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**ENGAGEMENT OF SENIORS:  
'HOW' AND 'WHY' ENGAGEMENT PROFILES CHANGE OVER TIME**

by

Kelly Carr

A Thesis

Submitted to the Faculty of Graduate Studies  
through the Faculty of Human Kinetics  
in Partial Fulfillment of the Requirements for  
the Degree of Master of Human Kinetics at the  
University of Windsor

Windsor, Ontario, Canada

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**Engagement of Seniors:  
'How' and 'Why' Engagement Profiles Change Over Time**

by

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16 December, 2013

### **Declaration of Originality**

I hereby certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication.

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## **Abstract**

This study explored ‘how’ and ‘why’ engagement profiles change throughout older adulthood within a framework of successful aging. A convergent parallel mixed methods design was employed. Fifty-four participants (mean age = 79.17, age range = 65-97 years; 21 males, 33 females) completed questionnaires to quantify ‘past’ and ‘present’ engagement. Focus groups segmented by decade of life and semi-structured interviews were completed with a subsample of participants (n = 42). Results indicated that participation in productive and active leisure activities decreased with increasing age, while social and passive leisure engagement remained stable. This change in engagement pattern may be a function of the themes derived from the fundamental qualitative description: (a) health and physical limitations, (b) death, (c) freedom, (d) desire, and (e) external influential factors. The ‘how’ and ‘why’ of engagement changes in later life were often embedded within the lay-based, multi-dimensional model of successful aging proposed herein.

## Dedication

*Daddy,*

For teaching me the truest lessons of life:

*Hard work* is the essence of all successes,  
and *ambition* is a requirement for reaching all dreams.

*Pride* comes when mediocrity is discarded,  
and *happiness* when life is embraced.

*Love,*

*your little girl*

*“I’ve never been scared of a challenge before.”*

~ Kevin Carr

## **Acknowledgements**

This document symbolizes the completion of a 28-month personal journey. When I reflect on this time, it is clear that I never traveled alone. With that being said, the individuals acknowledged below are the sole reason the remaining pages exist, and thus these pages serve as the most important piece of this document.

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*Patti* – for your longstanding commitment to my success in graduate school. You have provided endless opportunities and continuous guidance that has fostered my confidence, curiosity, and independence. It is these qualities that will serve me well for a lifetime, making me forever grateful to you as my advisor and friend.

### **Dr. Sean Horton**

*Sean* – for believing in limitless possibilities and that the moon is within reach. You view my potential in a way that I do not yet understand, but aspire to achieve, and for that I thank you. Your guidance and friendship are among the most valuable things I have received during my degree.

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### **Brittney Becker and Alexandra Wiseman**

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## **Participants**

For the participants who welcomed me to walk with them as they reflected on their personal aging process – thank you, it was a privilege.

### **Nancy Carr**

*Mom* – for being the only person who truly understands the journey. You have witnessed each step, and without your patience and continuous support I would have been lost long ago.

### **Kevin Carr**

*Daddy* – for carrying me through the days when I struggled to put one foot in front of the other.



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## **I. Introduction**

The greying of the population is a thoroughly documented and commonly alluded to phenomenon among researchers in the field of aging. These shifting demographics require such acknowledgement as they are projected to lead to an increase in the overall proportion of the population with a chronic condition (Denton & Spencer, 2010). As a result, the coming decades will be burdened by a heavy strain on healthcare services and medical professionals, as well as societal and economic pressures (Denton & Spencer, 2010; Wiener & Tilly, 2002). Therefore, it is imperative that older adults increase the years in which they maintain highly functional and independent lives (Crimmins, Hayward, Hagedorn, Saito, & Brouard, 2009; Health Canada, 2002), which has ultimately led to a globally renewed interest in the concept of successful aging.

Though there is minimal consensus and clarity regarding the terminology and measurement surrounding the concept of successful aging (Bowling, 1993; Depp & Jeste, 2006; Jeste, 2005), consistency has been reported with the inclusion of an active engagement in life within various models of successful aging, including theoretically- and lay-based definitions (Bowling & Dieppe, 2005; Knight & Ricciardelli, 2003; Peel, Barlett, & McClure, 2004). In addition, engagement has also been identified as a predictor of achieving success in later adulthood (i.e., Lee & Fan, 2008; Montross et al., 2006). Evidently, regardless of its role, maintaining engagement in later life provides an important contribution to the concept of successful aging.

Active engagement in life has been defined by Rowe and Kahn (1997) to include the maintenance of interpersonal relationships (i.e., contact with others, and emotional or direct support), as well as a continued participation in productive activities (i.e., activities



that create societal value). Recently, an active engagement in life has been expanded beyond participation in solely productive pursuits (Liffiton, Horton, Baker, & Weir, 2012) to include a breadth of engagement opportunities (i.e., regenerative, discretionary and consumptive activities; Maier & Klumb, 2005). Thus, it may be appropriate to consider ‘engagement’ as an all-encompassing term for one’s participation in a range of activities (i.e., productive, social, or leisure pursuits; Mendes de Leon, 2005). However, regardless of the nomenclature subscribed to, literature continues to suggest that engagement provides a unique and essential component to successful aging through the provision of various benefits. To illustrate, examples of such benefits include a decreased risk of mortality (Maier & Klumb, 2005; Mendes de Leon, Glass, & Berkman, 2003; Menec, 2003), functional impairment (Andrew, 2005; Hinterlong, Morrow-Howell, & Rozario, 2007; Yum & Lightfoot, 2005; Zunzunegui et al., 2005), and cognitive decline (Everard, Lach, Fisher, & Baum, 2000; Seeman, Lusignolo, Albert, & Berkman, 2001), as well as increased self-reported health (Everard et al., 2000; Hinterlong et al., 2007; Warburton & Peel, 2008), life satisfaction (Bourque, Pushkar, Bonneville, & Beland, 2005; McAuley et al., 2000; Newsom & Schulz, 1996), and feelings of wellbeing (Herzog, Franks, Markus, & Holmberg, 1998; Thoits & Hewitt, 2001). Being mindful of the important implications of continued engagement, it is of value to identify the time dedicated to specific activities in older adulthood.

The activity that consumes the majority of an older adult’s day is sleeping, as it accounts for eight to nine hours of a 24-hour period (Chilvers, Corr, & Singlehurst, 2010; Fricke & Unsworth, 2001; McKenna, Broome, & Liddle, 2007). Sleeping, along with personal maintenance tasks (i.e., dressing, bathing, and eating) and solitary pursuits (i.e.,

reading, watching television), create a broad category identified as ‘passive leisure activities’ (Gauthier & Smeeding, 2003; Gauthier & Smeeding, 2010), which the majority of ‘free’ time is reallocated to following retirement (Gauthier & Smeeding, 2003; Gauthier & Smeeding, 2010; Krantz-Kent & Stewart, 2007). Unfortunately, there is a lack of research regarding the amount of time dedicated to specific solitary activities in older adulthood. Similarly, specific social and active leisure activities remain absent within the time-use literature. However, it has been documented that older adults spend the majority of time alone (Cornwell, 2011) within their own home (Fricke & Unsworth, 2001; McKenna et al., 2007), which corresponds to the abundance of time spent engaging in passive leisure pursuits.

Though older adults devote the majority of time to passive leisure activities, productive activities account, on average, for over three hours of an older adult’s day (McKinnon, 1992). Of the time allocated to productive activities, participation in domestic tasks (i.e., home repairs, yard and garden care, meal preparation, laundry, indoor cleaning) exceeds that of paid or voluntary work and caregiving activities (Krantz-Kent, 2005; McKinnon, 1992). Despite participation in voluntary pursuits remaining high in later life (i.e., 28% of adults 75 years of age and older volunteer formally; Zedlewski & Schaner, 2005), such involvement is expected to decline with age (Fast, Dosman, & Moran, 2006; Johnson & Schaner, 2005). Similarly, with increasing age, a reduction in time dedicated to paid work is experienced (Fast et al., 2006; Krantz-Kent & Stewart, 2007). For example, of the individuals who *maintain* employment in later adulthood, persons 70 years of age and older work nearly 11 less hours weekly than 65-69 year olds who work 7.5 less hours weekly than 55-59 year olds (Krantz-Kent, 2005).

Overall, current time use literature in the field of aging provides a brief overview of how older adults spend time. Though extremely limited, it is this foundation that is required to initiate future research projects aimed at detailing time use patterns across the decades of later adulthood. The potential of such research is invaluable, as discerning engagement profiles of older adults may prove to be the primary step to identifying how engagement changes during later life. Furthermore, it would be appropriate to speculate that the natural progression of such research would lead to the development of explanatory theories regarding engagement changes. Taken together, it is these research aspirations, built upon the existing literature, that are essential to providing the comprehensive understanding of engagement in older adulthood that is required to create strategies and opportunities to maintain and enhance engagement in later life. Therefore, the purpose of this study was to explore ‘how’ and ‘why’ engagement profiles change throughout older adulthood within a framework of successful aging. Essentially, the research question that was addressed was twofold: (a) ‘how’ do engagement profiles of older adults change over a five year time frame, as well as across different decades of adulthood (i.e., 65-74, 75-84, 85+ years of age), and (b) ‘why’ do engagement profiles of older adults change over a five year time frame, as well as across different decades of adulthood (i.e., 65-74, 75-84, 85+ years of age)?

## II. Methodology

A *fixed* mixed methods research approach was employed as both quantitative and qualitative methods were predetermined and implemented as intended (Creswell & Plano Clark, 2011). The specific mixed methods approach that guided the research process was a mixed methods convergent parallel design. This design consisted of concurrent quantitative and qualitative data collection, followed by independent analysis of each data type. Differing data types remained independent and were integrated solely at the level of interpretation (Creswell & Plano Clark, 2011). Since both methods were required to fully explore the research question, quantitative and qualitative methods were provided equal status (or degree of importance) as seen within a traditional convergent parallel design (Creswell & Plano Clark, 2011). This approach was rationalized as it allowed the collection of different, yet complementary data that provided a more complete understanding of the research inquiry (Creswell & Plano Clark, 2011). Specifically, quantitative methods were most appropriate to examine ‘how’ engagement profiles changed throughout older adulthood, while qualitative methods were required to explore ‘why’ engagement profiles changed throughout older adulthood. Explanation of the methods are organized in the chronological order in which participants completed the study: (1) ‘Part 1: Quantitative Methodology’ which included the completion of the ‘past’ and ‘present’ engagement questionnaires, and (2) ‘Part 2: Qualitative Methodology’ which included the completion of focus groups and semi-structured interviews. This research study received clearance from the University of Windsor’s Research Ethics Board.

## **Part 1: Quantitative Methodology**

**Participants.** Fifty-four community dwelling older adults 65 years of age and older were recruited within Windsor and Essex County (mean age = 79.17 years, age range = 65-97 years; 21 males, 33 females). The number of participants within each decade of life was as follows: 65-74 years of age (n = 21), 75-84 years of age (n = 21), and 85+ years of age (n = 12). Locations of recruitment included the Centre for Seniors (n = 22), a senior's walking program (n = 8), a senior's exercise program (n = 5), and a local church (n = 7). The remaining 12 participants were recruited by 'word of mouth' in which information regarding the study was provided to them informally (i.e., by a friend). Prior to participation, informed consent and demographic information (Appendix A) was obtained from each participant.

**Procedures.** Participants were required to complete two questionnaires that were developed to quantify current and past engagement levels of older adults in productive, social, and leisure activities (adapted from Liffiton, 2012). Data collection through the use of questionnaires has been successfully implemented in previous studies with older adults, which included comparable questionnaire items (Statistics Canada, 2010a) and likert scales (Glass, Mendes de Leon, Marottoli, & Berkman, 1999; Mendes de Leon et al., 2003; Menec, 2003). The data collected through these questionnaires was a means to determine 'how' engagement profiles changed throughout older adulthood. The questionnaires consisted of 30 identical items that differed by the instructions provided to the participants. Specifically, on the 'Present Engagement Questionnaire' participants were instructed to indicate levels of engagement for each item "*currently*" (Appendix B). The 'Present Engagement Questionnaire' was followed by the completion of the 'Past

Engagement Questionnaire’ where participants were instructed to indicate levels of engagement for each item “*five years ago*” (Appendix C). It is important to note that retrospective methods of data collection in a population of older adults (as per the ‘Past Engagement Questionnaire’) are evidenced to be an accurate source of information (Blair et al., 1991; Falkner, Tervisan, & McCann, 1999; Klumb & Baltes, 1999a; MacDonald et al., 2009; Young, Medic, Weir, & Starkes, 2008). Both questionnaires utilized a four-point likert scale to determine weekly participation: *never* (0 times per week), *seldom* (1-2 times per week), *sometimes* (3-4 times per week), and *often* (5-7 times per week). Both questionnaires also measured the daily number of hours that participants engaged in each item *on the days the item was engaged in* through a six-point likert scale: *never* (determined through weekly participation and indicated 0 hours per day), *less than 30 minutes*, *30 minutes to one hour*, *one hour to two hours*, *two hours to four hours*, and *greater than four hours*. The ‘Present Engagement Questionnaire’ also required participants to categorize each of the 30 activities as either productive, social, active leisure, or passive leisure. To ensure consistent conceptualization of each term, theoretically-based definitions of each activity type were provided to participants (Liffiton et al., 2012; please see Appendix D for the definitions of activity types provided to the participants).

**Statistical analysis.** Different statistical methods were used to analyze the data pertaining to activity categorization and the data examining ‘how’ engagement profiles change throughout older adulthood. Therefore, statistical methods have been separated accordingly.

***Activity categorization.*** Participants were asked to categorize each of the individual 30 activities into an activity category: productive, social, passive leisure, or active leisure. Once all participants had classified the activities, the totals for each activity were generated to determine the preferred activity category. The most frequent activity type for each specific activity was coded ‘yes’, while all other responses for that specific activity were coded ‘no’. This created a two-level categorical dependent variable for each specific activity. To determine if an activity category for a specific activity was selected by significantly more than 50% of the participants, a one-tailed binomial probability test was conducted for each of the 30 specific activities. In using this test, it was assumed that each level of the variable (‘yes’ and ‘no’) was equally likely to occur. Therefore, a significant result indicated that the proportion of ‘yes’ was significantly greater than what would be expected by chance. Significance was determined at a p-value of 0.05. STATISTIA 12 was used to complete all binomial probability tests as it provided the option to conduct a one-tailed test.

***‘How’ engagement profiles change throughout older adulthood.*** Participant responses on the ‘past’ and ‘present’ engagement questionnaires were coded so that higher numbers represented a greater frequency of weekly participation (1 = *never*, 2 = *seldom*, 3 = *sometimes*, 4 = *often*) or more daily time spent participating (1 = *0 hours*, 2 = *less than 30 minutes*, 3 = *30 minutes to one hour*, 4 = *one hour to two hours*, 5 = *two hours to four hours*, 6 = *greater than four hours*). Coding the likert scale provided an opportunity to anchor mean values of participation to descriptors. For example, if the mean value for the frequency of participation was 2.22, this value would be placed between two and three on the likert scale which corresponded with *one to four days per*

*week* by using the range of the days from the two likert points. Examination of skewness and kurtosis values indicated that all data was normally distributed. Analyses were completed for both daily and weekly participation separately.

*Variables of interest.* Three variables of interest were identified within the series of mixed design ANOVAs conducted to examine ‘how’ engagement profiles changed throughout older adulthood: (a) age, (b) time, and (c) activity type *or* activity. For all analyses ‘age’ was a three-level between subjects variable. These levels included 65-74 year olds, 75-84 year olds, and 85+ year olds. All analyses also included ‘time’ as a two-level within subjects variable. These levels included ‘past’, which described participation in activity five years ago, and ‘present’, which described current participation in activity. The third variable within the series of ANOVAs was either activity type *or* activity. When using the variable ‘activity type’ it allowed for the examination of differences between four groups of activities: productive, social, active leisure, and passive leisure. Therefore, ‘activity type’ was a four-level within subjects variable developed through the merging of specific activities based on the activity categorization provided by participants. However, the number of levels associated with the variable termed ‘activity’ was dependent on which activity type was being examined. When differences between specific productive activities were examined ‘activity’ was a nine-level variable. When differences between specific social activities were examined ‘activity’ became an eight-level variable. When the analyses were associated with active leisure activities ‘activity’ became a seven-level variable, whereas within the analyses associated with passive leisure activities ‘activity’ became a six-level variable. Regardless of the activity type



being analyzed, ‘activity’ was always a within subjects variable. Table 1 identifies all levels of ‘activity’ based on the activity type that was examined.

Table 1.

*Levels of ‘activity’ variable for each activity type.*

Activity Type	Levels of ‘Activity’
Productive Activities	Volunteer work Light housework Care for others Educational activities Playing a musical instrument Full- or part-time employment Home repairs Heavy housework Service, club, or fraternal organization activities
Social Activities	Family/friendship activities Visiting others Cultural activities Church-related activities Bingo, cards, or other games Attending theatre events Neighbourhood or community activities Phone conversations
Active Leisure Activities	Moderate sports or recreational activities Outdoor gardening, sweeping the balcony or stairs Strenuous sports or recreational activities Exercise to increase muscle strength and endurance Taking a walk outside your home or yard Light sports or recreational activities Lawn work or yard care
Passive Leisure Activities	Watching television Handicrafts Reading Listening to the radio or music Computer activities Crosswords, puzzles, etc.

*Note.* Levels of ‘activity’ were determined by participant activity categorization.

*Series of ANOVAs.* To determine differences in participation between activity types, the 30 activities identified on the ‘past’ and ‘present’ engagement questionnaires were grouped according to the activity categorization determined by the participants (Table 1). Differences were examined through a mixed design 3 (Age) x 2 (Time) x 4 (Activity Type) ANOVA with repeated measures on ‘time’ and ‘activity type’. To examine differences in participation within each activity type four separate mixed design ANOVAs were conducted to include one analysis for each activity type:

- productive activities: 3 (Age) x 2 (Time) x 9 (Activity)
- social activities: 3 (Age) x 2 (Time) x 8 (Activity)
- active leisure activities: 3 (Age) x 2 (Time) x 7 (Activity)
- passive leisure activities: 3 (Age) x 2 (Time) x 6 (Activity)

Significant F-values were determined at a p-value of 0.05. Greenhouse-Geisser correction was employed for all analyses as sphericity was violated. Only F-values having a small effect size or greater ( $\eta_p^2 \geq 0.01$ ) were analyzed to ensure the presence of practical significance within the associated effect (Cohen, 1988). Significant interactions were examined using analysis of simple effects. Where applicable, significant F-values were post hoc tested through pairwise comparisons, and evaluated based on Bonferroni’s adjustment for multiple comparisons.

## **Part 2: Qualitative Methodology**

Fundamental qualitative description was the framework used to develop the qualitative methodology. In the simplest form, this qualitative method seeks to understand the ‘facts’ of a phenomenon or event, and convey these ‘facts’ in a coherent fashion (Sandelowski, 2000; Sandelowski, 2010). This was an appropriate approach as

the purpose of the qualitative methods was to provide objective, generic reasons for changes in engagement patterns throughout older adulthood. In addition, this approach is documented to be suitable when results are to be communicated to policy makers and practitioners (Patton, 2002; Sandelowski, 2000), as it ensures the maintenance of ‘staying close’ to the data, and thus involves minimal interpretation (Sandelowski, 2000; Sandelowski, 2010). As a result, fundamental qualitative description has strong descriptive and interpretative validity (Maxwell, 1992; Sandelowski, 2000). Therefore, this method of research allowed for a comprehensive description in plain language, outside of a philosophical or abstract framework (Sandelowski, 2000). The removal of qualitative research from its philosophical and theoretical context is supported by Patton (2002) who stated, “in real-world practice, methods can be separated from the epistemology out of which they have emerged” (p. 136). Thus, fundamental qualitative description was a reasonable approach to pursue (Patton, 2002; Sandelowski, 2000). However, it is important to note that fundamental qualitative description is not completely atheoretical as it tends to relate to naturalistic inquiry, in that it is committed to examining a phenomenon or event in its natural state without manipulation (Lincoln & Guba, 1985).

