron et al., 2013). Experienced collaboratively, occupations can further enhance self-efficacy and contribute to a sense of community (Habron et al., 2013;

McKenna et al., 2007; Shippee, 2012). These findings support the understanding that life roles remain of value at any age and can vary throughout the lifetime.

Quality of Life and Health in Older Adults

The all-encompassing term quality of life has been widely recognized in the literature (Blane et al., 2008; Bowling et al., 2003; Bowling & Stenner, 2011; Borglin, Edberg, & Hallberg, 2005; Bradt, Goodwill, & Dileo, 2011; Hyde, Wiggins, Higgs, & Blane, 2003; Sewo Sampaio, Ito, & Carvalho Sampaio, 2013; Malderen, Mets, & Gorus, 2013; WHOQoL, 2006). *The Occupational Therapy Practice Framework* (AOTA, 2014) identifies quality of life as an outcome influenced by the ability to participate fully in everyday life. In this sense, quality of life embodies multiple facets of life often influenced by one's review of life fulfillment, self-directed beliefs and feelings, health status and abilities, and socioeconomic factors (AOTA, 2014). Quality of life is the degree to which satisfactory internal reflection of life experience, including an individual's physical and mental wants and needs, exists (National Center for Health Statistics, 2012; WHO, 2002). Although quality of life is connected to personal experience, it is also closely related to the overall experience of social groups and communities.

The discussion on the relationship between quality of life and health in the literature has had an evolving history (Blane et al., 2008; Maramaldi et al., 2005; McGrath et al., 2011). Originating in the 1950s, quality of life was first applied to populations, especially regarding social environments (Velde, 2001). In the 1960s, the idea of quality of life changed to emphasize personal experiences (Velde, 2001). More

recent literature includes the understanding that quality of life coincides with overall health and well-being (Blane et al., 2008; Grundy et al., 2007). Because of its subjective, multifaceted nature, there is inconclusive agreement on either a conceptual or operational definition of the term. However, understanding quality of life would help in evaluating another elusive concept, successful aging (Martin & Gillen, 2014).

Successful aging is a health promotion principle that is still in use in spite of critical challenges. The term became a central theme of gerontology literature in the early 1960s (Iwamasa & Iwasaki, 2011; Martin & Gillen, 2014; Torres, 2003). The modern concept of successful aging was popularized in the late 1990s by Rowe and Khan, in their book entitled *Successful Aging* (Martin & Gillen, 2014). Taking a medical model perspective focused on outcomes, they suggested that successful aging can only happen if good health and function are maintained and retained (Martin & Gillen, 2014). Within this theory, older adults are encouraged to remain physically active and productive members of society if they desire to overcome a sedentary lifestyle and "age successfully" (Dillaway & Byrnes, 2009; Grundy et al., 2007; Martin & Gillen, 2014; Torres, 2003). That concept is still widely used, although it has been criticized for being too medical and outcome focused, and for not including spirituality and the arts (Grundy et al., 2009; Iwamasa & Iwasaki, 2011).

Age-related chronic conditions have been linked to the inability to live independently or participate in activities, which could be a reason for the impact of reduced health on quality of life. Research shows that older adults report more "unhealthy" days affiliated with pain, discomfort, and physical ailments associated with chronic conditions and diseases, such as back and neck pain, and arthritis (Centers for

Disease Control [CDC], 2013). Additionally, the prevalence of having more than one physical limitation increases with advancing age (Holmes, Powell-Griner, Lethbridge-Cejku, & Heyman, 2009). Compared to younger adults, older adults have unique health and medical needs (CDC, 2013). On average, a 75 year-old person will experience three chronic health conditions and use five different prescription drugs (CDC, 2013). Having a physical limitation because of health related problems is linked to difficulties in carrying out certain activities, such as lifting or carrying objects, reaching over the head, and standing for extended periods of time (Holmes et al., 2009). Chronic health conditions, such as depression and decreased cognition, may also emotionally and physically affect active participation and quality of life (CDC, 2013; Perlmutter, Bhorade, Gordon, Hollingsworth, & Baum, 2010).