In light of Sandelowski’s work in 2010 that identified the improper use of fundamental qualitative research throughout the previous decade, this study remained mindful of the true tenets of this research method throughout its application. Specifically, this study moved beyond simply stating fundamental qualitative research as its method, and detailed its procedures for sampling, data collection, data analysis, and the re-

presentation of results. Such clarity of these research procedures is a necessity of fundamental qualitative research as highlighted by Sandelowski (2010).

**Participants.** A subsample of participants (n = 42) from ‘Part 1: Quantitative Methodology’ were recruited to participate in ‘Part 2: Qualitative Methodology’ (mean age = 79.6 years, age range = 65-97 years; 19 males, 23 females). Participants included individuals from the Centre for Seniors (n = 11), a senior’s walking program (n = 8), a senior’s exercise program (n = 4), and a local church (n = 7). Similar to the quantitative methodology, 12 individuals were recruited through ‘word of mouth’. Purposeful sampling was used in an attempt to recruit ‘information rich’ participants throughout all decades of older adulthood (Patton, 2002). The specific technique employed was typical case sampling as it was useful in identifying ‘typical’ or ‘average’ cases of interest (Patton, 2002). However, despite recruitment efforts, participants 85 years of age and older were underrepresented within the sample. Specifically, when compared across the difference decades of older adulthood, 17 participants were between 65 and 74 years of age, 17 participants were between 75 and 84 years of age, and eight participants were 85 years of age and older. Following participation in the qualitative methodology, participants received monetary compensation of \$10, as well as a kinesiology t-shirt, water bottle, and bag.

**Focus groups.** Focus groups are a form of qualitative research that generate data through communication and interactions between research participants (Kitzinger, 1995). The use of focus groups within an older adult population has provided successful outcomes in a variety of research fields (i.e., Demiris et al., 2004; Krause, Chatters, Meltzer, & Morgan, 2000; Melenhorst, Rogers, & Bouwhuis, 2006). Therefore, focus

groups acted as an integral component of the methodology, as they possessed the potential to develop explanatory theory (Johnson & Onwuegbuzie, 2004), and thus provided insight on ‘why’ engagement profiles changed throughout older adulthood.

A total of six highly structured focus groups were conducted consisting of five to six participants per group. In the end, three focus groups were conducted that included 65-74 year olds, and three focus groups were conducted that included 75-84 year olds. However, due to difficulties with recruitment, focus groups were not practical for adults 85 years of age or older, and thus were not included in this method of data collection.

A highly structured approach was utilized for the focus groups as the study included a pre-existing research agenda seeking to gain insight on pre-determined research questions (Morgan, 1997). To ensure the structure and the unbiased nature of the focus group was maintained, a standardized interview guide containing open-ended questions and pre-planned probes (Appendix E) was followed by the moderator. The standardized interview guide consisted of nine questions (Côté -Arsenault & Morrison-Beedy, 1999) and was developed following a thorough review of relevant literature, and was revised by experts in the field of aging (Morgan, 1998). Though five to six participants per focus group was small in size, it was rationalized for reasons of practicality: (a) it eased the strain on recruitment requirements, (b) it provided a greater opportunity for individuals to speak, and (c) it reduced the involvement of the moderator in managing the discussion (Morgan, 1997). Furthermore, when considering unique circumstances (Kitzinger, 1995), such as hearing loss, within an older adult population, smaller groups reduced hearing difficulties by minimizing interruptions, preventing more

than one person from speaking at a time, and allowed all individuals to be seated more closely together.

Focus groups were segmented by decade of life (65-74 and 75-84 years of age). This allowed for homogeneity within a focus group, which ensured individuals could relate to similar life experiences (Kitzinger, 1995; Morgan, 1997). In addition, the ability to make comparisons between decades of life was provided through the highly structured and segmented nature of the focus groups (Morgan, 1997). Each focus group was audio recorded and lasted approximately 75 to 120 minutes (Kitzinger, 1995). In an attempt to meet the needs and/or preferences of the participants, focus groups were conducted in convenient locations: (a) the Human Kinetics building at the University of Windsor, (b) the Center for Seniors in Windsor, (c) the home of a participant, and (d) a local church that participants attended. In order to facilitate discussion, participants were seated at a circular or rectangular table with the moderator to ensure face-to-face communication (Powell & Single, 1996). To further increase comfort of the participants, each individual was provided with a nametag, and light refreshments were available (Folch-Lyon & Trost, 1981). An additional member of the research team was present at each focus group to record detailed field notes such as speaker changes (i.e., when person 'A' stopped speaking, and person 'B' started speaking), underlying tones of conversation (i.e., sarcasm), and non-verbal communication (i.e., body language; Côté-Arsenault & Morrison-Beedy, 1999).

Commencement of focus groups included a brief, general introduction of the purpose of the focus group, and a short explanation of the etiquette expected within the focus group (i.e., one person speaks at a time; Morgan, 1997). Additionally, it was

emphasized to the participants that personal experiences are a vital source of knowledge and that the goal of the focus group was to learn from these past stories and the participants' thoughts (Morgan, 1997). Participants were encouraged to discuss topics with one another in an attempt to minimize the moderator's involvement (Kitzinger, 1995).

Discussion began with the use of an 'icebreaker' question (Morgan, 1997). Each participant stated their name and something that they enjoyed or looked forward to doing (i.e., walking their dog). Since the overarching topic of the focus group was engagement, answers to this 'icebreaker' question could be revisited by the moderator during different stages of discussion. In an attempt to follow-up the 'icebreaker' with a more thought provoking question, participants were asked what it meant to them to age successfully. Next, a 'discussion-starter' question was asked to present the basic topic for the remainder of the focus group. The objective of the 'discussion-starter' question was to ensure each participant provided a response so that the group as a whole was aware of the importance of receiving input from each member (Morgan, 1997). To facilitate such an approach, participants were asked to write responses to the 'discussion starter' question on paper in order to reinforce commitment to one's answers (Morgan, 1997). Furthermore, the 'discussion-starter' question allowed participants to reflect on personal experiences and identify a personal connection with the overall topic (Krueger, 1998). The question was "what do you value or appreciate about being able to participate in activity?" This question required participants to record five thoughts related to the question, and decide if what they valued about participating in activity was related to home-based activities, community based activities, or both.

Following the ‘discussion-starter’ question, participants were provided cards identifying the 30 activities included on the ‘past’ and ‘present’ engagement questionnaires. Within each focus group, participants were required to come to a group consensus regarding the categorization of each activity as productive, social, active leisure, or passive leisure. This activity led into the main discussion regarding ‘why’ engagement profiles changed throughout older adulthood. The standardized interview guide was separated by different types of engagement activities as identified by Liffiton (2012), however, to maintain flow of conversation, types of engagement activities were discussed in the natural order in which they were initiated within the focus group. After all questions on the interview guide had been discussed, the final question addressed remaining thoughts, concerns, or viewpoints of each participant (Morgan, 1998).

**Semi-structured interviews.** Semi-structured interviews provide a focused qualitative exploration of a specific topic (Fossey, Harvey, McDermott, & Davidson, 2002) and therefore, can provide in-depth insight on themes derived from focus group research (Morgan, 1997). As such, semi-structured interviews were conducted with a random sample of the participants ( $n = 8$ ) from the focus groups, with an even number of participants representing each decade of life ( $n = 4$ ). Additionally, this qualitative method proved more practical for individuals 85 years of age and older, and thus was used as a substitute for focus groups among individuals in the oldest decade of adulthood. Overall, eight participants 85 years of age or older participated in a semi-structured interview.

Semi-structured interviews were conducted by the moderator of the focus groups in the Human Kinetics building at the University of Windsor, at the Center for Seniors in Windsor, or at the home of the participant. Each interview was audio recorded and lasted



approximately 15 to 30 minutes. Semi-structured interviews for the participants 85 years of age and older followed the standardized interview guide developed for the focus groups, with the exception of the group activity. Semi-structured interviews conducted as a follow-up to focus groups used individualized interview guides based on participants' responses to the 'past' and 'present' engagement questionnaires (please see Appendix F for an example of a follow-up semi-structured interview). Flexibility within the semi-structured interviews was permitted through the use of appropriate probes to extract the greatest amount of data from each participant (Fossey et al., 2002).

**Data analysis.** Data from the focus groups and semi-structured interviews were transcribed verbatim and corrected against audiotapes. Transcripts of focus groups and semi-structured interviews remained separate during analysis despite utilizing the same analytical approach to interpret findings. This separation was rationalized as focus groups and interviews were conducted in different social contexts (i.e., group setting versus individual setting) that had the potential to influence participants' responses. Thus, group influences were taken into account when analyzing focus group responses and therefore, maintaining separation between data collection approaches allowed comparisons of themes that did, or did not emerge, due to contextual factors (Smithson, 2000).

Data analysis included qualitative content analysis as suggested by qualitative fundamental description (Sandelowski, 2000; Sandelowski, 2010). Since qualitative content analysis is simply a coherent organization of consistencies within qualitative data (Patton, 2002), the specific approach taken has been explicitly described. Based on the transcribed data, relevant information was highlighted to create broad themes among responses. Using an inductive approach, *meaning units* were developed from the specific

responses within these broad themes (Côté, Salmela, Baria, & Russell, 1993; Tesch, 1990). This process occurred within and between focus groups and interviews (Maykut & Morehouse, 1994). Subsequently, through continuous comparisons and organizations, distinct themes based on commonalities of *meaning units* were created (Côté et al., 1993; Tesch, 1990). This constant comparative method continued until no new themes were identified and data saturation was achieved (Ryan & Bernard, 2003; Taylor & Bogdan, 1984). This analytical approach ensured that the themes that emerged remained ‘close’ to the data (Sandelowski, 2000; Taylor & Bogdan, 1984). The use of a constant comparative method within a framework of fundamental qualitative description has been used and supported in previous literature (Duchshner et al., 2009; Kelner et al., 2004).

Comparisons of the themes across qualitative methods (i.e., focus groups versus interviews) resulted in collapsing all data together, as no new themes emerged from semi-structured interviews. Similarities and differences between decades of life (i.e., 65-74, 75-84, 85+ years of age) were also examined and identified were applicable.

**Rigor of research.** Rigor of research was ensured through the incorporation of verification strategies associated with validity and reliability of qualitative research as outlined by Morse, Barrett, Mayan, Olson, and Spiers (2002). Primarily, methodological coherence was attained through modification of the research question specific to the qualitative methodology. During data collection it became evident that the data provided through qualitative means was inappropriate to answer ‘how’ engagement profiles changed throughout older adulthood. Therefore, to ensure the research question matched the method, the qualitative data was treated to solely examine ‘why’ engagement profiles changed. Secondly, despite an underrepresentation of participants 85 years of age and

older, the sample was deemed to be appropriate as data saturation was met effectively, and categories were continuously replicated. Saturation and replication was further emphasized by the data obtained through follow-up semi-structured interviews. Thirdly, the collection and analysis of data as a concurrent process informed the investigator of the data that had been obtained. This framed the questions for the follow-up semi-structured interviews to ensure that the future data that was collected related to what was still unknown. Lastly, themes that emerged within the data were continuously confirmed and constantly compared to ensure proper decisions regarding thematic organization. A second researcher also reviewed the organization of the themes. Following slight reorganization of the themes, agreement was met between the two investigators.

Rigor was also sought through additional avenues, in addition to the strategies that were implemented during the research process (Morse et al., 2002), Primarily, it was inevitable that the reliability of the data collected was dependent on the moderating/interviewing skills of the primary investigator, as the moderator/interviewer was the primary ‘tool’ of data collection. In the attempt to increase the *interviewer reliability*, one pilot focus group was conducted to improve the moderator/interviewer skills of the primary investigator, and thus increase the reliability of the data collected (Appleton, 1995). Furthermore, in an attempt to reduce researcher biases, the primary investigator systematically documented such biases through note taking during data analysis. By making such biases explicit, the primary investigator was aware and conscious of personal experiences, emotions, or perceptions that had the potential to impact the thematic organization (Morse & Richards, 2002). An example of a bias that was made explicit through written documentation was related to the finding that some

older adults increased active leisure participation as a result of health or physical limitations. This finding was a ‘surprise’ and thus revealed a bias toward assuming decreased health or physical ability would create a decrease in activity. Finally, it was of utmost importance to the primary investigator to ensure transparency of all the procedures undertaken throughout the research process including: participant sampling, data collection, data analysis, and communication of the findings. This ensured clarity of the *decision trail* throughout the study, which can be viewed as an additional reflection of reliability (Appleton, 1995).

### **III. Results**

#### **Part 1: Quantitative Analysis**

Quantitative methods were employed to determine ‘how’ engagement profiles changed throughout older adulthood. To this end, fifty-four adults 65 years of age and older completed the ‘past’ and ‘present’ engagement questionnaires. Full demographic information of the participants included in ‘Part 1: Quantitative Analysis’ is provided in Table 2. For purposes of clarity, demographic information is displayed by decade of life as ‘age’ (i.e., 65-74, 75-84, 85+ years) was a between subjects factor that was examined throughout the quantitative analyses.

Table 2. Participant demographics included in ‘Part 1: Quantitative Analysis.’

Variable	65 – 74 Year Olds n = 21 (38.9% of N)	75 – 84 Year Olds n = 21 (38.9% of total)	85+ Year Olds n = 12 (22.2% of N)	Total Sample N = 54 (100% of N)
<b>Age (years)</b>				
Mean (range)	70.3 (65 – 74)	78.4 (75 – 84)	89.2 (85 – 97)	79.2 (65 – 97)
<b>Sex</b>				
Male	7 (33.3%)	9 (42.9%)	5 (41.7%)	21 (38.9%)
Female	14 (66.7%)	12 (57.1%)	7 (58.3%)	33 (61.1%)
<b>Highest level of education</b>				
Elementary school	1 (4.8%)	1 (4.8%)	2 (16.7%)	4 (7.4%)
High school	8 (38.1%)	11 (52.4%)	5 (41.7%)	24 (44.4%)
College	4 (19.0%)	5 (23.8%)	4 (33.3%)	13 (24.1%)
University	4 (19.0%)	4 (19.0%)	1 (8.3%)	9 (16.7%)
Post-graduate	4 (19.0%)	0 (0.0%)	0 (0.0%)	4 (7.4%)
<b>Household Income</b>				
≤ \$20,000	0 (0.0%)	3 (14.3%)	2 (16.7%)	5 (9.3%)
≤ \$40,000	7 (33.3%)	1 (4.8%)	4 (33.3%)	12 (22.2%)
≤ \$60,000	3 (14.3%)	3 (14.3%)	1 (8.3%)	7 (13.0%)
≤ \$80,000	1 (4.8%)	4 (19.0%)	1 (8.3%)	6 (11.1%)
> \$80,000	2 (9.5%)	1 (4.8%)	0 (0.0%)	3 (5.6%)
Prefer not to answer	8 (38.1%)	9 (42.9%)	4 (33.3%)	21 (38.9%)
<b>Living Environment</b>				
House	15 (71.4%)	15 (71.4%)	9 (75.0%)	39 (72.2%)
Apartment/condominium	6 (28.6%)	6 (28.6%)	2 (16.7%)	14 (25.9%)
Retirement residence	0 (0.0%)	0 (0.0%)	1 (8.3%)	1 (1.9%)
<b>Living Arrangement</b>				
With spouse/partner	10 (47.6%)	14 (66.7%)	2 (16.7%)	26 (48.1%)
With family	2 (9.5%)	2 (9.5%)	2 (16.7%)	6 (11.1%)
Alone	9 (42.9%)	5 (23.8%)	8 (66.7%)	22 (40.7%)

*Note.* Percent values represent percentage of the sample within separate decades of life.

**Activity categorization.** Due to missing data, the binomial probability tests that were calculated to categorize specific activities had a fluctuating sample size from  $n = 48$  to  $n = 53$  (please see Table 3 for exact samples sizes of the participants that categorized each specific activity). Missing data were the result of participant oversight, the unwillingness of participants to categorize activities which were not regularly participated in, or simply a lack of comprehending the task.

Overall, the binomial probability tests that were calculated to categorize specific activities as either productive, social, active leisure or passive leisure activities identified an activity type that was reported by significantly greater than 50% of the participants for 13 of the 30 specific activities. For example, ‘family and friendship activities’ was identified as being a social activity by 42 of 53 participants, which was determined to be significantly greater than 50% of the sample ( $p = 0.000$ ). Therefore, ‘family and friendship activities’ was categorized as a social activity. The remaining 17 specific activities that yielded non-significant results from the binomial probability tests were categorized based on the consensus determined throughout the focus groups in which participants collectively categorized each of the 30 specific activities. Table 3 provides categorization of the specific activities examined, as well as the method by which the results were determined. The activity categorization presented in Table 3 will be relied on for the remainder of this thesis.

Table 3

*Categorization of specific activities into four activity types.*

Activity	Method of Categorization	N
<b>Productive Activities</b>		
Volunteer work	Focus groups	52
Light housework	Binomial test (p = 0.027)	53
Care for others	Focus groups	52
Educational activities	Binomial test (p = 0.014)	53
Playing a musical instrument	Focus groups	48
Full- or part-time paid employment	Binomial test (p = 0.000)	49
Home repairs	Binomial test (p = 0.024)	51
Heavy housework	Focus groups	51
Service, club, or fraternal organization activities	Focus groups	51
<b>Social Activities</b>		
Family/friendship activities	Binomial test (p = 0.000)	53
Visiting others	Binomial test (p = 0.000)	53
Cultural activities	Focus groups	52
Church-related activities	Focus groups	50
Bingo, cards, or other games	Binomial test (p = 0.002)	51
Attending theatre events	Focus groups	52
Neighbourhood or community activities	Focus groups	52
Phone conversations	Binomial test (p = 0.000)	53
<b>Active Leisure Activities</b>		
Moderate sports or recreational activities	Focus groups	52
Outdoor gardening, sweeping the balcony or stairs	Focus groups	53
Strenuous sports or recreational activities	Binomial test (p = 0.035)	52
Exercise to increase muscle strength and endurance	Focus groups	52
Taking a walk outside your home or yard	Focus groups	53
Light sports or recreational activities	Focus groups	52
Lawn work or yard care	Focus groups	51
<b>Passive Leisure Activities</b>		
Watching television	Binomial test (p = 0.000)	53
Handicrafts	Focus groups	52
Reading	Binomial test (p = 0.000)	53
Listening to the radio or music	Binomial test (p = 0.000)	53
Computer activities	Focus groups	50
Crosswords, puzzles, etc.	Binomial test (p = 0.005)	51

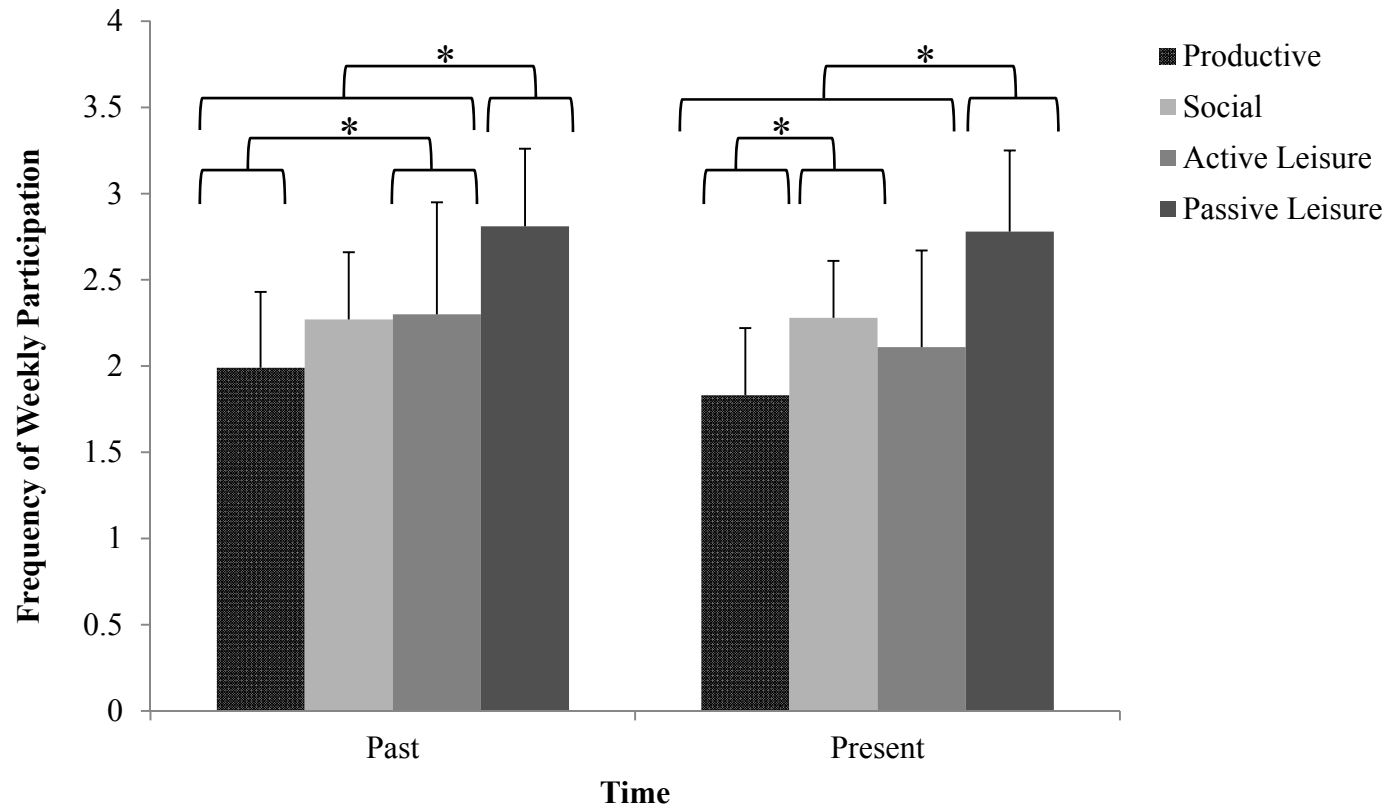
*Note.* N = total sample size of participants that categorized each specific activity.



**‘How’ engagement profiles change throughout older adulthood.** Changes in engagement profiles throughout older adulthood were first examined through comparisons between activity types: productive, social, active leisure, and passive leisure activities. Following these comparisons, changes in engagement profiles throughout older adulthood were investigated within each activity type. Significant results are presented below.

*Activity types: Weekly participation.* The three-way mixed design ANOVA examining the frequency of weekly participation of different activity types revealed a significant interaction between time and activity type, [ $F(2.63, 134.19) = 4.48, p = 0.007, \eta_p^2 = 0.081$ ]. Separate one-way ANOVAs identified differences between the frequency of weekly participation in different activity types in the past, [ $F(3, 215) = 25.87, p = 0.000, \eta_p^2 = 0.268$ ], and in the present, [ $F(3, 215) = 42.90, p = 0.000, \eta_p^2 = 0.378$ ]. Following post hoc analysis, it was determined that in the past (i.e., five years ago) weekly participation in passive leisure activities ( $M = 2.81, SD = 0.45$ ) was significantly greater than the frequency of weekly participation in any other activity type (productive:  $M = 1.99, SD = 0.44$ ; social:  $M = 2.27, SD = 0.39$ ; active leisure:  $M = 2.30, SD = 0.65$ ). Additionally, the frequency of weekly participation in active leisure activities in the past was significantly greater than that of productive activities. Similarly, post hoc analysis specific to examining between activity differences in the present, determined that passive leisure activities ( $M = 2.78, SD = 0.47$ ) were participated in significantly more often on a weekly basis when compared to all other activity types (productive:  $M = 1.83, SD = 0.39$ ; social:  $M = 2.28, SD = 0.33$ ; active leisure:  $M = 2.11, SD = 0.56$ ). Additionally, the frequency of weekly participation in social activities was greater than the frequency of

participation in productive activities. Figure 1 illustrates the frequency of past and present weekly participation for each activity type.



*Note.* Scale for frequency of weekly participation corresponds to likert scale provided on questionnaires (1 = never, 2 = seldom, 3 = sometimes, 4 = often); error bars represent standard deviation.

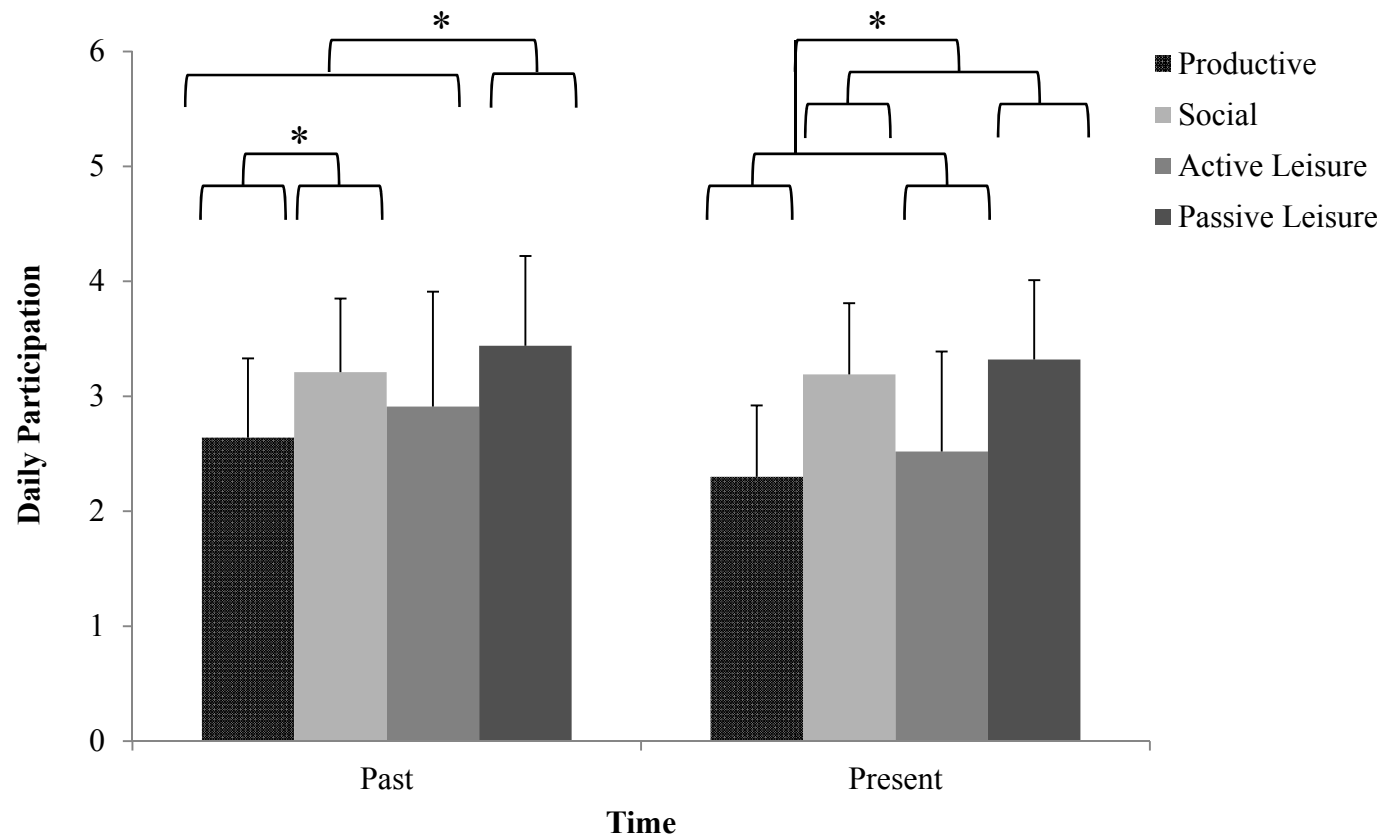
\*  $p \leq 0.05$

*Figure 1.* Frequency of weekly participation in activity types separated by time. This figure illustrates the frequency of weekly participation in each activity type separated by time for adults 65 years of age and older.

This three-way mixed design ANOVA also revealed a main effect of age, [ $F(2, 51) = 4.86, p = 0.012, \eta_p^2 = 0.160$ ]. Collapsing across ‘time’ and ‘activity type’, post hoc analysis determined that 65-74 year olds ( $M = 2.42, SD = 0.45$ ) reported a significantly higher frequency of overall weekly participation when compared to participants who were 85 years of age and older ( $M = 2.09, SD = 0.45$ ). However, on average, both age cohorts participated in activity between one and four times a week, and thus differences did not span a full likert point. Additionally, there was a main effect of time, [ $F(1, 51) = 7.31, p = 0.009, \eta_p^2 = 0.125$ ], and activity type, [ $F(2.48, 126.62) = 60.13, p = 0.000, \eta_p^2 = 0.541$ ]. However, these factors were included in the interpretation of the significant interaction, and were not further analyzed.

***Activity types: Daily participation.*** The three-way mixed design ANOVA examining daily participation in different activity types revealed a significant interaction between time and activity type, [ $F(2.91, 148.31) = 6.46, p = 0.000, \eta_p^2 = 0.112$ ]. Differences between daily participation of different activity types in the past, [ $F(3, 215) = 26.99, p = 0.000, \eta_p^2 = 0.276$ ] and in the present, [ $F(3, 215) = 26.99, p = 0.000, \eta_p^2 = 0.276$ ] were revealed through separate one-way ANOVAs. Post hoc analysis identified that in the past, a significantly greater amount of daily time was allocated to passive leisure activities ( $M = 3.44, SD = 0.78$ ) than all other activity types (productive:  $M = 2.64, SD = 0.69$ ; social:  $M = 3.21, SD = 0.64$ ; active leisure:  $M = 2.91, SD = 1.00$ ). Additionally, in the past, daily participation in social activities was significantly greater than daily participation in productive activities. In regards to participation in the present, participants reported engaging in passive leisure ( $M = 3.32, SD = 0.69$ ) and social activities ( $M = 3.19, SD = 0.62$ ) for a significantly greater amount of time daily when

compared to active leisure ( $M = 2.52$ ,  $SD = 0.87$ ) and productive activities ( $M = 2.30$ ,  $SD = 0.62$ ). Figure 2 illustrates the differences in daily participation for all activity types separated by time.



*Note.* Scale for daily participation corresponds to likert scale provided on questionnaires (1 = 0 hours, 2 = < 30 minutes, 3 = 30 minutes to 1 hour, 4 = 1 to 2 hours, 5 = 2 to 4 hours, 6 = > 4 hours); error bars represent standard deviation.

\*  $p \leq 0.05$

*Figure 2.* Daily participation in activity types separated by time. This figure illustrates daily participation in each activity type separated by time for adults 65 years of age and older.

This three-way mixed design ANOVA also revealed a main effect of time, [ $F(1, 51) = 24.52, p = 0.000, \eta_p^2 = 0.325$ ], and a main effect of activity type, [ $F(2.553, 130.186) = 32.85, p = 0.000, \eta_p^2 = 0.392$ ]. Since these main effects were included in the interpretation of the significant interaction they were not further examined.

***Productive activities: Weekly participation.*** The three-way mixed design ANOVA examining the frequency of weekly participation of productive activities revealed a significant interaction between time and activity, [ $F(6.12, 312.00) = 3.78, p = 0.001, \eta_p^2 = 0.069$ ]. Results yielded from a series of repeated measures ANOVAs examining the difference between past and present weekly participation for each productive activity are reported in Table 4. The interaction between time and activity was a function of the differing effect time had on the different levels of activity. Specifically, the frequency of weekly participation for five productive activities was significantly lower in the present compared to the past, while the remaining four productive activities experienced no change in the frequency of weekly participation over time (as shown in Figure 3).

Table 4

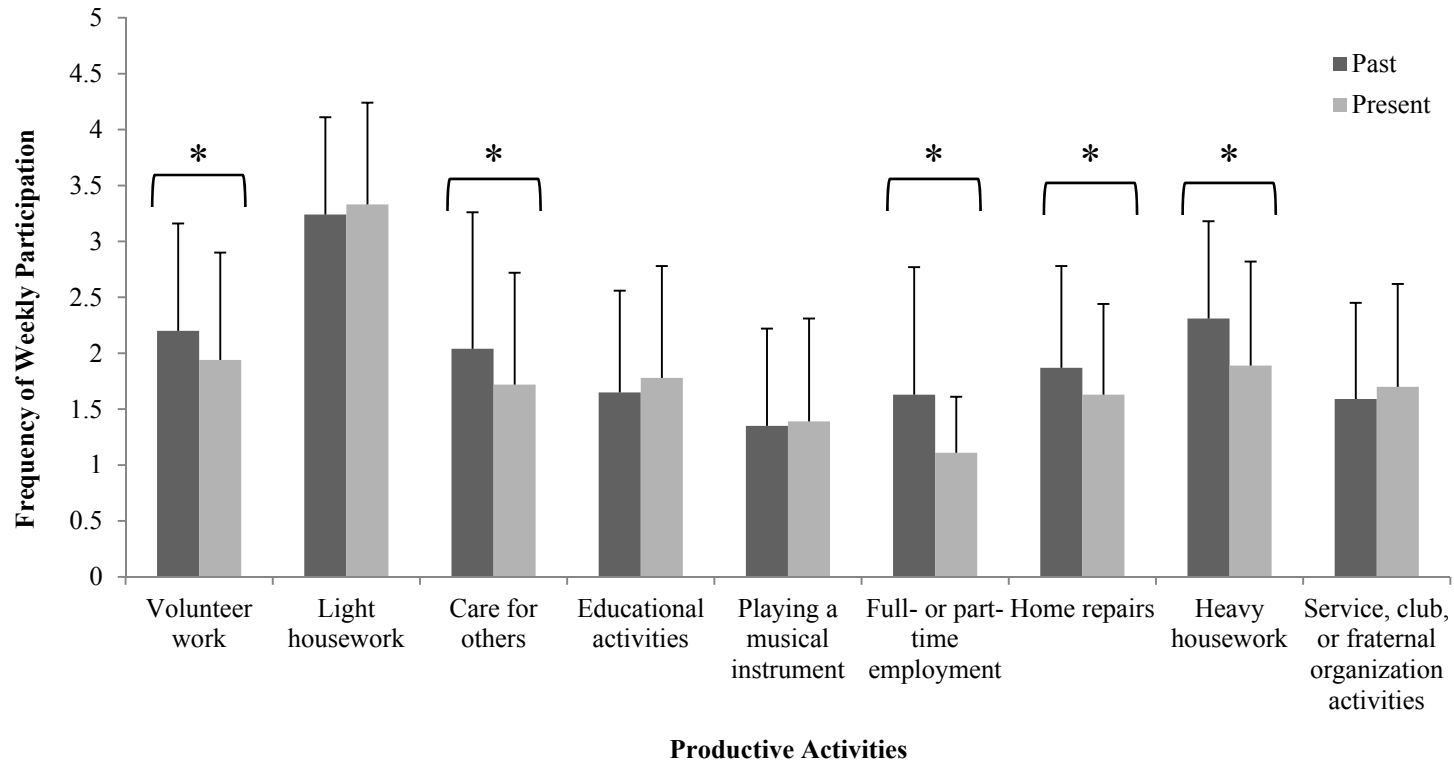
*Past vs. present weekly participation in productive activities among adults 65 years of age and older.*

Specific Activity	Past Mean (SD)	Present Mean (SD)	F-statistic	p-value	$\eta_p^2$
Volunteer work*	2.20 (0.96)	1.94 (0.96)	(1, 53) = 4.77	0.033	0.082
Light housework	3.24 (0.87)	3.33 (0.91)	(1, 53) = 0.38	0.540	0.007
Care for others*	2.04 (1.22)	1.72 (1.00)	(1, 53) = 4.34	0.042	0.076
Educational activities	1.65 (0.91)	1.78 (1.00)	(1, 53) = 1.60	0.212	0.029
Playing a musical instrument	1.35 (0.87)	1.39 (0.92)	(1, 53) = 0.16	0.687	0.003
Full- or part-time paid employment*	1.63 (1.14)	1.11 (0.50)	(1, 53) = 12.94	0.001	0.196
Home repairs*	1.87 (0.91)	1.63 (0.81)	(1, 53) = 10.45	0.002	0.165
Heavy housework*	2.31 (0.87)	1.89 (0.93)	(1, 53) = 11.00	0.002	0.172
Service, club, or fraternal organization activities	1.59 (0.86)	1.70 (0.92)	(1, 53) = 1.13	0.293	0.021

*Note.* Weekly participation is based on a four-point likert scale (1 = never, 2 = seldom, 3 = sometimes, 4 = often).

\*  $p \leq 0.05$





*Note.* Scale for frequency of weekly participation corresponds to likert scale provided on questionnaire (1 = never, 2 = seldom, 3 = sometimes, 4 = often); error bars represent standard deviation.

\*  $p \leq 0.05$

*Figure 3.* Weekly participation in productive activities over time. This figure illustrates the frequency of weekly participation in each productive activity in the present compared to the past (i.e., five years ago) for adults 65 years of age and older.

This three-way mixed design ANOVA also revealed a significant main effect of age, [ $F(2, 51) = 6.54, p = 0.003, \eta_p^2 = 0.204$ ]. Following post hoc examination it was determined that 65-74 year olds ( $M = 2.10, SD = 0.96$ ) reported a significantly higher frequency of weekly participation in productive activities when compared to participants 85 years of age and older ( $M = 1.55, SD = 0.75$ ). When means were anchored to the likert scale provided on the ‘past’ and ‘present’ engagement questionnaires, the mean frequency of participation in productive activities indicated that participants between 65 and 74 years of age participated in productive activities between one and four times per week, while participants over the age of 85 years participated in productive activities less than twice per week. No other differences between ages existed. Additionally, there was a main effect of time, [ $F(1, 51) = 10.00, p = 0.003, \eta_p^2 = 0.164$ ], and activity, [ $F(6.70, 341.54) = 28.85, p = 0.000, \eta_p^2 = 0.361$ ]. However, these factors were included in the interpretation of the significant two-way interaction, and thus were not considered for further analysis.

***Productive activities: Daily participation.*** The three-way mixed design ANOVA examining participants’ daily participation in productive activities revealed a significant interaction between time and activity, [ $F(6.27, 319.59) = 7.15, p = 0.000, \eta_p^2 = 0.092$ ]. Results from a series of repeated measures ANOVAs examining the differences between past and present daily participation for each productive activity are presented in Table 5. This interaction existed due to the different effect time had on the different levels of activity. For example, participation in volunteer work, full- or part-time employment, house repairs, and heavy housework significantly decreased from past to present, whereas participation in service, club, or fraternal organization activities increased. The remaining

four productive activities experienced no change as a function of time (as shown in Figure 4).