There are a number of factors resulting in cognitive decline and clinical conditions affecting cognition (Centers for Disease Control and Prevention [CDC] and the Alzheimer's Association, 2007; Perlmutter et al., 2010). Many of them are lifestyle factors. However, disease processes beyond an individual's control are also prominent as causes for cognitive losses. Cognitive decline factors associated with age-related changes have also been linked to preventable health problems, such as medication side effects and depression (CDC and the Alzheimer's Association, 2007). Current research has shown that maintaining cognitive health plays a vital role in preserving the independence and ensuring the quality of life of older adults (CDC, 2013). Cognitive health can be characterized as maintaining *cognitive processes*. Cognitive processes include the ability to learn new things, problem solve, reason, remember, and language intuition, and are collectively known as cognition (CDC and the Alzheimer's Association, 2007). Having a

healthy brain has been linked to a greater likelihood of living into an advanced age, to having good physical health, positive outlook, staying alert, and being socially active (CDC, 2013). Cognitive health is important to aging and for maintaining a healthy lifestyle, including participation in meaningful activities, spiritual activities, social involvement, holding a positive mental outlook, and accepting and adapting to physical and cognitive changes (CDC, 2013). When a person experiences cognitive decline, things that she or he can do in everyday life may be affected (CDC and the Alzheimer's Association, 2007).

Any alteration in life can contribute to emotional health, quality of life, and well-being. While older adults frequently report fewer mental health related problems than do younger adults, many suffer from emotional distress (CDC, 2013). For instance, experiencing loss of loved ones or living in a rural area might present barriers to resources and support and may contribute to feelings of loneliness. In addition, emotional distress has been associated with unhealthy behaviors that could generate new physical and mental health problems (CDC, 2013). Literature revealed that psychological disorders, such as depression and anxiety disorder, are relatively common among the older adult population (Vaillant & Mukamal, 2001). Unlike a physical ailment, key symptoms of mental and emotional health illness, such as changes in sleep patterns, appetite and reduced interest in activities, are often overlooked by both the individual and medical providers (Vaillant & Mukamal, 2001; Perlmutter et al., 2010).

Spirituality plays an important role in quality of life for many older adults and has been an integral part of the occupational therapy practice framework since the profession's beginning (Unruh, Versnel, & Kerr, 2002). The most recent version of the

practice framework defines spirituality as a quest for understanding answers to definitive questions about the meaning of life and relationship with the sacred or transcendent, which may or may not lead to or arise from the development of rituals and the formation of community (AOTA, 2014). Because occupational therapy practitioners view individuals holistically, they consider client factors that include values, beliefs, and spirituality (AOTA, 2014). Those factors are believed to influence one's motivation, support engagement, participation, and health, and provide life with meaning (AOTA, 2014). The field occupational therapy remains in line with theories of aging as the profession has generated support for those beliefs and continues to highlight the value of occupations in promoting well-being in older adulthood.

Historically, aging was thought of as a time to review one's life and participate in spiritual reflection, yet until recently, successful aging and the general conceptualization of quality of life have not explicitly involved spirituality. However, spirituality is becoming an important consideration in aging theories as exemplified by greater use of the concept "gerotranscendence" for characterizing the increased acceptance and reflective orientation common in later life (Tornstam, 2003, 2011). The theory of gerotranscendence was introduced more than 25 years ago to suggest that human aging includes a potential to mature into a new "positive" outlook on and understanding of life (Tornstam, 2003, 2011). Gerotranscendence is regarded as the final stage in the progression of life and implies a shift from a materialistic view of the world to a more spiritual one, accompanied by increased contentment (Tornstam, 2003, 2011). Along with the transformative experience towards maturation and wisdom during this stage, an individual might go through gerotranscendental changes, such as redefining one's view of

self and relationships to others, and possess a more refined approach to life choices and activities (Tornstam, 2003, 2011).

There are a variety of ways to express spirituality, in addition to attending religious activities or services. For some, spiritual expression can be found in creative arts, through nature or with mediation or prayer. Meditation is often thought of as a mind-body process that includes elements of breathing, posture, and self-awareness (Sun, Kang, Wang, & Zeng, 2013). Traditionally, mediation can lead to mindfulness, or increased receptive and nonjudgmental awareness and attention, during necessary tasks associated with cognitive function and the ability to live a purposeful life (Sun et al., 2013; CDC and the Alzheimer's Association, 2007). Practicing focused attention, such as during participation in spiritual activities, enriches a connection between personal thoughts and feelings, resulting in the likeliness to be happier (Gilbert, 2012; Sun et al., 2013). Some studies on the relationship of spirituality to health have found a link between religious beliefs and mental and physical health, further supporting the value of spirituality in promoting quality of life and emotional health (Krause, 2009; Sun et al., 2012).