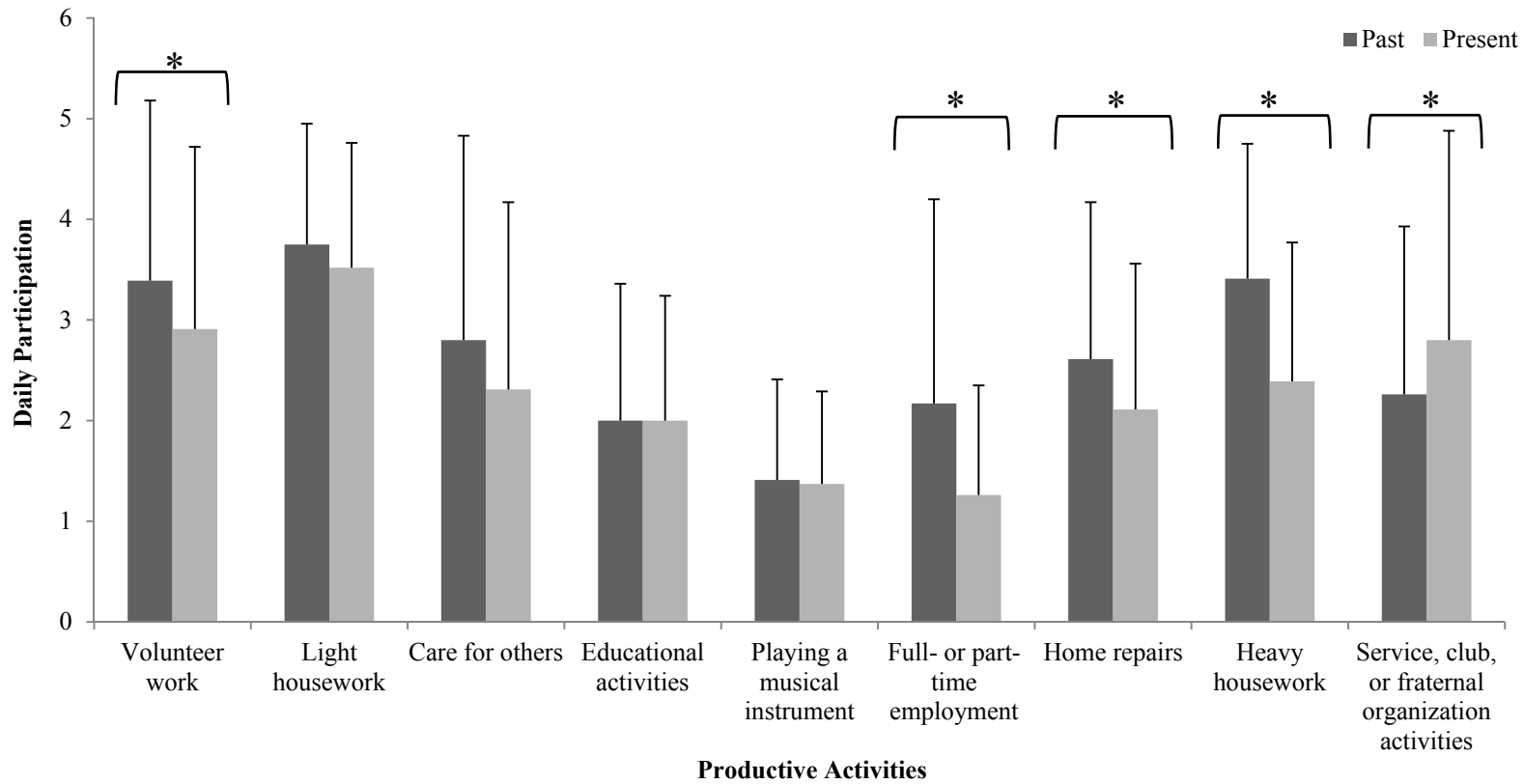
Table 5

*Past vs. present daily participation in productive activities among adults 65 years of age and older.*

Specific Activity	Past Mean (SD)	Present Mean (SD)	F-statistic	p-value	$\eta_p^2$
Volunteer work*	3.39 (1.79)	2.91 (1.81)	(1, 53) = 4.60	0.037	0.080
Light housework	3.75 (1.20)	3.52 (1.24)	(1, 53) = 1.76	0.190	0.032
Care for others	2.80 (2.03)	2.31 (1.86)	(1, 53) = 3.72	0.059	0.066
Educational activities	2.00 (1.36)	2.00 (1.24)	(1, 53) = 0.00	1.000	0.000
Playing a musical instrument	1.41 (1.00)	1.37 (0.92)	(1, 53) = 0.18	0.674	0.003
Full- or part-time paid employment*	2.17 (2.03)	1.26 (1.09)	(1, 53) = 12.37	0.001	0.189
Home repairs*	2.61 (1.56)	2.11 (1.45)	(1, 53) = 10.92	0.002	0.171
Heavy housework*	3.41 (1.34)	2.39 (1.38)	(1, 53) = 23.76	0.000	0.309
Service, club, or fraternal organization activities*	2.26 (1.67)	2.80 (2.08)	(1, 53) = 4.71	0.035	0.082

*Note.* Daily participation based on a six-point likert scale (1 = 0 hours, 2 = < 30 minutes, 3 = 30 minutes to 1 hour, 4 = 1 to 2 hours, 5 = 2 to 4 hours, 6 = > 4 hours).

\*  $p \leq 0.05$



*Note.* Scale for frequency of daily participation corresponds to likert scale provided on questionnaires (1 = 0 hours, 2 = < 30 minutes, 3 = 30 minutes to 1 hour, 4 = 1 to 2 hours, 5 = 2 to 4 hours, 6 = > 4 hours); error bars represent standard deviation.

\*  $p \leq 0.05$

*Figure 4.* Daily participation in productive activities over time. This figure illustrates the daily participation in each productive activity in the present compared to the past (i.e., five years ago) for adults 65 years of age and older.

There was also a significant interaction between age and activity, [ $F(10.84, 276.33) = 2.43, p = 0.007, \eta_p^2 = 0.087$ ]. Table 6 provides results for separate one-way ANOVAs that examined daily participation in each productive activity between age groups (i.e., 65-74, 75-84, 85+ year olds). Specific between age group differences were evidenced only for 'care for others' following post hoc analysis. Specifically, participants between 65 and 74 years of age ( $M = 3.62, SD = 1.83$ ) spent significantly more time daily caring for other people than participants 75 to 84 years of age ( $M = 2.19, SD = 1.39$ ), and participants 85 years of age and older ( $M = 1.33, SD = 0.75$ ). On average, the daily time spent caring of others ranged from 30 minutes to two hours for participants between 65 and 74 years of age, whereas participants 75 to 84 years of age spent less than one hour daily, and participants 85 years of age and older spent less than 30 minutes daily engaging in this productive activity. As such, the interaction between activity and age existed because time spent caring for others decreased as a function of age, while the daily time spent engaging in the remaining productive activities was unchanged across the different age groups.

This three-way mixed design ANOVA also revealed a main effect of time [ $F(1, 51) = 18.18, p = 0.000, \eta_p^2 = 0.263$ ], activity [ $F(5.42, 276.33) = 16.39, p = 0.000, \eta_p^2 = 0.243$ ] and age [ $F(2, 51) = 5.95, p = 0.005, \eta_p^2 = 0.189$ ]. However, these factors were examined during the interpretation of the significant two-way interactions, and thus were not considered for further analysis.

Table 6

*Daily participation in productive activities compared across decades of older adulthood.*

Specific Activity	65 – 74 years Mean (SD)	75 – 84 years Mean (SD)	85+ years Mean (SD)	F-statistic	p-value	$\eta_p^2$
Volunteer work	3.26 (1.47)	3.26 (1.69)	2.75 (1.71)	(2, 51) = 0.467	0.629	0.018
Light housework	3.93 (1.21)	3.38 (0.86)	3.56 (0.58)	(2, 51) = 1.722	0.189	0.063
Care for others*	3.62 (1.83)	2.19 (1.39)	1.33 (0.75)	(2, 51) = 10.19	0.000	0.285
Educational activities	2.36 (1.30)	1.83 (0.99)	1.67 (1.01)	(2, 51) = 1.82	0.172	0.067
Playing a musical instrument	1.19 (0.54)	1.60 (1.15)	1.38 (0.93)	(2, 51) = 1.06	0.355	0.040
Full- or part-time paid employment	2.21 (1.61)	1.55 (1.19)	1.13 (0.43)	(2, 51) = 3.10	0.054	0.108
Home repairs	2.64 (1.40)	2.40 (1.39)	1.79 (1.36)	(2, 51) = 1.46	0.243	0.054
Heavy housework*	3.29 (1.08)	2.86 (0.87)	2.29 (1.37)	(2, 51) = 3.28	0.046	0.114
Service, club, or fraternal organization activities	2.48 (1.54)	2.10 (1.55)	3.38 (1.81)	(2, 51) = 2.43	0.098	0.087

*Note.* Daily participation based on a six-point likert scale (1 = 0 hours, 2 = < 30 minutes, 3 = 30 minutes to 1 hour, 4 = 1 to 2 hours, 5 = 2 to 4 hours, 6 = > 4 hours).

\*  $p \leq 0.05$

***Social activities: Weekly participation.*** The three-way mixed design ANOVA investigating the frequency of weekly participation in social activities indicated a significant main effect of activity, [ $F(5.55, 282.84) = 54.17, p = 0.000, \eta_p^2 = 0.515$ ]. Pairwise comparisons yielded from post hoc analysis regarding the frequency of weekly participation of social activities are provided in Table 7. Overall, family and friendship activities and phone conversations were participated in significantly more often on a weekly basis than all other social activities. Additionally, participants reported visiting others significantly more often than participating in cultural activities, bingo, cards, or other games, theatre events, and neighbourhood or community activities. No other significant differences were identified between social activities with respect to participants' frequency of weekly participation.



Table 7. *Pairwise comparisons of the frequency of weekly participation in social activities for adults 65 years of age and older.*

Social Activity Mean (SD)	Family and friendship activities 3.30 (0.78)	Visiting others 2.55 (0.73)	Cultural activities 1.74 (0.78)	Church-related activities 2.06 (0.99)	Bingo, cards, or other games 1.68 (0.86)	Attending theatre events 1.92 (0.74)	Neighbourhood or community activities 1.56 (0.82)	Phone conversations 3.24 (0.78)
Family and friendship activities 3.30 (0.78)		*	*	*	*	*	*	
Visiting others 2.55 (0.73)			*		*	*	*	*
Cultural activities 1.74 (0.78)								*
Church-related activities 2.06 (0.99)								*
Bingo, cards, or other games 1.68 (0.86)								*
Attending theatre events 1.92 (0.74)								*
Neighbourhood activities 1.56 (0.82)								*
Phone conversations 3.24 (0.78)								

Note. Frequency of weekly participation based on a four-point likert scale (1 = never, 2 = seldom, 3 = sometimes, 4 = often).

\*  $p \leq 0.05$

***Social activities: Daily participation.*** The three-way mixed design ANOVA examining the daily time spent participating in social activities revealed a significant main effect of activity, [ $F(5.46, 278.34) = 21.18, p = 0.000, \eta_p^2 = 0.293$ ]. Table 8 illustrates significant differences between the daily amount of time spent participating in social activities as identified through post hoc analysis. Overall, family and friendship activities were engaged in for a significantly greater amount of time daily than any other social activity. Similarly, the daily time spent visiting others was significantly greater than the daily time allocated to participating in bingo, cards, or other games, neighbourhood or community activities, and phone conversations. Finally, a significantly greater amount of daily time was spent attending theatre events when compared to participation in neighbourhood or community activities. No other differences between the daily amount of time spent engaging in specific social activities were identified.

Table 8. *Pairwise comparisons of daily participation in social activities for adults 65 years of age and older.*

Social Activity Mean (SD)	Family/ friendship activities 4.66 (1.05)	Visiting others 3.81 (1.17)	Cultural activities 2.94 (1.76)	Church-related activities 2.92 (1.46)	Bingo, cards, or other games 2.45 (1.70)	Attending theatre events 3.59 (1.69)	Neighbourhood or community activities 2.09 (1.61)	Phone conversations 3.01 (1.27)
Family/friendship activities 4.66 (1.05)		*	*	*	*	*	*	*
Visiting others 3.81 (1.17)					*		*	*
Cultural activities 2.94 (1.76)								
Church-related activities 2.92 (1.46)								
Bingo, cards, or other games 2.45 (1.70)								
Attending theatre events 3.59 (1.69)							*	
Neighbourhood activities 2.09 (1.61)								
Phone conversations 3.01 (1.27)								

*Note.* Daily participation based on a six-point likert scale (1 = 0 hours, 2 = < 30 minutes, 3 = 30 minutes-1 hour, 4 = 1-2 hours, 5 = 2- 4 hours, 6 = > 4 hours).

\*  $p \leq 0.05$

**Active leisure activities: Weekly participation.** The three-way mixed design ANOVA investigating the frequency of weekly participation in active leisure activities revealed a significant main effect of time, [ $F(1, 51) = 8.72, p = 0.005, \eta_p^2 = 0.146$ ]. Overall, participants engaged significantly less often in active leisure activities in the present ( $M = 2.11, SD = 1.03$ ) compared to the past ( $M = 2.31, SD = 1.04$ ). However, when mean frequencies of participation were anchored to the likert scale provided on the ‘past’ and ‘present’ engagement questionnaires participants engaged in active leisure activities between one and four times per week in both the past and the present. Though statistically significant, the difference in the frequency of weekly active leisure participation did not span a full likert point.

A significant main effect of activity was also identified, [ $F(4.52, 230.56) = 12.26, p = 0.000, \eta_p^2 = 0.194$ ]. Specific between activity differences regarding the frequency of weekly participation determined by post hoc analysis are presented in Table 9. Taking a walk outside one’s home or yard ( $M = 2.81, SD = 0.88$ ) was participated in significantly more often on a weekly basis than all other active leisure activities, with the exception of outdoor gardening and sweeping the balcony or stairs ( $M = 2.59, SD = 1.04$ ).

Additionally, weekly engagement in outdoor gardening and sweeping the balcony or stairs was significantly greater than participation in light sports and recreational activities ( $M = 1.73, SD = 0.94$ ), as well as lawn work or yard care ( $M = 1.96, SD = 1.07$ ). No other significant between activity differences were revealed. However, average participation in taking a walk outside one’s home or yard, gardening and sweeping the balcony or stairs, and exercise to increase muscle strength and endurance were reported to occur between

one and four times per week, whereas all other active leisure activities were reported to be participated in less than twice per week.

Table 9. *Pairwise comparisons of weekly participation in active leisure activities for adults 65 years of age and older.*

Active Leisure Activity Mean (SD)	Moderate sports or recreational activities 1.97 (1.16)	Outdoor gardening, sweeping balcony or stairs 2.59 (1.04)	Strenuous sports or recreational activities 1.95 (1.11)	Exercise to increase muscle strength or endurance 2.22 (1.06)	Take a walk outside your home or yard 2.81 (0.88)	Light sports or recreational activities 1.73 (0.94)	Lawn work or yard care 1.96 (1.07)
Moderate sports or recreational activities 1.97 (1.16)					*		
Outdoor gardening, sweeping balcony or stairs 2.59 (1.04)						*	*
Strenuous sports or recreational activities 1.95 (1.11)					*		
Exercise to increase muscle strength or endurance 2.22 (1.06)					*		
Take a walk outside your home or yard 2.81 (0.88)						*	*
Light sports or recreational activities 1.73 (0.94)							
Lawn work or yard care 1.96 (1.07)							

Note. Frequency of weekly participation based on a four-point likert scale (1 = never, 2 = seldom, 3 = sometimes, 4 = often).

\*p ≤ 0.05

***Active leisure activities: Daily participation.*** A significant interaction between time and age was revealed by the three-way mixed design ANOVA examining participants' daily participation in active leisure activities, [ $F(2, 51) = 3.62, p = 0.034, \eta_p^2 = 0.124$ ]. Separate one-way ANOVAs for each age group collapsed across 'activity' revealed a significant difference in participation in active leisure activities between the past and the present for the two oldest decades of adulthood (i.e., 75-84, and 85+ years of age). Specifically, time spent engaging in active leisure activities was significantly greater in the past ( $M = 3.01, SD = 0.51$ ) compared to the present ( $M = 2.72, SD = 0.49$ ) for participants between 75 and 84 years of age, [ $F(1, 20) = 13.45, p = 0.002, \eta_p^2 = 0.40$ ]. When the mean values of daily participation in active leisure activities for 75-84 year olds were translated to the descriptors on the likert scale provided on the 'past' and 'present' engagement questionnaires, it was determined that five years ago (i.e., in the past) 75-84 year olds engaged in active leisure activities between 30 minutes and 2 hours daily, whereas in the present, these participants reported participating in active leisure activities for less than 1 hour daily. Similarly, participants 85 years of age and older also experienced a significant decrease in active leisure participation from the past ( $M = 2.78, SD = 0.60$ ) to the present ( $M = 2.56, SD = 0.55$ ), [ $F(1, 11) = 15.79, p = 0.002, \eta_p^2 = 0.589$ ]. However, when the means of daily participation were anchored to the likert scale provided on the 'past' and 'present' engagement questionnaires, active leisure participation never exceeded one hour of daily participation in the past or the present. No change over time was identified for the daily amount of time allocated to active leisure activities by 65-74 year olds, [ $F(1, 20) = 4.30, p = 0.051, \eta_p^2 = 0.18$ ].

This analysis also identified a main effect of activity, [ $F(3.52, 179.66) = 3.53, p = 0.011, \eta_p^2 = 0.065$ ]. Following post hoc analysis, it was determined that outdoor gardening and sweeping the balcony or stairs ( $M = 3.09, SD = 1.47$ ) accounted for a significantly greater amount of daily time when compared to participation in lawn work or yard care ( $M = 2.54, SD = 1.53$ ). When the means of the daily amount of time spent participating in such activities were anchored to the likert scale provided on the ‘past’ and ‘present’ engagement questionnaires it was determined that participants engaged in outdoor gardening activities between 30 minutes and 2 hours daily, whereas daily participation in lawn work or yard care did not exceed 1 hour daily. Significant differences did not exist between any other active leisure activities in regards to daily participation. Since ‘time’ was included in the interpretation of the two-way interaction between time and age, the significant main effect of time did not require further exploration [ $F(1, 51) = 23.20, p = 0.000, \eta_p^2 = 0.313$ ].

***Passive leisure activities: Weekly participation.*** The three-way mixed design ANOVA examining the frequency of weekly participation of passive leisure activities revealed a significant interaction between activity and age, [ $F(8.90, 226.84) = 2.33, p = 0.016, \eta_p^2 = 0.084$ ]. Results from a series of separate one-way ANOVAs that examined the frequency of weekly participation for each passive leisure activity between age groups (i.e., 65-74, 75-84, 85+ year olds) is provided in Table 10. Following post hoc analysis, ‘listening to music or the radio’ was the only passive leisure activity that differed significantly between age groups in regards to the frequency of weekly participation. Specifically, participants 85 years of age and older ( $M = 2.42, SD = 1.24$ ) listened to music or the radio significantly less often than 65 to 74 year olds ( $M = 3.45,$



$SD = 0.80$ ), as well as 75 to 84 year olds ( $M = 3.43$ ,  $SD = 0.88$ ). On average, 65 to 84 year olds (i.e., the youngest two decades of older adulthood) listened to music or the radio between three and seven days per week, whereas participants 85 years of age and older listened to music or the radio one to four days per week. As such, the interaction between activity and age existed because ‘age’ had a different effect on the different levels of ‘activity’; while listening to the music or radio decreased as a function of age, the remaining passive leisure activities experienced no change. In addition, there was a main effect of activity, [ $F(4.45, 226.84) = 30.83$ ,  $p = 0.000$ ,  $\eta_p^2 = 0.377$ ] that was not analyzed further as it was included in the interpretation of the two-way interaction.