Mood in older adults is more positive than stereotypes of aging would lead to believe. Older adults experience positive emotions in spite of adverse factors, such as projected physical decline and societal stereotypes (Grundy et al., 2007; Hühnel et al., 2014). Literature suggests that one's emotional state often improves from early adulthood to old age (Carstensen et al., 2011). Older adults experience more positive emotions and decreased emotional lability, and report feeling happier than their younger counterparts (Hühnel et al., 2014). In a study that examined the course of emotional experience in a

sample of adults spanning early to late adulthood, the authors found that aging was linked to more positive emotions (Carstensen et al., 2011). One's emotional capacity to love does not diminish with age (Hühnel et al., 2014). Inevitable changes may occur with age, but transformation can occur with a change. More importantly, transformation can have a positive effect on life.

The capacity to be happy varies widely across people (Gilbert, 2012). Happiness can depend on everyday things such as routines and simple activities one is involved in (Gilbert, 2012). Some researchers believe that cognitive processes are responsible for happiness (Isaacowitz & Blanchard-Fields, 2012; Jones, Rapport, Hanks, Lichtenberg, & Telmet, 2003). In particular mindful strategies, such as focusing on and remembering positive events and leaving behind negative ones, have been linked to helping older adults regulate their emotions, contributing to a more positive outlook on life (Carstensen et al., 2011; Isaacowitz & Blanchard-Fields, 2012). Other studies have shown that intentional efforts to maintain friendships contribute to feeling happy (Demir, Ozdemir, & Marum, 2011). The growing evidence supports that positive emotions are associated with improved quality of life and may add years to life (Carstensen et al., 2011). Positive emotions such as feelings of joy can also transfer among people in a social group, especially when social support and friendship is mutual (Park, 2008). When individuals believe that their autonomy is encouraged, they are more likely to display higher levels of intrinsic motivation and experience greater psychological well-being (Demir et al., 2011; McGrath et al., 2011; Moody & Phinney, 2012; Stav et al., 2012). Happiness experienced from socialization and supportive relationships contribute to one's overall health and quality of life in positive ways (Roe, 2014).

Social Interaction and Quality of Life in Aging

In the United States, one out of every three older adults lives alone (ILC, 2009). As people are living longer, alone or not, options for alternative housing seem to emerge in response to demands of changing housing needs (ILC, 2009; Leith, 2006). Relocation to a new home may depend on existing living arrangements, finances, and support levels (Leith, 2006). Choices in living arrangements are often influenced by past and present experiences and future goals and needs (Granbom et al., 2014). As life adjustments coincide with aging, a late-life move is a common experience for many older adults (Leith, 2006).

"Congregate senior housing" or "congregate senior living" is a form of independent living for adults 62 years or older who have difficulties with one or more essential ADL (U. S. Department of Housing and Urban Development [HUD], 2014; ILC, 2009). It emerged in the 1970s as a way to fill the gap between "independent living" and later institutionalized living (Glass & Skinner, 2013). Today, congregate senior housing is often thought of as independent living, but with community appeal. Congregate senior housing, as opposed to independent living, includes options such as provision of community meals in a common dining facility, housekeeping and personal services for residents, and private kitchens or kitchenettes in the apartment (HUD, 2014; ILC, 2009; Glass & Skinner, 2013). Congregate housing facilities differ in resources and amenities, activities, and community culture and do not provide residents assistance with personal cares, setting them apart from "assisted living" (HUD, 2014; ILC, 2009; Glass & Skinner, 2013). In addition, congregate senior housing communities, also referred to as retirement communities, have been recognized for providing a shared living environment

designed to enhance independence and social stimulation (Glass & Skinner, 2013; Moon, Adams, & Roberts, 2013).

Place of residence affects identity and contributes to one's relationship with community, environment, and social networks (Bromell & Cagney, 2013; Darnell, 2009; Glass & Vander Plaats, 2013). The environmental context and proximity to resources are relevant factors in obtaining and preserving friendships, relationships and socialization, all of which have been linked to overall health and well-being, emotional happiness, self-expression, and shared satisfaction (Bromell & Cagney, 2013; Glass & Vander Plaats, 2013). Because the environment shapes opportunities for social integration and engagement, living alone may lead to social isolation, decreased social networks, and fewer close relationships (Bromell & Cagney, 2013).

Research has identified loneliness as problematic, especially for older adults. Seclusion has been linked to worsened health outcomes, such as depression and dementia (Glass & Vander Plaats, 2013). Research on social cohesion has identified a number of factors, such as environmental conditions and availability of social support, that contribute to a person's level of participation in life (Bromell & Cagney, 2013; Law, 2002). Community living has therefore become a preferred housing option among older adults, especially for those residing alone (Bromell & Cagney, 2013; Glass & Vander Plaats, 2013).

The relocation from one's home to a new senior housing community residence, such as congregate living, can be a transformative experience, especially if the resident is entering an older adult community for the first time. Transitioning to a new living facility means an individual will experience entering a new community, which includes forming

new bonds in an intricate process that is continuous over time (ILC, 2009). Whether the move occurs voluntarily or involuntarily, autonomy and self-efficacy are principal concerns of most senior housing residents (ILC, 2009). Research has shown that continuing engagement in personal interests, habits, routines and leisure activities is substantial to establishing comfort and familiarity in a new setting (ILC, 2009). Congregate senior housing communities can positively contribute to quality of life and personal and social well-being by offering valuable opportunities for nurturing mental, physical, emotional, and spiritual habits, roles, and routines (ILC, 2009; Shippee, 2012).

Social activities and support in community life are important for older adults because of multiple benefits for health, including mental and emotional health, and quality of life (Grundy et al., 2007; Leith, 2006; Shippee, 2012; Stav et al, 2012). Participation in social activities and in other purposeful or productive activity is significantly related to the development of social networks and quality of life and sense of community (Flood & Phillips, 2007; Law, 2002; Stav et al., 2012). Involvement in shared activities, recreational or non-recreational, can promote intrinsic satisfaction and overall health (Bromell & Cagney, 2013; Shippee, 2012; Stav et al., 2012). In addition, participating in a variety of occupations has been associated with a greater life expectancy (Moore et al., 2012; Polenick & Flora, 2012; Shippee, 2012; Stav et al., 2012). Place and community impact identity and involvement in social activities, contributing to one's relationship with the social community and environment (Bromell & Cagne, 2013; Darnell, 2009; Glass & Vander Plaats, 2013; Shippee, 2012). Given awareness that purposeful activity has been shown to be related to health and quality of life later in life, having some form of social activity, leisure activity or hobby has been

identified as important for older adulthood (Flood & Phillips, 2007; Shippee, 2012; Stav et al., 2012). Shared art-making has become a meaningful social activity that is increasingly available to older adults.

Appendix B

Review of Instruments

Tool's Validity and Reliability

***Abbreviated Torrance Test for Adults* (*ATTA* ; Goff & Torrance, 2002).** This measure of creativity was developed to contribute to the understanding of human processes of creativity and creativity production (Althuizen, Wierenga, & Rossiter, 2010). The original *Torrance Test of Creative Thinking* (*TTCT*) is the most widely used creativity measure (Goff & Torrance, 2002). However, in 1989, creativity research pioneers, Torrance and Goff, led one of the first quality of life research studies involving creativity, fitness and the arts (Goff & Torrance, 2002). This federally funded study was a health promotion and education prototype designed to increase independence and community integration for older adults (Goff & Torrance, 2002). To measure change in creativity of the participants, a shortened version of the TTCT was used, the *ATTA* (Goff & Torrance; 2002).

The short-scored version of the *ATTA* was found to be as valid as the longer version, although it is not as frequently used (Althuizen et al., 2010). Like the TTCT, the *ATTA* combines both figural verbal and figural domains, and is an appropriate instrument for evaluating creativity abilities in older adult populations (Althuizen et al., 2010; Goff & Torrance, 2002). The developers of the instrument report a Kuder-Richardson Formula 21 (KR21) reliability coefficient of .84 for the total raw score for the following four norm-referenced creative abilities: fluency, originality, elaboration, and flexibility. Each

raw score is then converted to a norm-referenced scaled score resulting in a reliability coefficient of .90 for the total raw score including the creativity indicators (Goff & Torrance, p. 34). Interrater reliability ranges from .95 to .99 (Goff & Torrance, 2002). Additionally, researchers using the *ATTA* described the tool as a valid, brief, and easy to administer creativity measure that is capable of accurately identifying creative capability in a small sample (Althuizen et al., 2010).