Table 10

*Frequency of weekly participation in passive leisure activities compared across decades of older adulthood.*

Specific Activity	65 – 74 years Mean (SD)	75 – 84 years Mean (SD)	85+ years Mean (SD)	F-statistic	p-value	$\eta_p^2$
Watching television	3.67 (0.62)	3.60 (0.52)	3.54 (0.54)	(2, 51) = 0.20	0.818	0.008
Handicrafts	1.79 (1.19)	1.69 (0.87)	2.27 (1.00)	(2, 51) = 1.26	0.293	0.047
Reading	3.48 (0.72)	3.62 (0.59)	3.21 (0.96)	(2, 51) = 1.20	0.310	0.045
Listening to the radio or music*	3.45 (0.80)	3.43 (0.88)	2.42 (1.24)	(2, 51) = 5.49	0.007	0.177
Computer activities*	2.88 (1.12)	2.76 (1.06)	1.88 (1.25)	(2, 51) = 3.40	0.041	0.118
Crosswords, puzzles, etc.	1.90 (0.94)	1.95 (1.14)	2.25 (1.31)	(2, 51) = 0.40	0.670	0.016

*Note.* Weekly participation based on a four-point likert scale (1 = never, 2 = seldom, 3 = sometimes, 4 = often).

\*  $p \leq 0.05$

***Passive leisure activities: Daily participation.*** The three-way mixed design ANOVA examining daily participation in passive leisure activities revealed a significant interaction between time and activity, [ $F(3.36, 171.21) = 2.91, p = 0.031, \eta_p^2 = 0.054$ ]. Results yielded from a series of repeated measures ANOVAs examining differences in past and present daily participation for each passive leisure activity are reported in Table 11. Consequently, ‘time’ had a differing effect on the various levels of ‘activity’, and thus created the time by activity interaction. Specifically, as the daily time spent engaging in handicrafts decreased from the past to the present, the remaining five passive leisure activities experienced no change.

Table 11

*Past vs. present daily participation in passive leisure activities among adults 65 years of age and older.*

Specific Activity	Past Mean (SD)	Present Mean (SD)	F-statistic	p-value	$\eta_p^2$
Watching television	4.57 (0.96)	4.72 (1.05)	(1, 53) = 1.24	0.271	0.023
Handicrafts*	2.67 (1.85)	2.03 (1.54)	(1, 53) = 15.84	0.000	0.230
Reading	4.17 (1.41)	4.04 (1.33)	(1, 53) = 0.89	0.350	0.016
Listening to music or the radio	3.98 (1.57)	3.87 (1.56)	(1, 53) = 0.60	0.444	0.011
Computer activities	3.13 (1.80)	3.03 (1.81)	(1, 53) = 0.23	0.636	0.004
Crosswords, puzzles, etc.	2.11 (1.34)	2.21 (1.32)	(1, 53) = 0.68	0.413	0.013

*Note.* Daily participation based on a six-point likert scale (1 = 0 hours, 2 = < 30 minutes, 3 = 30 minutes to 1 hour, 4 = 1 to 2 hours, 5 = 2 to 4 hours, 6 = > 4 hours).

\*  $p \leq 0.05$

There was also a significant interaction between activity and age, [ $F(8.15, 207.93) = 2.45, p = 0.014, \eta_p^2 = 0.088$ ]. Table 12 presents results from separate one-way ANOVAs that examined daily participation in each passive leisure activity between age groups (i.e., 65-74, 75-84, and 85+ year olds). Post hoc analysis confirmed that participants between 65 and 74 years of age ( $M = 3.56, SD = 1.58$ ) spent significantly more daily time engaging in computer activities compared to participants 85 years of age and older ( $M = 1.96, SD = 1.36$ ). On average, the daily time spent engaging in computer activities ranged from 30 minutes to two hours for participants 65 to 74 years of age, whereas participants 85 years of age and older did not exceed 30 minutes of daily participation. Therefore, the interaction between activity and age was a result of the unique effect ‘age’ had on one’s participation in computer activities. While daily participation in computer activities was affected by age, one’s daily participation in the remaining passive leisure activities was unchanged. This three-way mixed design ANOVA also identified a main effect of activity, [ $F(4.08, 207.93) = 29.87, p = 0.000, \eta_p^2 = 0.369$ ]. Since ‘activity’ was examined as part of the two-way interactions, it was not considered for further analysis.

Table 12

*Daily participation in passive leisure activities compared across decades of older adulthood.*

Specific Activity	65 – 74 years Mean (SD)	75 – 84 years Mean (SD)	85+ years Mean (SD)	F-statistic	p-value	$\eta_p^2$
Watching television	4.81 (0.94)	4.55 (0.85)	4.54 (0.86)	(2, 51) = 0.57	0.572	0.022
Handicrafts	2.29 (1.76)	1.98 (1.28)	3.12 (1.68)	(2, 51) = 2.05	0.139	0.074
Reading	4.07 (1.44)	4.29 (1.12)	3.83 (1.27)	(2, 51) = 0.48	0.621	0.019
Listening to music or the radio	4.17 (1.35)	4.19 (1.28)	3.04 (1.74)	(2, 51) = 3.00	0.059	0.105
Computer activities*	3.55 (1.58)	3.24 (1.55)	1.96 (1.36)	(2, 51) = 4.40	0.017	0.147
Crosswords, puzzles, etc.	2.21 (1.32)	2.02 (1.20)	2.30 (1.34)	(2, 51) = 0.21	0.809	0.008

*Note.* Daily participation based on a six-point likert scale (1 = 0 hours, 2 = < 30 minutes, 3 = 30 minutes to 1 hour, 4 = 1 to 2 hours, 5 = 2 to 4 hours, 6 = > 4 hours).

\*  $p \leq 0.05$

## **Part 2: Qualitative Analysis**

A sub sample (n = 42) of the participants included in 'Part 1: 'Quantitative Analysis' were involved in the qualitative procedures and analysis. Full demographic information separated by decade of older adulthood for the participants included in the qualitative methodology analysis is provided in Table 13. Please see Appendix G for demographic information separated by focus group for 65-74 year olds and 75-84 year olds.

Table 13. *Participant demographics included in 'Part 2: Qualitative Analysis.'*

Variable	65 – 74 Year Olds n = 17 (40.5%)	75 – 84 Year Olds n = 17 (40.5%)	85+ Year Olds n = 8 (19.0%)	Total Sample N = 42 (100%)
<b>Age (years)</b>				
Mean (range)	70.1 (65 – 74)	78.4 (75 – 84)	90.6 (87 – 97)	79.6 (65 – 97)
<b>Sex</b>				
Male	7 (41.2%)	8 (47.1%)	4 (50.0%)	19 (45.2%)
Female	10 (58.8%)	9 (52.9%)	4 (50.0%)	23 (54.8%)
<b>Highest level of education</b>				
Elementary school	0 (0%)	1 (5.9%)	1 (12.5%)	2 (4.8%)
High school	8 (47.1%)	9 (52.9%)	4 (50.0%)	21 (50.0%)
College	3 (17.6%)	4 (23.5%)	2 (25.0%)	9 (21.4%)
University	2 (11.8%)	3 (17.6%)	1 (12.5%)	6 (14.3%)
Post-graduate	4 (23.5%)	0 (0%)	0 (0%)	4 (9.5%)
<b>Household Income</b>				
≤ \$20,000	0 (0%)	2 (11.8%)	2 (25.0%)	4 (9.5%)
≤ \$40,000	5 (29.4%)	1 (5.9%)	2 (25.0%)	8 (19.0%)
≤ \$60,000	3 (17.6%)	1 (5.9%)	1 (12.5%)	5 (11.9%)
≤ \$80,000	1 (5.9%)	4 (23.5%)	1 (12.5%)	6 (14.3%)
> \$80,000	2 (11.8%)	1 (5.9%)	0 (0%)	3 (7.1%)
Prefer not to answer	6 (35.3%)	8 (47.1%)	2 (25.0%)	16 (38.1%)
<b>Living Environment</b>				
House	14 (82.4%)	17 (100%)	7 (87.5%)	38 (90.5%)
Apartment/condominium	3 (17.6%)	0 (0%)	1 (12.5%)	4 (9.5%)
Retirement residence	0 (0%)	0 (0%)	0 (0%)	0 (0.0%)
<b>Living Arrangement</b>				
With spouse/partner	7 (41.2%)	13 (76.5%)	2 (25.0%)	22 (52.4%)
With family	2 (11.8%)	1 (5.9%)	0 (0%)	3 (7.1%)
Alone	8 (47.1%)	3 (17.6%)	6 (75.0%)	17 (40.5%)

*Note.* Percent values represent percentage of the sample within separate decades of life.



**Contributors of successful aging.** Three primary themes emerged during the analysis of focus group and semi-structured interview data specific to participant-identified contributors of successful aging. Primary themes included: (a) health, (b) an active engagement with life, and (c) a positive attitude. Each primary theme was associated with secondary themes as presented in Table 14. However, despite the relationship between primary and secondary themes, each theme could ‘stand alone’ in the sense that both primary and secondary themes were supported by separate meaning units. Primary themes were identified more frequently and extensively (were identified by a greater number of different people) when compared to secondary themes. Both primary and secondary themes are supported with quotations (meaning units) from study participants.

Table 14. *Primary themes and secondary themes identified as contributors of successful aging.*

Primary Theme	Secondary Theme	Meaning Unit
HEALTH		“Stay as healthy as you can, that’s what you need to do” (SD, 87-years of age).
	Genetics	“[It] helps to have good genes” (MT, 97-years of age).
	Lifestyle	“I think we have to eat right too, we have to be cognizant of what we are eating, keeping healthy that way” (MM, 71-years of age).
ACTIVE ENGAGEMENT WITH LIFE		“The biggest thing is to stay engaged, whatever you’re doing stay engaged” (JJ, 69-years of age).
	Social Engagement	“Stay engaged with people, like not isolate yourself... I think you need to get out and talk to people” (JW, 70-years of age).
	Cognitive Engagement	“I think that the main thing is to keep the mind active” (BM, 83-years of age).
	Support Network	“I think a support network is really critical for people that get older, as you age and can’t do things, [you need] friends and family” (GW, 77-years of age).
	Successful Marriage	“If [aging] happens the way it happened with us it is a success, it’s a privilege, because [my wife and I] have lived two thirds of our life together” (AG, 91-years of age).
	Financial Security	“If you have financial security that helps you age, it just takes away the stress of aging because you’re not worried about money” (DB, 73-years of age).
POSITIVE ATTITUDE		“Never look on the bad side of things... you’ve got to be positive” (AN, 88-years of age).
	Acceptance and Adaptation	“To a certain extent we all have problems, that’s just part of old age, you have to adapt” (MJ, 82-years of age).

**Health.** Participants from all decades of older adulthood identified the importance of maintaining one's health in order to age successfully. Health was viewed as a construct that encompassed more than the physical being as stated by 75-year old AP when asked what contributes to successful aging: "healthy in mind and body, both are important." However, not only was the state of being healthy emphasized as a component of successful aging, but the act of caring for one's health was also discussed as a necessity to age successfully as suggested by 73-year old DB : "taking care of your health, being aware of your health, taking care of problems when they arrive." Interpretation of the collected data suggested that health is viewed as an essential component of successful aging because it facilitates one's ability to actively engage in life. For example, JW, a 70-year old female, believes successful aging requires the maintenance of health to allow the individual to participate in personally meaningful activities: "to me [successful aging] means to be healthy and to be able to do the things that you want to do, physically, mentally, and emotionally." RD, an 82-year old male, shared a similar view in regards to health dictating one's participation in activity:

You're retired now, if you're in good health, or in fairly good health, all the things you wanted to do in life, which you didn't do or couldn't do, now is the time to do them, while you got your health.

Evidently, the primary theme *health* acts as an enabler of the primary theme *an active engagement in life*.

Health was associated with two secondary themes that were recognized as contributors to successful aging by participants in all decades of older adulthood: (a) genetics, and (b) lifestyle choices. Some participants simply acknowledged genetics as an

important factor to age successfully, such as MH: “genetics, maybe there’s a little bit of a genetic thing there too” (72 years of age), while other participants spoke directly about their older relatives: “I think [genetics] too, because my grandmother was 95 when she passed, my mom is [94 and a half], it’s in my genes, hopefully it continues” (JJ, 69 years of age). In regards to lifestyle choices, participants, such as 69-year old JJ, identified the need to commit to a healthy lifestyle when asked what contributes to successful aging: “I think that the discipline to actually do things that you know you should be doing. Everybody knows, ‘I should be watching my diet,’ but to actually do it is a different story.” In addition to maintaining a healthy diet, other participants identified the importance of exercise: “keep going, you have to keep going, you have to exercise” (DA, 96 years of age). It is plausible that participants identified genetics and lifestyle choices as important aspects of successful aging as they have the potential to influence one’s health.

*Active engagement in life.* The theme of *an active engagement in life* was the most frequently and extensively discussed contributor of successful aging for participants in all decades of older adulthood. An active engagement in life encompassed a broad sense of participation as described by DB in response to identifying contributors to successful aging: “an active mind that wants to participate, that is interested in the world around them... and interested in others...taking part in the world” (73-years of age). The importance of taking part in the world was understood by 72-year old SM who identified consequences of withdrawing from participation: “if you don’t get out and exert yourself into finding things to do, being involved in things, then you’re going to be a very lonely and isolated person.” For participants in all decades of older adulthood, an active

engagement in life was viewed as an essential component to aging successfully, however, the concept of ‘being active’ differed between decades. For example, DW, a 76-year old male, emphasized the importance of being active through his participation in volunteer work:

I started working at the cancer center after I got over my little battle with it. It started out as pay back but it evolved into something I really truly love. I think being active is the vital key, whatever it is that makes you want to be active.

In contrast, adults in the oldest decade of life (i.e., 85+ year olds) valued participation in ordinary daily activities. This idea was expressed by 91-year old AG, when stating:

Successful aging in my point of view is being able to maintain the ordinary things in your life in your own home, doing your own gardening, doing your own repairs, helping a neighbor, interacting with kids on the street, helping your wife.

This view was further supported by 88-year old female, MF, who stated: “just be active, just visit and go out shopping... just be active, just try to get out and do things that you normally do, just do normal things.” Taken together, age-related differences regarding the perception of ‘being active’ may relate to the value older adults contribute to specific activities. Thus, as long as the individual is engaging in personally meaningful activities, it is perceived to be important to one’s ability to age successfully.

An active engagement in life was associated with five secondary themes: (a) social engagement, (b) cognitive engagement, (c) social support, (d) successful marriage, and (e) financial security. Both social and cognitive engagement were specific avenues for maintaining an active engagement in life that were identified by adults in all decades

of older adulthood. The majority of participants shared the same view as SD, an 87-year old female, who emphasized the importance of social interactions:

I think to interact with other people is important. Too many people go into their apartment and shut their door and that's just not good in my mind. I think interaction with other people helps you to be happy, it all helps with aging.

Social engagement was interrelated with cognitive engagement as participants expressed the importance of social interaction to keep one's mind stimulated, as stated by MJ, an 82-year old female: "keeping your mind busy I think with reading or discussion with other people." The contribution of cognitive engagement to successful aging was further supported by 72-year old SM: "I think you have to keep your mind very active, stimulated, either with reading, puzzles, interacting with people, keeping informed, updated with what's going on in the world."

The contribution of a support network and a successful marriage to one's ability to age successfully was identified only by adults 75 years of age and older. Participants identified a support network as being beneficial to successful aging as this network of people was able to provide direct assistance and care, or simply 'keep an eye out' for the older adult as described by MT, a 97-year old male: "it helps to have friends. I have some good neighbours who keep an eye out for me which I appreciate because I'm alone."

Other participants emphasized the value of a successful marriage to the aging process when asked what contributes to successful aging. For example, AN, an 88-year old male stated:

I would say for a long life, a very successful marriage, almost the perfect marriage, that of course helps you. Your mind is at rest, you have someone that

you can talk to when you're stressed, and you grow older together very gracefully.

Both a support network and a successful marriage have been associated with maintaining an active engagement in life as they require engagement with another person or people. These results suggest that as an individual gets older it is likely that having supportive relationships become increasingly valuable, regardless if it is for tangible, direct assistance, or simply a sense of security or ease of mind.

Financial security was a secondary theme associated with an active engagement with life that was identified by adults in the youngest and oldest decades of older adulthood (i.e., 65 to 74 and 85+ years of age). Participants, such as LT, a 74-year old female, identified the importance of finances in allowing older adults the freedom to participate in activity: "being able to afford things that you would like to do and that will keep you active and on the go." This view was further supported by AG, a 91-year old male:

We have a limited employer income pension, plus the old age security, and the Canada Pension, which allows us to financially live in dignity without the conscious fear of financial disruption in our life... we can do most everything that we want to do financially speaking.

Therefore, the secondary theme of financial security plays a role in facilitating an active engagement in life.

***Positive attitude.*** Participants in all decades of older adulthood identified maintaining a positive attitude as a contributing factor to successful aging. Regardless of age, the importance of this theme to one's ability to age successfully was accentuated

when individuals were confronted with limitations to health and functioning, or life crises. Specifically, this aspect of successful aging had the potential to reduce the impact of such negative life events, as explained by JS, an 84-year old female:

[My husband] has had several critical things, melanoma, heart attack, he has prostate cancer, and I can honestly say he went through it like that, no blip on his horizon because I think he's got a very good mental attitude.

Similar views were shared by MS, a 76-year old female, in reference to ordinary, age-related limitations: "you live day to day with [limitations] and you can't let it get you down." Maintaining a positive attitude was extrapolated and used in a broader context outside of physical ailments, as 87-year old SD generalized its importance to all negative life events: "I think when you do have major things go wrong with yourself, put all that behind you, don't dwell on unpleasant things, they've happened and leave them behind you." Overall, maintaining a positive attitude was a contributor to successful aging by mitigating the negative effects of decreased health, functioning, and various other unfortunate life events.

Acceptance and adaptation was a secondary theme that was associated with maintaining a positive attitude. This theme was discussed by participants only in the younger two decades of older adulthood (i.e., 65-84 year olds) and included participants identifying the importance of accepting one's current phase of life and adapting to current abilities or situations. Some participants, such as 76-year old DW, spoke about accepting physical limitations:



I think it's important that as you get older you have to realize that you... have to accept the fact that your body is just not capable of doing the things [you used to do]. I think it's just an acceptance of where you are at physically.

Other participants identified the need to accept life changes that often come with the aging process, such as LT, a 74-year old female:

We're not going to live forever, and we're not going to be able to drive forever, and we're not going to be able to live where we're living forever, and I think it's important to think about that... try to make yourself be able to accept what's coming.