Although the authors describe this tool as valid for adults of any age and it has been recently used with young adult populations (Boyle & Stack, 2014), data about validity of this measure specifically with older adult populations is not available. Furthermore the *ATTA* tasks of verbal fluency and visual figural responses makes this tool easy to use for use with older adults experiencing some cognitive loss, yet normative data is not available to support the validity of the tool with that population. Athuizen et al. (2010) proposed that more validation studies with more diverse samples could further strengthen confidence and promote the use of the *ATTA* creativity measure.

***Short Form Health Survey* (*SF-36*; Ware & Sherourne, 1992).** The *SF-36* is a 36 question self-report outcome measure designed to evaluate a person's perceived functional health, well-being and overall quality of life. The *SF-36* is a widely used tool which measures the HRQOL by including both the physical and mental components to health (Blane et al., 2008; Eshaghi, Ramezani, Shahsanaee, & Pooya, 2006). The *SF-36* has been shown to be both reliable and valid in general populations (Jenkinson, Wright, & Coulter, 1994). In a study aimed to evaluate the criterion validity and internal reliability of the *SF-36* in a large community sample, all subscales exceeded the 0.7 Cronbach's alpha level recommended for internal consistency (Jenkinson et al., 1994).

Research also supports the *SF-36* as a reliable and valid instrument for evaluating HRQOL in diverse populations (Eshaghi et al., 2006). Emphasis of the *SF-36* on everyday physical functioning makes it suitable for use with older adult populations living in community-based settings (Eshaghi et al., 2006; Hickey, Barker, McGee, & O'Boyle, 2005).

***The Geriatric Depression Scale* (*GDS*; *GDS-15*; Yesavage et al., 1982; Sheikh & Yesavage, 1986).** The *GDS-15* has shown to be a reliable and well-validated measure of depressive symptoms in older adults (Friedman, Heisel, & Delavan, 2005; Gautam & Houde, 2011; Nyunt et al., 2009), and is highly correlated with the original, longer version of the scale. It was developed to specifically measure components of depression in older adults, where higher scores denote higher levels of depression. The short form *GDS* questions relate to mood whereas questions related to physical symptoms can be found on the longer version (Greenberg, 2007). Both long and short forms of the *GDS* have been validated and found to be successful in differentiating depressed from non-depressed older adults with (Greenberg, 2007). The authors of the *GDS* did not recommend a clear cut-off score for depression in the either form (Sheikh & Yesavage, 1986 ; Wancata et al., 2006; Yesavage et al., 1982). In a systematic review of criterion validity for the *GDS* in 42 studies, the Wancata et al. (2006) found that a cut-off score of 5 or 6 for the *GDS-15* was used most often. In a study evaluating depressive symptoms across different genders, ages, ethnicity and comorbidities in community living older adults, the authors found that both the original *GDS* and the GDS-*15* had a good internal consistency (0.80), test-retest reliability (0.83), and inter-rater reliability (0.94) (Nyunt, Fones, Niti, & Ng, 2009). Because the *GDS-15* often has higher negative predictive

values, it may be a more suitable screen for possible depression than the *GDS-30* (Almeida & Almeida, 1999). Although various instruments to measure depression exist, the *GDS-15* has been validated with healthy, medically ill, and cognitively impaired older adults and is used extensively with older adult populations in a wide range of settings, including in community-based settings (de Craen, Heeren, & Gussekloo, 2003; Friedman et al., 2005; Gautam & Houde, 2011). Therefore, it is a valid and appropriate tool to use in screening for depressive symptoms among older adults residing in congregate senior housing.

***Montreal Cognitive Assessment* (*MoCA*; Nasreddine et al., 2005).** The *MoCA* is a 16-item paper-pencil screen of cognitive abilities designed to assess various domains of cognitive abilities such as short-term memory, visuospatial and executive functions, working memory, attention, concentration, language, and temporal and spatial orientation. When compared to another commonly used measure of cognition, the Mini-Mental State Examination (*MMSE*), the *MoCA* revealed higher sensitivity to cognitive decline (90%) than the *MMSE* (Freitas, Simões, Alves, & Santana, 2013; Nasreddine et al., 2005). This instrument can be used in a variety of settings, ages, and education levels, and is culturally sensitive (Luis, Keegan, & Mullan, 2009). In a validation study examining the psychometric properties of this measure in a sample of community-dwelling older adults, the authors found that the *MoCA* demonstrated good reliability and internal consistency (a = .905) (Freitas et al., 2012). The *MoCA* also showed excellent sensitivity (97%) in a community-based older adult cohort (Luis et al., 2009). In terms of sensitivity, these results are comparable to the preliminary validation study conducted by Nasreddine and colleagues (2005) (97–100% vs. 90–100%) (Luis et al., 2009). Overall,

the *MoCA* is a valid and appropriate tool to use in screening for age-related cognitive decline across the lifespan, including healthy community-dwelling older adult populations (Gluhm et al., 2013; Luis et al., 2009; Nasreddine et al., 2005).

Appendix C

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Appendix D

Participant Consent Form

ST. CATHERINE UNIVERSITY

The Experience and Impact of Creative Dance and Story Telling in Community Dwelling Elders

RESEARCH INFORMATION AND CONSENT FORM

Introduction:

You are invited to participate in a research study investigating the experience and benefits of dance. This study is being conducted by Lisa Dutton, Physical Therapy faculty, Catherine Sullivan and Kristi Haertl, Occupational Therapy faculty and their graduate research assistant Courtney Holmes, occupational therapy student and Therese Wengler, occupational therapy student. You were selected as a possible participant in this research because you will be participating in the Dancing Heart™ program and you expressed an interest in taking part of the research study associated with that program. Please read this form and ask questions before you decide whether to participate in the study.

Background Information:

The purpose of this study is to determine whether dance can improve memory, mood, balance, creativity and overall quality of life in older adults. Approximately 30 people are expected to participate in this research.

Procedures:

If you decide to participate, you will be asked to complete 4 assessments at three different points in time. The first time will be about one month prior to the start of the Dancing Heart™ program, the second time will be at the start of the program and the third time will be about 3 months (12 weeks) into the program. The 4 assessments will test your memory, mood, balance, creativity and overall quality of life. They will be administered 1:1 with you by one of the investigators listed above at a time and place convenient to you. The 4 assessments will take about 45 minutes to complete at each of the three points in time. Most of the assessments are simple surveys and we will assist you in completing them. The balance assessment will be ask you to complete activities such as standing up, standing with eyes open and closed, moving between chairs and picking an object off the floor. If you are interested in sharing your experience of the program verbally in an interview, you can also give consent below. Only a subset of the participants will be taking part in interviews. Those interviews will only take place once about 2 months after the start of the program and ask you about your experience and impressions of the program and its benefits. They will take place in a time and place convenient to you and be tape-recorded.

Risks and Benefits:
The study has only minimal risks. There is a minimal risk of physical injury to participants when completing the Berg Balance Scale. This scale is a commonly used assessment consisting of typical every-day activities, so it does not present a risk over and above the low risk of a normal physical therapy evaluation. This assessment will be conducted by or under the supervision of licensed physical therapist or occupational therapist and a gait belt will be used.
There are minimal benefits to participation for individual participants. Your scores on the various assessments and their changes over time are available upon request.

Compensation:
If you participate, compensation will be provided as follows: You will receive $15.00 if you participate in the study to the end (12 weeks/3 testing periods) and attend most Kairos Dancing Heart sessions. You will receive an additional $5.00 if you are selected to participate in the interview, for a total of $20.00 given as a check at the end of the study.

Confidentiality:
Any information obtained in connection with this research study that could identify you will be kept confidential. In any written reports or publications, no one will be identified or identifiable. Only group data will be presented of the assessment results. Unless you request it, no one else besides the researchers will know the results of your individual assessments. Interview results will include direct quotes but will not identify you.
We will keep the research results in a password protected computer and only the researcher(s) named in this form will have access to the records while we work on this project. We will finish analyzing the data by December of 2013. We will then destroy all original reports and identifying information that can be linked back to you. The tape recordings of the interviews will be transcribed by one of the researchers named above, or a research assistant, and the transcript will not include your name or any information identifying you. Only the transcript will be kept and the original tape will be destroyed by December 2013.