The ability to accept and adapt to one's current phase in life was rooted in the ability to maintain a positive attitude as expressed by BB, a 66 year-old male:

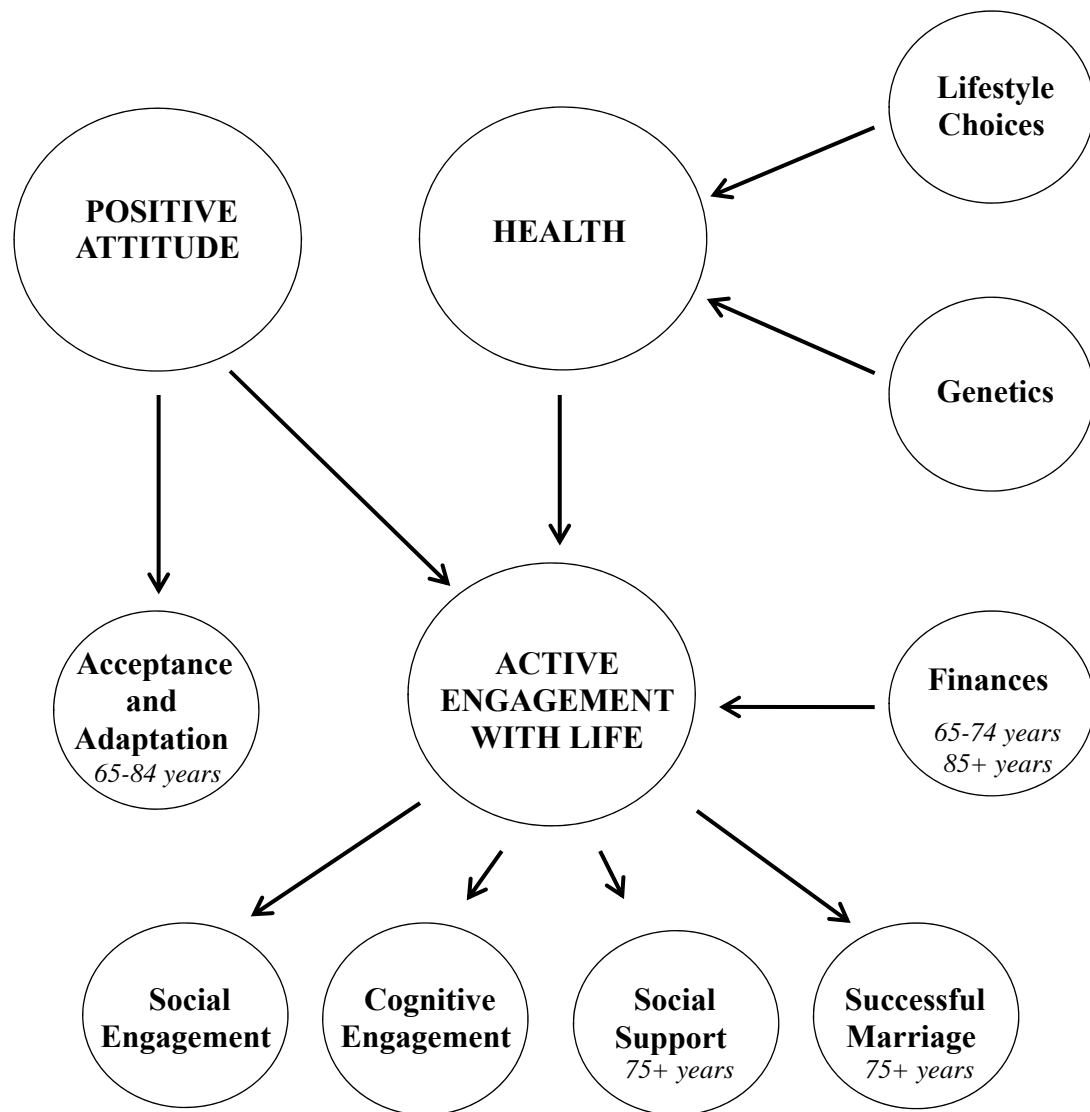
Mental attitude means a lot... I know myself, the limitations I had, at first I was kind of down on myself but then I came to realize, 'hey, I can't dwell on that, I have to focus on what I can do at this point in life and not worry about what I used to do'. I'm at a different phase of life so I have to focus on what I can do and be happy that I can do it.

Age-related differences regarding the theme of acceptance and adaptation may be a product of the amount of time older adults have had to adjust to changes of older adulthood. One could speculate that adults in the oldest decade of adulthood (i.e., 85+ years) no longer view themselves as 'accepting' or 'adapting' to life, rather they may have become stable and content with their current abilities and/or situation.

**A lay-based, multi-dimensional, interrelated model of successful aging.**

Interpretation of the content specific to participant-identified contributors of successful

aging revealed relationships between the themes identified above. For example, genetics and lifestyle choices influence one's health, while maintaining one's health facilitates the ability to actively engage in life. An active engagement in life can be carried out through social engagement, cognitive engagement, or through engagement in close, personal connections, such as support networks, or marriage. However, one's ability to maintain an active engagement is also influenced by being financially able to participate in specific activities. Though maintaining one's health seems to be the foundation for this model, maintaining a positive attitude and accepting and adapting to one's abilities and situations has the power to alleviate the negative impact should health problems or life crises exist. Thus, a positive attitude can facilitate participation in personally meaningful activities in spite of health-related limitations, or difficult life events. Figure 5 provides an illustration of this lay-based, multi-dimensional, interrelated model of successful aging.



*Note.* Larger circles indicate primary themes; labels identifying specific ages represent the unique decades of older adulthood that identified the specific theme (no label identifying a specific age represents a theme that encompassed all decades of older adulthood).

*Figure 5.* Lay-based, multi-dimensional, interrelated model of successful aging. This figure illustrates the relationship between participant-identified contributors of successful aging.

**‘Why’ engagement profiles change throughout older adulthood.** Analysis of focus group and semi-structured interview data yielded five themes related to ‘why’ engagement profiles change throughout older adulthood: (a) health and physical limitations, (b) death, (c) freedom, (d) desire, and (e) influential external factors. As displayed in Table 15, a number of subthemes existed within each theme. These subthemes are supported by participant quotations (meaning units) and are expanded upon in detail.

Table 15

*Themes and subthemes identified as reasons for changes in engagement profiles over the previous five years of older adulthood.*

Theme	Subtheme	Meaning Unit
HEALTH AND PHYSICAL LIMITATIONS	Unspecified health issues and physical limitations	“It all boils down to health issues because we can’t do as much as we used to” (DP, 77-years of age).
	Specified health issues and physical limitations	“I have arthritis and I can’t run, can’t ride my bike, I can’t even garden well because I can’t bend over like I used to do... I would say arthritis has made a big difference to me as far as my active leisure” (AP, 75-years of age).
	Decreased physical senses	“With my lack of eyesight I can’t do the things that I used to do” (MJ, 82-years of age).
	Decreased energy levels	“Five years ago I could work for two or three hours at a time, now I can work for 20 minutes to a half hour... because I’m getting older... your energy seems to evaporate” (MT, 97-years of age).
	Progressive ‘slowing’	“As you go along in life you just naturally slow down” (FS, 87-years of age).
	Combating health issues and physical limitations	“I’m more active now than I was five years ago, it’s a way of combating arthritis” (GW, 77-years of age).

Theme	Subtheme	Meaning Unit
DEATH	Death in social circle	“My social network has shrunk considerably... within the last five years, shrunk because of death” (PP, 76-years of age).
	Death of spouse	“I don’t have a husband anymore... that changes your life completely. There are a lot of things that you do as a couple that you won’t do by yourself” (SD, 87-years of age).
FREEDOM	Freedom of time	“You’re doing things you never had time for, maybe you thought about doing but you couldn’t” (DB, 73-years of age).
	Freedom of choice	“You pick and choose your activities a bit more than perhaps you did before because you’re not socially obligated to do things that you may have been before” (JJ, 69-years of age).
	Freedom from past priorities	“Now that the work and other things that were priorities are not, I don’t have to worry about them, so I can focus more on what I need” (CB, 65-years of age).
	Freedom from ‘sweating the small stuff’	“I think as I’m getting older, I don’t ‘sweat the small stuff’. You don’t get upset about little things as much and you focus on what’s really important. You don’t care what people think as much, you’re a little bit more laid back, you don’t worry about things” (JJ, 69-years of age).

Theme	Subtheme	Meaning Unit
DESIRE	Lack of desire	“You just don’t have the desire... to participate in a physical manner... it’s just I sit in the chair and I don’t want to get up” (WM, 81-years of age).
	Change in what is desired	“Our ideas change, what we used to like as leisure we don’t care for anymore, we want to do something different” (JS, 84-years of age).
INFLUENTIAL EXTERNAL FACTORS	Family role	“Changes in the family... I have a granddaughter and a grandson... that really changes your whole priority of what you do, your life is entirely different when the grandkids come along” (JJ, 69-years of age).
	Finances	“Some people... simply can’t afford on a limited income to participate like some of us do. You’re going all the time and you have enough funds to enjoy that but a lot of people around, it’s strictly money” (BM, 83-years of age).
	Availability of direct support	“There’s a neighbor that’s kind enough to cut my grass and shovel my snow, so I don’t have to worry about that” (AM, 91-years of age).

***Health and physical limitations.*** Nearly all participants discussed personal health status and limitations to physical functioning as affecting engagement in activity over the previous five years. Within this theme, six subthemes emerged: (a) unspecified health issues and physical limitations, (b) specified health issues and physical limitations, (c) decreased physical senses, (d) decreased energy levels, (e) progressive ‘slowing’, and (f) combating health issues and physical limitations. Detailed descriptions through the use of participant quotes are provided for each subtheme.

*Unspecified health issues and physical limitations.* Participants within all decades of older adulthood identified a decrease in activity because of unspecified health issues and physical limitations. Some participants, such as MS, a 76-year old female, simply blamed ‘health’ for a decrease in specific activities: “your health stops you from doing a lot of things, like driving, I drove and I can’t anymore.” Other participants, such as 88-year old MF, used the broad explanation of one’s ‘body’ as the cause of a decrease in activity: “I can’t seem to do things I used to, my body won’t let me... I can’t bend down to do the gardening to well, and I can’t bowl or anything because of my body.” These general reasons for a reduction in activity pertained to different activity types. When asked about changes in active leisure activities, MJ, an 82-year old female, responded: “our bodies don’t allow us to do them”. Similarly, unspecified health issues affected participants’ productive activities as explained by PP, “I think my productive activities have really gone down, dropped off drastically in the last five years, basically because of health issues” (76-years of age). This trend extended to participants’ social activities as well: “before age 70 we were totally involved in the community, at age 70 we started having health problems and it just went like that [participant points down]” (DP, 77-years



of age). These results indicated that health and physical limitations are sometimes conceptualized as broad constructs with no explicit feature that limits participation in activity.

*Specified health issues and physical limitations.* Specified health issues and physical limitations were frequently and extensively discussed as reasons for decreased engagement in activity by participants in all decades of older adulthood. Participants often discussed a general sense of limitation that resulted from a specific health issue, such as a cardiac-related ailment: “I have an existing heart problem, so it doesn’t allow me to do what I want to do, so there’s a lot of restrictions as you age” (CE, 73-years of age). Distinct age-related differences were expressed as younger participants often spoke of specific health conditions affecting participation in sport and recreation, such as WS, a 74-year old male: “I had to get both hips replaced and that took care of the hockey and the basketball.” A similar experience was discussed by a 66-year old female, EM: “I have rheumatoid arthritis so I have problems, I can’t bowl or golf like I used to because of my arms, so my [active leisure activities] have decreased definitely.” In contrast, participants within the oldest decade of adulthood (i.e., 85+ years of age) focused more on fundamental activities, such as the ability to walk: “I don’t [walk] much, I can when I have to, like we go grocery shopping and I’ll trudge along the store leaning on a cart... I have peripheral neuropathy, nerve damage to the legs, doesn’t let me walk anymore” (FS, 87-years of age). Participants within the oldest decade of older adulthood also discussed specific health issues affecting the ability to engage in productive activities: “I don’t do the vacuuming and the floors... I’ve developed emphysema... I just can’t do that” (SD, 87-year old).

In addition to specified health issues, participants in all decades of older adulthood identified three specific physical limitations: (a) a decrease in strength, (b) a decrease in balance, and (c) the development of pain. A decrease in strength was acknowledged by participants such as EW, a 75-year old female: “we’re not as strong physically... that’s the truth of the matter, you think you’re strong, but we’re not as strong physically as we were.” Other participants, such as 82-year old BL, identified ways in which a decrease in strength affected personal activities: “when I got these great grandbabies, they like to crawl all over you and they have to get up on me, I can’t lift them up, too heavy anymore.” Similarly, a lack of balance was recognized by participants: “our balance isn’t what it was five years ago” (DP, 77-years of age), and was further discussed as limiting participation in activity: “four or five years ago they switched some of my blood pressure medication which destroyed my sense of balance... that means that I’m not able to do the walking I used to do” (97-years of age). Finally, pain was associated with limiting participation in personally meaningful activities by participants like CE, a 73-year old male: “I still enjoy going out with people and doing things, but my dancing has changed because it’s a lot more painful than I’ve ever imagined.” This concept was extended to participants in the oldest decade of life, such as DA, a 96-year old female, who no longer attended church services because of physical pain caused by the situation: “I don’t go [to church] and sit on those hard chairs because it hurts by back.” Overall, participants in all decades of older adulthood acknowledged specific health issues and physical limitations as reasons for decreasing engagement in specific activities throughout adulthood.

*Decreased physical senses.* Participants in all decades of older adulthood identified decreases to one's physical senses, which predominately included limitations to visual acuity, and to a lesser extent auditory ability, as effecting participation in activity over the previous five years. Reductions to the sense of vision was experienced by participants of all ages and created limitations for engagement in various activities. For example, CE, a 73-year old male, no longer participated in his once-enjoyed handicrafts due to his difficulties with vision:

I do upholstery, which I can't do very readily anymore because my eyesight is not there, I can't thread a needle anymore, so I find that most of my activities have gone downhill... at one time I loved them... [I can't] sit at it because I can't see properly.

A similar experience was shared by 82-year old, RD, who stated: "wood work has always been my hobby but about five years ago, with eye problems... I said now is the time to move away from handling machinery." Beyond handicrafts, additional passive leisure activities such as reading were discussed as being affected by the deterioration of one's vision: "I have problems with my eyes so reading is not high on my list" (FS, 87-years of age). Eyesight was also identified as a factor in losing the ability to drive, which has the potential to broadly affect one's participation in activity as stated by AM, a 91-year old female: "I don't go out much because I can't drive anymore because of my eyes."

The impact of losing one's auditory ability was discussed only among participants 75 to 84 years of age. Specifically, participants identified one's ability to hear as essential to social interactions, as expressed by EP, a 75-year old female: "[my husband] can hear very little even with two hearing aids, so that has really changed our social interactions."

In addition, the loss of hearing was stated to affect one's enjoyment during passive leisure activities as explained by RS, a 78-year old male, "some television programs that I really enjoy and all the other shows, almost anything else on television for me anymore has become impossible, my hearing doesn't allow me to enjoy it." Evidently, a decrease in one's physical senses has far reaching limitations, as participants demonstrated the negative impact such losses can have on one's engagement in a variety of activities.

*Decreased energy levels.* Participants in all decades of older adulthood identified a decrease in energy levels as affecting engagement in activity over the previous five years. Some participants discussed decreased participation due to energy levels when asked about engagement in active leisure activities, such as CE, a 73-year old male: "my [active leisure] has gone downhill, the energy levels are not there... things that I did in my past are all over." This decrease in energy was also associated with a decrease in productive activities as stated by JW, a 70-year old female who maintained full-time employment at the time of data collection:

I'm still working full-time...when I come home I don't do anything, like I don't vacuum, I don't paint, I don't do any of that stuff because I don't have the energy to do all the stuff that I did five years ago after work.

However, participants indicated that a decrease in energy levels resulted in an increase in the time spent engaging in passive leisure activities, as explained by AP, a 75-year old female: "you sit and watch TV because you're tired, you need to rest, it's not because you're dying to watch television, and you're not going to sit there and do nothing, so you turn the TV on." Interpretation of the data collected alludes to a shift in time-use due to

reduced energy levels, where time spent engaging in productive and active leisure activities is replaced by time spent in passive leisure pursuits.

*Progressive 'slowing'.* A natural slowing experienced during older adulthood was identified as a reason for changes in engagement patterns by adults of all ages.

Participants often spoke of 'slowing down' in a general sense, such as 83-year old BM: "I used to do things faster, now I do them much slower." Similarly, BL, an 82-year old female applied the notion of 'slowing down' to participation in social activities: "[social activities] have gone from young activities to old activities, much slower pace." It is important to note that many participants, such as 91 year-old AG, demonstrated the maintenance of past activities despite the decrease in the pace in which the activity was completed: "I would say that at this point in time [productive activities] haven't changed but they have slowed down." This view was further illustrated by JS who quoted her 87-year old husband: "I can do anything that I used to do but it takes me maybe three or four times as long to do it." Likewise, 72-year old MH, provided examples of activities that she continued to complete at a slower pace: "I've slowed down, I still go out there and do my yard work and mow my lawn, and I still shovel snow, but I do take it easy." Overall, participants indicated that a progressive 'slowing' with age did not necessarily affect the types of activities participated in, rather completing the activities at a slower pace allowed participants to maintain engagement in specific activities.

*Combating health issues and physical limitations.* The concept of changing engagement profiles based on the need to combat health issues and physical limitations was dominated by participants within the youngest decade of older adulthood (i.e., 65-74 years of age). This was articulated by FB, a 67-year old male:

I think sometimes your health dictates how you change, like I didn't particularly work out a lot but I ended up having to have heart surgery and they tell you to start working out and keep yourself in shape so suddenly things that you didn't place as high on the priority list you suddenly say, 'this is a priority, I have to do this all the time'.

Similarly, BB, a 66-year old male stated: "it was my goal that once I retired I was going to get involved with the exercise program... I felt it was necessary if I was going to maintain my strength." One participant, 65-year old CB, supported this theme with a simple, all-encompassing statement: "active leisure activities do increase because you need it for fitness." Evidently, individuals in the younger years of older adulthood acknowledged the importance of participating in active leisure activities to combat health issues and physical limitations and changed personal engagement patterns accordingly.

***Death.*** Participants within all decades of older adulthood acknowledged that engagement in activity over the previous five years had been affected by the death of individuals with whom they shared a relationship. This theme included two subthemes: (a) death in social circle, and (b) death of spouse. Both subthemes have been elaborated on through the use of participant quotes.

*Death in social circle.* Deaths experienced within the participants' social circles were discussed as limiting social activities throughout all decades of older adulthood. However, this theme became more prominent among participants of older ages. Participants, such as 79-year old MD, indicated that she had experienced the death of many friends whom she had once engaged in social activities with: "we had a group of 12 or 14 friends and we only have one couple left, and that's the thing that is limiting." This

experience was similar among participants in the oldest decade of adulthood, though such participants often expressed the loss of their social circle in its entirety. For example, SD, an 87-year old female, explained that she no longer had social contacts due to the death of her friends: “I had an awful lot of lovely friends and a very good life, and they’re all dead. When you get really old, everybody that you knew or you liked....all the couples we chummed around with are all gone.” This view was further supported through conversation regarding social activities with AL who stated: “I’ve outlived all my friends,” (91-years of age) and DA who explained: “I haven’t got any [friends], they’re all dropped off... died” (96-years of age).

The theme of ‘death in social circle’ also encompassed participants expressing their concern of their own impending death or the impending death of persons within their social network. However, participants only voiced this concern within the younger two decades of older adulthood. Impending death affected one’s participation in social activities as participants often choose to engage in specific social outings to ensure visitation with friends and family prior to the death of either party. This concept was explained by JS, an 84-year old female: “we’ve been invited to a family reunion... it’s going to be a lot of problems for us to get there but... we have to go because... this may be the last time we’ll be able to see these people.” This thought was also expressed by 67-year old FB:

I think you become more conscientious about your family that you probably didn’t see much when you were working, but now you’re getting older you’re thinking ‘boy, they’re all getting older too, I want to make contact with these

people.’ I wouldn’t have thought about that ten years ago, you just assume they’re going to be there, too many funerals.

Overall, participants in the younger decades of older adulthood viewed impending death as a reason to engage in specific social activities, while participants within all decades of older adulthood (though more pronounced in the older decades) experienced a decrease in social activities following the death of individuals within their social circle.

*Death of spouse.* Participants within all decades of older adulthood identified the death of one’s spouse as a factor that had affected engagement patterns in the previous five years of older adulthood. However, nearly all meaning units included within this subtheme were provided by participants 75 years of age older, and thus was dominated by participants in the two oldest decades of adulthood. Following the death of one’s spouse, participants, such as 82-year old MJ, expressed an overall reduction in engagement: “five years ago we volunteered, we worked at the church, we went out every day pretty well... I’m no longer doing that... my life has changed completely.” Other participants spoke of a shift in time-use toward more passive leisure activities following the loss of one’s spouse: “I didn’t read in the day time as much when I was married, we were always on the go, there were always nice things to do” (SD, 87-years of age). This shift in time-use was also shared by LT, a 74-year old female:

I used to do things in the evening... I had a husband, but now without a husband I don’t do much in the evenings, I keep my days full but then at night I read or whatever, but that was a change.

Participation in activity was also affected after the loss of one’s spouse due to the status of being ‘widowed’, or no longer ‘coupled’. For instance, MJ, an 82-year old female



spoke of reductions in her social activities because she no longer had a spouse: “you don’t get invited out as a single person as you do as a couple, I don’t entertain as often because it’s a big effort because you don’t have any support.” Similarly, SD, an 87-year old female, expressed feelings of being restricted regarding participation in social activities as a single person: “there are many things, social things, that you can’t do by yourself.” Also creating a limitation to participating in social activities was the loss of friendships following the death of one’s spouse, as explained by 75-year old CR:

As soon as [your spouse] dies, [your friends] don’t know you anymore. They don’t even phone you, nothing. I couldn’t believe it, and the wives don’t want you to talk to their husbands...I was just all on my own.”

Consequently, the loss of one’s spouse was reported to negatively impact one’s participation in social activities, and resulted in a shifting of time-use towards passive leisure pursuits.

***Freedom.*** A change in one’s engagement profile due to a sense of ‘freedom’ was unique among participants within the younger two decades of older adulthood (i.e., 65-74 and 75-84 years of age). Thus, recognizing this freedom associated with older adulthood may be a function of the length of one’s time spent in one’s senior years. For example, younger participants may feel free from the responsibilities and stresses of middle adulthood, while the participants within the oldest decade of adulthood may have become accustomed to this ‘freedom’. The theme of freedom encompassed four subthemes: (a) freedom of time, (b) freedom of choice, (c) freedom from past priorities, and (d) freedom from ‘sweating the small stuff’. Each subtheme is detailed by quotations from participants.

*Freedom of time.* Participants under the age of 85 years identified an increase in one's participation in specific activities due to an increase in free time that participants associated with older adulthood. Many participants, such as 75-year old AP, discussed an increase in participating in passive leisure activities as the increased availability of free time allowed participants to shift their time to activities they enjoyed: "I read more because I have more time and I absolutely love to read. I love to have a book... before you were so busy it'd take months to read a book." Likewise, passive leisure activities that were previously considered a 'waste of time' had now become enjoyed during the free time of RS, a 78-year old male: "I have more time to do nothing. In my opinion, reading the newspaper was a waste of time, now I love it. It's still a waste of time, but I love it." The freedom of one's time also allowed participants to increase participation in preferred productive activities in the form of volunteerism: "I started to visit people, shut-ins, so that's something I didn't do five years ago because I didn't have the time to do it. I've always had the interest but not the time" (GW, 77-years of age). This trend was also extended to family activities: "definitely more time with family, with my grandchild. We're able to do more because we have more time to do it" (BB, 66-years of age), as well as active leisure activities: "while you're working you're sort of mulling along, now that I'm retired I make the time to do exercises and do other things that are more enjoyable" (JJ, 69-years of age), and finally, travel: "the big thing is travel... because you can get away... you have the time to travel. I couldn't take two months off to go away on a holiday when I was working five years ago" (JJ, 69-years of age). Overall, participants demonstrated that the availability of free time allowed a shift in time toward specific

activities that were personally enjoyed, as stated by DB, a 73-year old female who discussed the reason for participating in specific activities:

They are activities that I like to do and I have more opportunity to do them now. I just like doing them... they're all things I like, and I have more opportunity to do it now so I might have done it sporadically before but now I can do it.

Evidently, no universal pattern of time-shifting existed among the participants due to the freedom of one's time, rather participants expressed an individualized pattern of time-shifting toward personally preferred activities.

*Freedom of choice.* Freedom of choice was primarily discussed by participants within the youngest decade of older adulthood (i.e., 65-74 years of age) as a factor that influenced participation in activity over the previous five years. Participants often spoke of the ability to 'pick and choose' what activities they wished to participate in, such as JJ, a 69-year old female: "you pick and choose your activities a bit more than perhaps you did before because you're not socially obligated to do things that you may have been before." This freedom of choice in regards to participation in activity was further supported by JW, a 70-year old female: "I think you pick what you want to do. I think I have choice... I have a choice to do it or not to do it." A 65-year old female, CB, associated this freedom of choice with her recent retirement:

I have choices I can make. Prior to retirement I didn't have as many choices, it was work, which was the priority. Coming home, I was tired at the end of the day so I didn't get out. Now I can wake up and think, 'what do I want to do today?'

Participants also related the freedom of choice to their social circle, which had an impact on their participation in social activities. For example, 75-year old EP, explained a

change in her social circle due to her freedom to choose her friends following retirement: “you’re able to choose who you want to be friends with. When you work with people you’re stuck.” Other participants, such as AP, shared similar reflections:

We’ve lost connections with a lot of people that we used to see through work, they became friends, you did some social things with them through work, but you don’t do that anymore, I’m friends with who I want to be friends with (75-years of age).

The concept of having a greater freedom to ‘choose’ friends also extended to a 70-year old participant who maintained full-time employment, and thus the ‘freedom of choice’ was not necessarily a function of retirement: “I think we’ve reached an age where we can choose to spend time with people who make us feel good rather than thinking, ‘oh, I have to go’” (JW). Similar to the freedom of time associated with older adulthood, the freedom of choice was also discussed as an avenue that allowed older adults to experience greater enjoyment throughout their senior years, as explained by LP: “probably [the] quality of [your social circle] improves because you select and do what you want, you meet the people you want to, spend time with fewer people but whatever time you spend you enjoy more” (72-years of age). Therefore, the freedom of choice enabled participants to engage in activities that were personally enjoyed with social contacts they preferred, and thus no common pattern of changing engagement profiles were identified between participants based on one’s freedom of choice.

*Freedom from past priorities.* Freedom from past priorities was frequently and extensively discussed among participants in the youngest decade of older adulthood (i.e., 65-74 years of age) and remained unique to this age group as a factor that affected

engagement in activity over the previous five years. As expected, participants, such as 65-year old CB, related freedom from past priorities to retirement: “now that the work and other things that were priorities are not, I don’t have to worry about them.” However, ‘past priorities’ extended beyond formal employment to additional productive activities, such as housework, which did not hold the same importance as it did in the past to 74-year old MD who simply stated: “I don’t have to have as clean a house as I used to want.” The reduction in the importance of housework activities was further reflected by DB who explained a shift in priorities over the past five years:

I am not as concerned with the housework as my leisure. I don’t have as much emphasis on the housework, I don’t really lose any sleep if something is not done, but I do care if I miss my theatre or my community choir. So there’s more enjoyment now in my leisure versus the house that always needs something and at one time it was really important (73-years of age).

This shift in one’s priorities to more personally enjoyed activities was also supported by LT, a 74-year old female: “now that we’re in our senior years, all that stuff that was so important before like working and house cleaning... now I think more of maybe how much time I have left and I’m going to enjoy it.” Furthermore, 70-year old JW explained the concept of freedom from past priorities through the reduction in perceived expectations during one’s senior years: “we have to just be here, we don’t have to do what we always thought we had to do.” Taken together, participants within the youngest decade of older adulthood identified a change in engagement patterns over the previous five years through the removal of past priorities which allowed participants the freedom to prioritize activities based on the enjoyment one received from participation.

*Freedom from 'sweating the small stuff'*: Participants within the two youngest decades of older adulthood (i.e., 65-74 and 75-84 years of age) indicated a 'mellowing' over the past five years which was reported to have affected engagement in activity. This concept was articulated by BM, an 83-year old male: "as I age I find myself becoming less intense about everything... we let things go that we wouldn't have a few years ago." This notion of 'letting things go' was applied to participation in activities by EM, a 66-year old female: "I think as you get older you get calmer, you know, 'don't sweat the small stuff.' Things don't bother you, you're not trying to cram everything into 24 hours that would take 48 hours." This thought was supported by RD, a 69-year old male:

At one time you were [ready] to do anything, you know 'I got to do this, let's do it and get it over with.' By the time you got that finished there was something else, but today you say, 'oh well... I'll wait until the next day.'

Freedom from 'sweating the small stuff' was also reflected in participants' carefree attitude that had emerged in the previous five years. For example, CB, a 65-year old female, explained that she felt freer to engage in different activities:

I'm trying different things because of where I'm at in my life. It's just like you lose the fear of what you do... maybe it's good that you do, and you just let go of being so serious all the time.

Another participant, BB, explained how this carefree attitude allowed greater enjoyment in life:

You've lived your life, been there, done that, and you get to a point where like, when you're younger, you're more rigid because you're worried that you're going to make these mistakes, and when you get older it doesn't really matter because

you've already made those mistakes. You have a different frame of mind... I guess with maturity you enjoy life more (66-years of age).

Overall, a clear change in engagement profiles due to the freedom from 'sweating the small stuff' was not revealed, however participants indicated a reduction in pressure to complete specific activities, and a greater willingness to attempt new activities.

*Desire.* One's desire for participation in activity was acknowledged as a factor that influenced engagement patterns over the previous five years for participants of all ages, however was more pronounced among the older two decades of adulthood (i.e., 75-84, and 85+ years). The theme of 'desire' included two subthemes: (a) a lack of desire, and (b) a change in what is desired. Quotations provided by participants have been used to discuss each subtheme in detail.

*Lack of desire.* Participants of all ages identified a lack of desire as negatively affecting participation in various activities over the previous five years. Participants, such as AP, often expressed that the lack of desire was rooted in laziness: "some of mine is laziness, I'll be honest, you just don't bother" (75-years of age). Similarly, AG, a 91-year old male, recognized laziness as the cause of decreased participation in activity: "I'm lazy, what came normally before, the drive to get involved in social, political activities, has sort of subsided a bit, I do less of that." However, other participants discussed a lack of desire to participate in activity due to changing interests: "I think the interest in things has something to do with it, you may still be able to do it, but you don't want to do it anymore" (WM, 81-years of age). Some participants spoke of decreased participation in specific activities, such as social outings: "Even going out socially, I don't have the desire to go out on Fridays dancing because I'm not up to it" (CE, 73-years of age). This

reduction in participation extended to productive activities: “house repairs, things that have to be done, I don’t want to do them” (DW, 76-years of age), and active leisure pursuits: “it’s too much bother to get up and go for a walk” (RD, 69-years of age). Consequently, participants experienced a decrease in various activities due to a general weakened desire to participate.

*Change in what is desired.* Participants in the two oldest decades of adulthood (i.e., 75-84 and 85+ years of age) indicated that the desire to participate in specific activities had changed over the previous five years, as explained by WM, an 81-year old male: “desire changes also with age, desire to do certain things.” Some participants discussed changes in preferences in a broad sense, such as DW, a 76-year old male: “you might have developed more interest in some of your leisure activities therefore you might want to do them more than you did before.” This was the case for many participants who expressed a shift in desire to participate more often in passive leisure activities: “I’m more happy just to stay home during the week... it’s like after the whole day you’re ready to just relax at night” (76-years of age). Evidently, this shift in desire translated into greater contentment with participating in home-based activities as expressed by AP who quoted her 82-year old friend: “one thing a week is all I care to do, I’m quite happy to stay home every night” (75-years of age). Desire and satisfaction with home-based activities were also emphasized by participants in the oldest decade of adulthood: “I’m just too lazy to participate, I’m getting so I like to stay home” (MF, 88-years of age). Evidently, participants within the two oldest decades of adulthood acknowledged that the desire to participate in activities had shifted toward home-based passive leisure activities, and thus affected one’s overall pattern of engagement.



*External influential factors.* Engagement profiles of participants within all decades of older adulthood were affected by external influential factors. Within this theme three subthemes emerged: (a) family role, (b) finances, and (c) availability of direct support. Detailed explanations are provided for each subtheme through the use of participant quotes.

*Family role.* Participation in activity was thought to be affected by one's family role for participants in the younger two decades of older adulthood (i.e., 65-74 and 75-84 years of age). Specifically, participants identified that having a role as a grandparent had changed their engagement profiles over the previous five years. Some participants, such as AP, expressed an increase in family activities due to the time spent with grandchildren:

We're involved with our kids a lot, we have nine grandchildren, and I choose sometimes to be around for those kids, I prefer that, I'm just loving the fact that we can be there for them. Sometimes I might not commit to something, I rather be there if the kids come... that's one of the reasons things have changed (75-years of age).

However, other participants identified a decrease in family activities because their grandchildren were now adolescents and did not require direct care. This concept was explained by DB, a 73-year old female: "some of my family time has decreased because I don't have to babysit as much, my granddaughters are older now, so I'm not called upon to put [the grandchildren] on the bus, take off the bus, that kind of thing." Therefore, the role that participants held within their families had the potential to change engagement profiles depending on the participants' responsibilities as a grandparent.

*Finances.* Participants within the younger two decades of older adulthood (i.e., 65-74 and 75-84 years of age) identified finances as a factor that affected participation in activity. Some participants, such as BL, an 82-year old female, spoke of specific instances where one's financial situation dictated participation in activity:

When we go out with my Red Hat Group we usually go to either lunch or dinner... we have to be careful because everybody's on a fixed income and some of them really have to be careful, so we plan where we're going to go to eat that has to be reasonable.

The importance of finances to one's participation in social activities was further supported by MD, a 74 year old female, in her response to why her social activities had changed: "money, if you're a widow you have to take care of money yourself." As one would expect, financial security aided in the ability to participate in activity throughout older adulthood.

*Availability of direct support.* Engagement in specific productive activities was dependent on the availability of direct support for individuals within the older two decades of adulthood (i.e., 75-84 and 85+ years). However, this theme was more frequently and extensively discussed by those over the age of 85 years. The availability of direct support was associated with a decline of participation in specific productive activities as explained by DA, a 96-year old female: "I used to cut my own grass and now I don't, snow shoveling and all that kind of stuff, I have to have all that done." Likewise, MF, an 88-year old female, also had her housework completed by other individuals: "I have someone come in and house clean for me and to do my gardening and my lawn." Some participants specified that they received direct support in productive activities from

family members: “my great granddaughter comes and does it and I pay her to do it... she vacuums all the carpets and washes all the tiles” (SD, 87-years of age). A 96-year old participant, DA, explained the importance of the direct support she received from her family as it allowed her to stay in her own home: “been [at home] for over 50 years, if it wasn’t for the kids I’d have had to go into some other place but they come by and anything I need they get, take care me, so I’m blessed.” Taken together, participants within the oldest decades of adulthood experienced a decrease of participation in specific productive activities over the previous five years if direct support was available to complete such activities.

## IV. Discussion

This study sought to examine ‘how’ and ‘why’ engagement profiles change throughout the different decades of older adulthood within a framework of successful aging. The exploratory nature of this thesis justified the use of mixed methods research which allowed for a descriptive and comprehensive illustration of the patterns of participation that emerge through the different decades of one’s senior years. Specifically, this study proposed a lay-based, multi-dimensional, interrelated model of successful aging. Within this model, concepts pertinent to ‘how’ and ‘why’ engagement profiles change throughout older adulthood were identified. Particularly, participants conceded that an active engagement in life was a principle component of aging successfully, which was reflected in participants’ maintenance of engagement in personally meaningful and enjoyed activities (i.e., social and passive leisure pursuits). Furthermore, ‘why’ engagement changed (in instances where change existed) was often rooted within the proposed model of successful aging (i.e., health and physical limitations, available social support, and finances). Evidently, the use of participant-identified contributors of successful aging is an appropriate means to aid in the exploration of engagement profiles during decades of later life. In the interest of clarity, study results are discussed as separate components prior to the integration of the findings.

**‘How’ Engagement Profiles Change throughout Older Adulthood**

Changes in engagement profiles were examined through two means: (a) frequency of weekly participation (days per week), and (b) daily participation (time per day). Since only minor differences existed between weekly and daily participation, discussion

regarding engagement patterns will not identify difference between these measurements of participation, rather a general overview of engagement patterns will be provided.

The direct comparisons between participation in the different activity types (i.e., productive, social, active leisure, and passive leisure activities) was a novel research endeavor, and thus expanded the knowledge within the literature by providing insight to participation in different activity types in relation to one another. Overall, the present study indicated that older adults across all decades of later life spent the greatest amount of time engaging in passive leisure activities, and the least amount of time participating in productive activities. What makes this current finding interesting is that this pattern of engagement was stable across each separate decade of older adulthood. Previous literature often combined decades of older adulthood when comparing activity types against one another, or spoke to the change of direction in participation without identifying differences between activity types per age. For example, the pattern of increased passive leisure participation (Krantz-Kent & Stewart, 2007; Statistics Canada, 2005; Gauthier & Smeeding, 2003; Gauthier & Smeeding, 2010; Horgas, Wilms, & Blates, 1998; Hurd & Rohweeder, 2007; Victorino & Gauthier, 2005) and decreased productive participation (Fast et al., 2006; Johnson & Schaner, 2004; Johnson & Schaner, 2005; Krantz-Kent & Stewart, 2007; Oman, Thoresen, & McMahon, 1999; Wahrendorf, van dem Knesebeck, & Siegrist, 2006) as one ages is supported by previous literature, but the specific engagement profile for participants within each decade of older adulthood is omitted. The steady engagement pattern across decades of older adulthood in regards to productive and passive pursuits in the current study may be a reflection of nearly all participants (two participants maintained employment) having been retired.

In addition, participation profiles in social and active leisure activities were similar, though social pursuits exceeded active leisure engagement occasionally. This may be a function of older adults' preference for social engagement (Nilsson, Lofgren, Fisher, & Bernspang, 2006), and participation in activities that are found most enjoyable (Chilvers et al., 2010; Fricke & Unsworth, 2001). Furthermore, the lower level of engagement in active leisure activities may simply be a reflection of the majority of older adults that do not meet the recommended guidelines for participation in physical activity (Ashe, Miller, Eng, & Noreau, 2009). To provide a greater description of changing engagement profiles throughout older adulthood, each activity type has been examined individually.

Participants consistently reported a decrease in participation in productive activities over the previous five years, as well as across the three decades of older adulthood. This change in engagement is thoroughly supported by previous literature as increased age is related to a reduction in overall participation in activity (Andrew, 2005; Mendes de Leon et al., 2003; Menec, 2003), and more specifically productive pursuits (Oman et al., 1999; Wahrendorf et al., 2006). As previous literature would suggest (Fast et al., 2006; Johnson & Schaner, 2004; Johnson & Schaner, 2005; Krantz-Kent & Stewart, 2007) participants within the present study reported decreases in specific productive activities such as volunteer work, care for others, and paid employment. Domestic activities, such as home repairs and heavy housework, also experienced a decline over time. However, participation in light housework remained unchanged which may account for previous literature indicating that domestic tasks exceed participation in

other productive activities (i.e., employment, volunteerism, caring for others) as one ages (Krantz-Kent, 2005; McKinnon, 1992).

In addition to a reduction in productive engagement, participants within the present study also identified a decrease in participation in active leisure activities over time. This finding supports the limited research currently available, which suggests leisure time physical activity declines with age (Crombie et al., 2004). Thus, it is not surprising that older adults are not meeting recommended guidelines for participation in physical activity (Ashe et al., 2009).

Participants within the present study reported stable engagement patterns in social activities throughout older adulthood. This finding is in contrast with previous literature that suggests that there is a reduction in one's social network and perceived social support with increased age (Bassuk, Glass, & Berkman, 1999). Therefore, in spite of changes to the structure of one's social situation, older adults maintain the frequency of engagement in social activities. As such, it may be appropriate to speculate that the maintenance of social activities with increasing age is simply a reflection of the preference of social activities among adults within the oldest decades of adulthood (Nilsson et al., 2006). This concept coincides with previous literature indicating that older adults participate in activities based on the perceived enjoyment of the specific activity (Chilvers et al., 2010; Fricke & Unsworth, 2001).

Similarly, stability of engagement in passive leisure activities was also reported throughout the decades of older adulthood, as well as over the previous five years. This contradicts current literature that suggests that participation in passive leisure pursuits increases with increasing age (Krantz-Kent & Stewart, 2007; Statistics Canada, 2005).