Voluntary nature of the study:
Participation in this research study is voluntary. Your decision whether or not to participate will not affect your future relations with Kairos Dance Theatre, Osceola Place Apartments or St. Catherine University in any way. You can refuse to answer any question if you choose. If you decide to participate, you are free to stop at any time without affecting these relationships, and no further data will be collected. Participation in all of the testing sessions and the interview is required for the full $20.00 payment.

Contacts and questions:
If you have any questions, please feel free to contact me, Lisa Dutton, at 651-690-8126 or Catherine Sullivan at 651-690-8602. You may ask questions now, or if you have any additional questions later, I will be happy to answer them. If you have other questions or concerns regarding the study and would like to talk to someone other than the researcher(s), you may also contact John Schmitt, PhD, Chair of the St. Catherine University Institutional Review Board, at (651) 690-7739.
You may keep a copy of this form for your records.

Statement of Consent:
You are making a decision whether or not to participate. Your signature indicates that you have read this information and your questions have been answered. Even after signing this form, please know that you may withdraw from the study at any time and no further data will be collected.

Check A or B below
A- I consent to participate in the study and only wish to do the assessments _____
B- I consent to participate in the study and wish to be considered for the interview and agree to be audiotaped _____

_____
Signature of Participant Date

_____
Signature of Researcher Date

Appendix E

Interview Guide - Dancing Heart Program Study

1. What is your name?
2. What is your age?
3. What is your general mobility level within your home?
4. What is your general mobility level within your community?
5. What was your past experience with music?
6. What was your past experience with dance?
7. When you first heard about the Dancing Heart Program, what was your initial expectation of the program?
8. Can you describe your reaction to the first time you participated in Dancing Hearts?
9. Were you surprised by any aspect of the program?
10. Which aspect of the program do you particularly enjoy?
11. Can you describe what you like about music played in the program?
12. Can you tell me more your experience of the dancing part of the program?
13. Were any aspects of the Dancing Heart programs challenging?
14. Do you feel that the movements you do during Dancing Hearts have an impact on your health?
15. Have you felt a change in your level of mobility since participating in Dancing Hearts?
16. Does the program trigger some special memories? How does it make you feel?
17. What is your relation to the other participants in the program during Dancing Hearts?
18. Do you feel that experiencing the program together influences your interaction with others outside the program?
19. Do you feel that the program stimulates your imagination or creativity? Can you give examples?
20. Are you learning new things (songs, movements) in the context of this program?
21. Overall, do you feel that the program is having an impact on your mood, or on how positive you feel about your life?
22. What is your favorite part of the program?
23. Do you have any suggestions for the program or future sessions?
24. Is there anything else you wish to say about your experience of Dancing Hearts?
25. Thank you for your participation!

Appendix F

Code and Category Themes

CODING SHEET		
	Code	Description /notes
DEMOGRAPHICS/PERSONAL HISTORY		
Autobiographical memories	DEMO-BIO	Recounting of one's lives, not explicitly related to Kairos Any recounting of one's life not explicitly related to Kairos
Cultural/ethnic experience	DEMO-CULT	Recounting of own tradition, culture Birthday, celebration
Experiences with music/art/creativity	DEMO-ART	Recounting experiences involving participation in the arts (audience or art making)
Other	DEMO-OTH	Not sure, "unintel"
HIST		
Reminiscence triggered by dancing hearts	HIST-REMIN	Recounting of memory triggered by dancing heart experience
Self sharing/disclosure with Dancing hearts participants	HIST-SHAR	Recounting something that shared with dancing hearts participants
Other	HIST-OTH	"thank you" (i.e., "thank you for sharing") Not sure, "unintel"
Leaning/memory: MEM		
New learning song/music	MEM-MUS	New learning of music-related material within Dancing Hearts Rhyme
New learning, physical movement	MEM-PHYS	New learning of movement, dance within Dancing Hearts describes doing/learning new movement
New learning each other	MEM-OTH	New learning about one another (not observed) NOTE: Only use this code if cannot use the OBS code below for specific learning about other participants
Relearning	MEM-LEAR	Learning something that used to know but forgot.

		Memory triggered by Kairos (i.e, by music, poem, etc.)
Forgetting	MEM-FORG	Discusses something that can't remember or can't remember well NOTE: If discusses overall loss in memory, would be coded under HEALT-STAT below
Other	MEM-OTH	Not sure, "unintel"
Creativity/imagination/flow: CREAT		
imaginative storytelling self	CREAT-STORY	NOTE: If observed in others, would be under OBS code below Not observed Describes creating stories in Kairos, stimulated by experience, imagination stimulated, "think on feet"/problem solve
Engagement/ Lose track of time	CREAT-ENGAG	Engagement in Kairos activities. Includes sense of "Flow" (total immersion, losing track of time)
New feeling/experience	CREAT-FEEL	Describes experiences within Kairos that didn't feel or feel the same way before.
New movement, creating new dance	CREAT-MOV	Describes creating new movement, dance (NOT OBSERVED, if observed code: OBS-MOV)
Other	CREAT-OTH	Not sure, "unintel"
Challenges: CHALL		
Recurring/past challenges	CHALL-PAST	Needs to explicitly describe them as challenges, NOTE: If not explicit challenges, code as HIST-BIO for autobiographical memories
New Challenges	CHALL-NEW	New challenges within Kairos. NOTE: If not related to Kairos, code as HIST-BIO
Collaborative problem solving	CHALL-SOLV	
Other	CHALL-OTH	Not sure, "unintel"
Emotions (self): EMOT		
Anticipation/Hope	EMOT-ANT	Looking forward to (related to Kairos)
Joy – fun – positivie mood self	EMOT-POS	Related to Kairos experience Laughter, "laugh" Any positive (i.e., "good", "fun")
Poingnancy	EMOT-POIGN	Simultaneous sadness and happiness. Related to Kairos experience
Nostalgia	EMOT-NOST	Wistful about past (sad). Related to Kairos

Sadness	EMOT-SAD	Mourning, crying, depressed feelings. Related to Kairos
Spiritual/transcendent	EMOT-SPIR	Related to Kairos. If not: code under DEMO for personal demographics
Other	EMOT-OTH	Not sure, "unintel" "um"
Socio-Emotional connection: SOC		
Feeling connection	SOC-CONN	outside Kairos with Kairos participants, nor not specified where, but still with Kairos participants (OR non participant)
Feeling connection within Kairos	SOC-KAIR	During Kairos (include: new participants, and "as group")
Feeling empathy	SOC-EMP	With Kairos participants, during or outside Kairos
Feeling of trust	SOC-TRUS	Witih Kairos participants or Kairos facilitators, whether during or outside Kairos
Feeling of validation	SOC-VAL	With Kairos participants or Kairos facilitators during kairos
Other	SOC-OTH	Not sure, "unintel"
Code both	SOC-CONN and SOC-KAIR	Does not specify during (SOC-KAIR) or outside (SOC-CONN) Kairos
Observe/describe others: OBS		
Observation of Joy – fun – mood in others	OBS-FUN	
Observe imaginative storytelling other	OBS-IMAG	
Life stories others	OBS-STORY	Include cultural references of others (code DEMO-CUL if self/not observed others)
New physical movement others	OBS-MOV	Observe moving, describes observing movement of others in Kairos (code MEM-PHYS if learn new movement self/not describing observed others)
Other	OBS-OTH	Not sure, "unintel"
Health: HEALTH		
Health status and changes -general	HEALTH-STAT	Describes physical, cognitive, emotional health status. Includes health changes (worsening or improving) before Kairos Include mobility status, exercise
Changes physical health/mobility due to Kairos	HEALTH-PHYS	Describes changes to physical health attributed to Kairos

Changes cognitive health/memory due to Kairos	HEALTH-MEM	Describes changes to cognitive health attributed to Kairos
Changes mood due to Kairos	HEALTH-MOOD	Describes changes to emotional health attributed to Kairos
Barrier to health	HEALTH-BARR	Describes challenges to health
Other	HEALTH-OTH	Not sure, "unintel"
Kairos "staff": KAIR		
Encouraging, supportive,		Describes Kairo's facilitators engaging in acts of encouragement/support towards participants
Creative opportunities.	KAIR-OPP	Describes creative opportunities in Kairos
Want more Kairos.	KAIR-MORE	Express either sadness Kairos is ending or the want for it to continue
Other	KAIR-OTH	Not sure, "unintel"
Kairos staff	KAIR-STAFF	Mentions Kairos staff, "they"
Expectations	KAIR-EXP	Describes expectations prior to Kairos/signing up, describes signing up