However, the present study employed unique methods to examine changes in passive leisure engagement through cross-sectional and retrospective (i.e., semi-longitudinal) data. Since previous literature identified changes in passive leisure engagement from cross-sectional data only, the current data adds a unique perspective to the literature by indicating a stable engagement pattern in passive leisure activities over a five year period within the same individual. In addition, the discrepancy between the cross-sectional data within the present study and that of previous literature may be a function of differing definitions of passive leisure activities used across research studies. In the present study, passive leisure activities included only specific discretionary activities (activities that one chooses to participate in based on one's abilities/preferences; Maier & Klumb, 2005), whereas past definitions included both discretionary activities and regenerative activities (activities that are required to maintain one's physical being, i.e., personal maintenance tasks, sleeping; Maier & Klumb, 2005). Thus, it is appropriate to speculate that previously documented increases in passive leisure activities may be a function of increased participation in regenerative activities which would confound results to suggest that there is also an increase in participation in discretionary passive leisure activities as one ages. This speculation is supported by previous research which reported increased participation in personal maintenance tasks with increasing age (Gauthier & Smeeding, 2003; Gauthier & Smeeding, 2010; Horgas et al., 1998; Hurd & Rohweeder, 2007; Victorino & Gauthier, 2005). Taken together, the present study provides a distinct view of passive leisure activities within the existing literature by separating regenerative activities from discretionary passive leisure activities, and focusing on the latter.



### **‘Why’ Engagement Profiles Change throughout Older Adulthood.**

Qualitative inquiry provided an exploratory avenue in which to understand reasons for changing engagement profiles throughout older adulthood. In support of previous literature, health and physical limitations were readily expressed by participants in all decades of older adulthood as causes for changes in engagement patterns. As identified by participants in the current study, health and physical limitations have been noted to negatively affect various types of engagement during later life including: overall activity levels (Andrew, 2005; Mendes de Leon et al., 2003; Menec, 2003), social engagement (Andrew, 2005; Bassuk et al., 1999; Bukov, Maas, & Lampert, 2002; McLaughlin, Vagenas, Pachana, Begum, & Dobson, 2010; Newsom & Schulz, 1996), and active leisure participation (Agahi, Ahacic, & Parker, 2006; Smith et al., 2012). Within the theme of health and physical limitations, participants identified specific reasons for changing engagement profiles such as a decrease in one’s physical senses and energy levels, and a progressive ‘slowing’ with age. These subthemes have a foundation based within previous literature. For example, Fisk, Meyer, Rogers, and Walker (1998) identified constraints of daily living for adults 65 to 88 years of age to include general health limitations, which encompassed the concept of ‘slowing’, as well as difficulties with visual and auditory acuity. Additionally, a lack of energy during older adulthood has been identified as a primary factor limiting one’s participation in active leisure pursuits (Crombie et al., 2004). As such, the current study expanded previous literature by providing a further understanding of such themes and by acknowledging these themes as affecting the overall engagement profiles of older adults.

While the previous subthemes explained a decrease in participation, one subtheme, combatting health issues and physical limitations, was presented as a motivator for *increased* participation specific to active leisure pursuits. This finding supports the notion that older adults participate in active leisure activities for physical health benefits, and that experiencing health issues or physical limitations have the potential to act as a stimulus for participation in physical activity (Cohen-Mansfield, Marx, & Guralnik, 2003; Mathews et al., 2010). However, this reason for increased active leisure engagement was only recognized among participants in the youngest decade of older adulthood (i.e., 65-74 year olds). Thus, it would be beneficial to use this change in engagement as a model in order to promote engagement in active leisure activities for older adults of all ages.

A second theme identified as affecting engagement patterns throughout older adulthood was death, which included experiencing death within one's social circle and the death of one's spouse. Though this theme became more pronounced with increasing age, it was identified by participants within all decades of older adulthood. In many instances, experiencing death within one's social network created a decrease in engagement specific to social activities. In addition, this subtheme also provided a direct explanation to the overall reduction in one's social network and social support with increasing age (Andrew, 2005; Bassuk et al., 1999; McLaughlin et al., 2010; Newsom & Schulz, 1996). Beyond experiencing the death of social contacts, participants also expressed changes in engagement patterns as the result of losing one's spouse. Overall, participants having been widowed voiced feelings of social isolation following of death of his/her spouse, and a reduction in overall activity with the exception of passive leisure

pursuits. This supports previous literature that has identified a discontinuation in activity following the death of one's partner (Strain, Grabusic, Searle, & Dunn, 2002). However, this change in engagement following the loss of one's spouse raises concern, as such a decline in social and leisure participation among bereaved widows and widowers has been related to a reduction in overall well-being (Janke, Nimrod, & Kleiber, 2008).

Perhaps the most unique and appealing theme acknowledged as affecting engagement patterns over the previous five years of older adulthood was participants' identification of a sense of 'freedom' being associated with the aging process. This theme was only recognized by participants within the youngest two decades of older adulthood (i.e., 65-74 and 75-84 year olds) and thus had a greater potential to coincide with retirement during the previous five years. Therefore, this theme may be associated with the freedom to reallocate one's time to different activities following retirement (Statistics Canada, 2005). However, the sense of 'freedom' identified by participants expanded this concept to include not only a freedom of time, but a freedom of choice, a freedom from past priorities, and a freedom from 'sweating the small stuff.' Overall, this theme indicated an individualized change in engagement patterns to allow for participation in preferred activities and ultimately create a greater enjoyment during one's later years. Therefore, this theme is directly applicable to the concept that older adults choose engagement activities based on the enjoyment received during participation (Chilvers et al., 2010; Fricke & Unsworth, 2001). Thus, it seems evident that this enjoyment is rooted within the 'freedom' experienced during older adulthood.

An additional theme identified as affecting engagement profiles over the previous five years of older adulthood was one's personal desire to participate in activity.

Specifically, a lack of desire to participate in various activities was often grounded in laziness, and thus resulted in a decrease in overall engagement. This finding parallels previous research which indicates that a loss of interest in specific activities often dictates engagement patterns in older adulthood (Agahi et al., 2006; Crombie et al., 2004). Furthermore, the theme of desire also encompassed the subtheme ‘a change in what is desired’ which resulted in one’s time shifting to other activities based on changing personal activity preferences. Personal preferences in activity were indicative of engagement profiles changing on an individualized basis, however, a similar pattern of change among participants was recognized. This change, which has been supported within previous literature, included an increase in one’s desire and contentment to participate in home-based passive leisure activities over the previous five years of older adulthood (Gauthier & Smeeding, 2003). It is important to that note that while engagement in passive leisure and social activities were maintained throughout older adulthood, these patterns of activities were still likely influenced by ‘a lack of desire’ and ‘a change in what is desired’ among the participants. For example, ‘a lack of desire’ or ‘a change in what is desired’ may have resulted in a reduction in socializing with friends outside of one’s home with a corresponding increase in time spent with family due to changing preferences. Thus, the social activity of choice was altered while the time spent engaging in social activities as a whole was maintained.

Lastly, participants in the present study acknowledged three external factors as affecting engagement profiles over the previous five years including: (a) one’s family role, (b) personal finances, and (c) the availability of direct support. Family role was specific to the responsibilities, as well as the enjoyment, associated with caring for

grandchildren. However, the extent to which this affected the engagement profiles of the participants was highly influenced by the age of the grandchildren. Specifically, if grandchildren required direct care then engagement patterns were shifted to incorporate this familial responsibility. As the literature suggests, time spent caring for others (i.e., grandchildren) directly affected an individual's time spent participating in other activities (Fisk et al., 1998). In addition to one's family role, one's personal finances were discussed as affecting participation in activity by restricting activity if one could not afford to participate. This finding is in direct support of previous literature which has acknowledged that engagement patterns in older adulthood have the potential to be dependent on one's financial situation (Bassuk et al., 1999; Fisk et al., 1998).

The availability of direct support was framed as an additional external factor that was associated with a change in participants' engagement profiles over the previous five years for individuals within the two oldest decades of adulthood (i.e., 75-84 and 85+ year olds). This subtheme was specific to a decrease in participation in productive activities as participants had the direct support of other people who completed these types tasks (i.e., mowing the lawn) on their behalf. The availability of direct support to reduce one's requirement to complete specific productive activities concurs with Maier and Klumb's (2005) definition of productive activities as those activities that can be carried out by another person without losing the benefit of their outcome. As such, the participants were still receiving the outcome (i.e., a mowed lawn) without participating in the productive activity, which led to a change in one's engagement profile toward a reduction in productive participation.

## **Integration of Methods at a Level of Interpretation**

The provision of a lay-based model of successful aging provided a greater understanding of older adults' perceptions of successful aging from a qualitative perspective, which was identified as a current need within the literature (Dionigi, Horton, & Bellamy, 2011; Montross et al., 2006; Phelan, Anderson, LaCroix, & Larson, 2004; Phelan & Larson, 2002; Ryff, 1989; Strawbridge, Wallhagen, & Cohen, 2002). Within this model, participants acknowledged 'an active engagement in life' as a primary element required to age successfully, however, 'how' and 'why' engagement was maintained and/or changed varied. In spite of individual variations, the most influential factor dictating one's engagement within the proposed model of successful aging was health status. This corresponds to Rowe and Kahn's (1997) hierarchical model of successful aging, as well as Bowling and Dieppe's (2005) work which indicated that older adults typically spoke of one's health in unison with one's ability to participate. Results from the current study indicated that participants generally identified health issues and physical limitations as a reason for a reduction in participation, which corresponded to a decreased engagement in the more physically demanding tasks of productive and active leisure activities. However, as suggested by the incorporation of social and cognitive engagement into the proposed model of successful aging, it is probable that older adults subscribe to a broad-based definition of engagement. Thus, despite such decreases in participation, participants' likely continued to consider themselves 'engaged' as participation in social and passive leisure activities remained stable throughout older adulthood. This reinforces the importance and social relevance of theoretically-based definitions of engagement that have been expanded beyond

productive activities (Bennett, 2002; Everard, Lach, Fisher, & Baum, 2000; Liffiton et al., 2012; Maier and Klumb, 2005). Additionally, it is important to recognize that participants maintained engagement (a primary indicator of aging successfully as per the proposed model) despite health-related issues and physical limitations, which lends support to the notion that successful aging may be more reflective of a continuum where specific criteria are achieved, rather than a dichotomous label (Baker, Meisner, Logan, Kungel, & Weir, 2009; Bowling & Dieppe, 2005; Young, Frick, & Phelan, 2009).

Furthermore, the proposed model of successful aging indicated that a positive attitude, accompanied with adaptation and acceptance of one's phase in life, may be the mitigating factor older adults utilize to maintain engagement regardless of limitations due to health and physical functioning. The concept of 'adaptation' coincides with successful aging literature that emphasizes the importance of selection, optimization, and compensation to ensure well-being into older adulthood (Baltes & Baltes, 1990). Recent work by Burnett-Wolle and Godbey (2007) applied Baltes and Baltes (1990) theory of successful aging to leisure time activities in older adulthood, and hypothesized that if meaningful leisure time activities are impacted by health status and limited physical functioning then optimization and compensation will allow for older adults to maintain these leisure-based activities in an altered form. However, if health status and physical limitations make leisure-based activities impractical or less meaningful then ceasing one's participation in such activities can provide a sense of well-being (Burnett-Wolle & Godbey, 2007). Thus, it is speculated that *how* and *why* engagement profiles change through older adulthood is reflected within this theory. For example, a decrease in productive and active leisure participation may be a result of the lack of meaning

associated with personally completing such activities. Rather, older adults may prefer to optimize the use of internal (i.e., energy) and external (i.e., finances) resources to engage in activities that are found to be more meaningful, such as participating socially. In addition, older adults also encompass the resource of ‘freedom’ and thus can alter engagement profiles according to their abilities and desires, which often included passive leisure pursuits. Ultimately, the overall engagement profile of an older adult may be the result of the individual selecting to participate in activities that are meaningful and appropriate for their abilities and desires, which would result in greater enjoyment during such activities. Thus, older adults are compensating by altering their engagement patterns with increasing age, to ensure the maintenance of active participation and thus successful aging. Figure 6 illustrates the change in engagement patterns throughout older adulthood for discretionary activities through the use of Maier and Klumb’s (2005) theory-based categorization of activities.



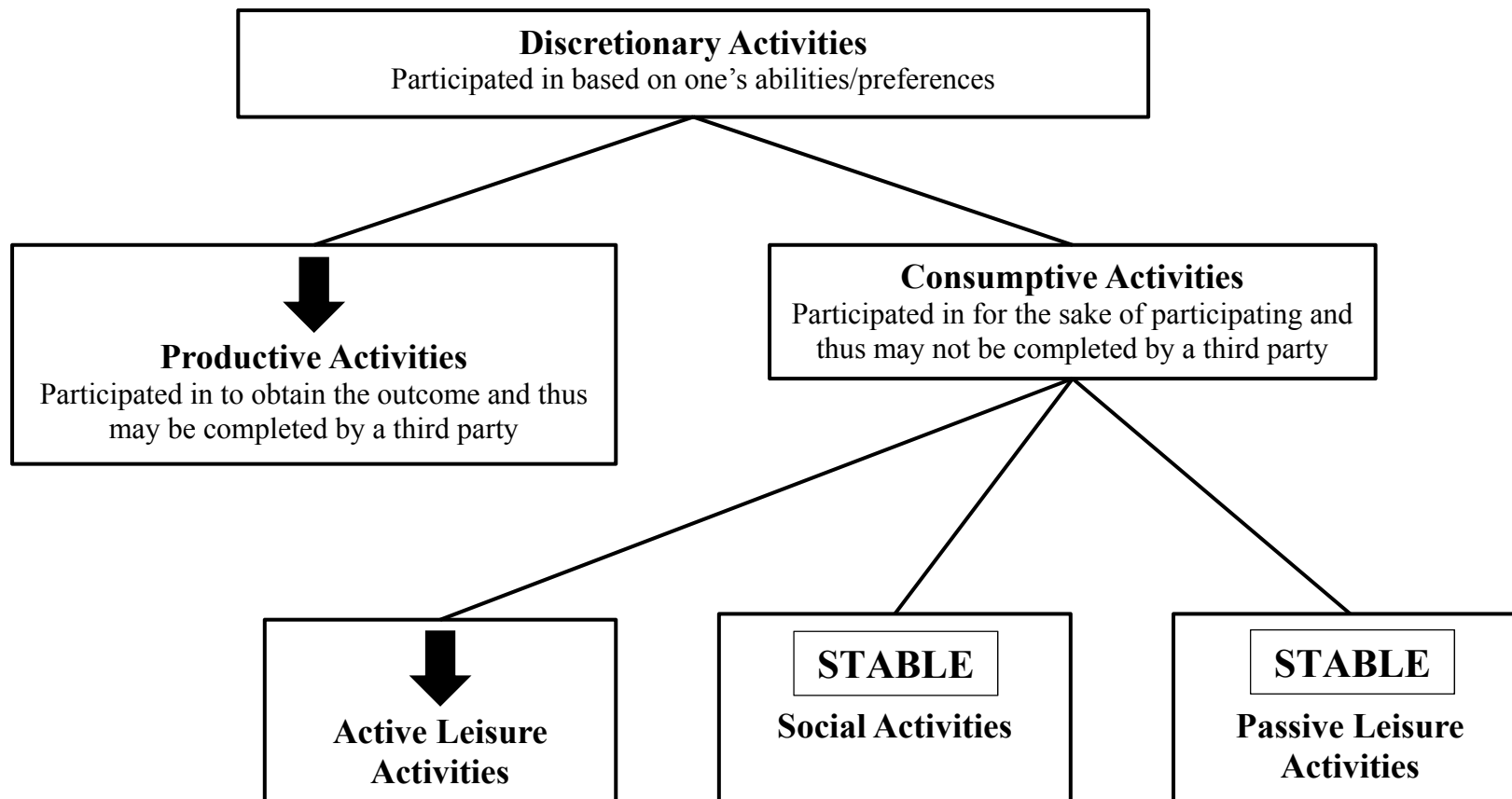


Figure 6. Overall change in engagement profiles throughout older adulthood. This figure illustrates the change in the frequency of participation in each activity type throughout older adulthood by use of Maier and Klumb's (2005) theory-based categorization of all activities.

## **Practical Implications**

The understanding of ‘how’ and ‘why’ engagement profiles change throughout older adulthood has far reaching possibilities from a practical standpoint including: (a) capitalizing on the stability of social engagement, (b) accepting (but perhaps altering) the decrease in productive activities, and (c) understanding the relationship between ‘freedom’ and ‘enjoyment’. Since older adults identified maintenance of social engagement with increasing age, there is potential to use these social contacts as a means to increase active leisure engagement. For example, through the promotion of practical changes such as walking with friends rather than visiting within one’s home, one could replace time spent in passive pursuits with active leisure activities, thus providing benefits of increased physical activity levels. Secondly, it is important to note that the decrease identified in productive activities need not be viewed as completely negative, and perhaps be viewed as a welcomed change during later life. This concept relates to Maier and Klumb’s (2005) definition of productive activities which expresses no loss in benefit when a third party completes such productive tasks. However, by promoting participation in *some* productive activities it could increase one’s physical fitness, as productive activities, such as raking leaves, can be a source of exercise. Finally, the realization that older adulthood is accompanied by a sense of ‘freedom’, which is thought to translate into participation in enjoyed activities, emphasizes the importance of communities offering engagement opportunities that cater to older adults’ preferences and abilities.

## **Limitations**

As with all research, it is of importance to identify limitations of the current study to ensure proper conceptualization of the contribution this research provides to the literature, as well as to provide a forum to highlight distinct barriers to overcome during future research endeavors. An evident limitation of the current study is the self-report nature of both the quantitative and qualitative data collection. Thus, the results are reliant on one's ability to accurately perceive and convey one's actions (i.e., 'how' engagement profiles changes) and thoughts (i.e., 'why' engagement profiles change) which may be subject to error. In addition, this study relied on both cross-sectional and retrospective data in order to create a unique avenue to explore changes in engagement profiles throughout older adulthood. However, the cross-sectional data used to compare across age groups was limited as it introduced extraneous variables (i.e., age cohort, personal characteristics) when comparing different groups of participants. Thus, when differences arose between age groups a causal effect could not be assumed (i.e., cannot conclude that age caused the difference between age groups). However, this limitation may not be as 'limiting' as one would expect. Since retrospective data was used in combination with cross-sectional inquiry, it was determined, following statistical analysis, that greater differences in engagement patterns existed within the retrospective data when compared to the cross-sectional data. This finding is counterintuitive as one would expect greater differences to exist when comparing different participants (i.e., cross-sectional data), rather than during the comparison of the same participant over time (i.e., retrospective data). As such, it may be appropriate to speculate that the cross-sectional data did not possess the limitations that were originally proposed. Similarly, the use of retrospective

data is noted as a study limitation as results were reliant on the participants' ability to recall past experiences. However, previous research has successfully employed retrospective methods of data collection among samples of older adults (Blair et al., 1991; Falkner et al., 1999; Klumb & Baltes, 1999a; MacDonald et al., 2009; Young et al., 2008), and thus has been viewed as an accurate source of information.

Furthermore, a limitation existed as a function of the difficulties with recruitment of persons 85 years of age and older. As such, an unequal sample size existed between the two younger decades of older adulthood (n = 21 for each decade) and the oldest decade of older adulthood (n = 12). This small sample size of participants 85 years of age and older, and the unwillingness of these participants to engage in a focus group, resulted in differing qualitative methods for participants within this decade of older adulthood. Specifically, participants 85 years of age and older participated in semi-structured interviews only, whereas qualitative data for all other participants was collected through focus groups *and* semi-structured interviews. Therefore, caution must be ensured when comparing qualitative data between the youngest two decades of older adulthood and the oldest decade of older adulthood.

Limitations within the present study that were specific to the nature of qualitative research and the conduction of focus groups included: (1) the inherent bias of the researcher during all aspects of the qualitative methodology, (2) the presence of 'ramblers and wanderers' within the focus groups, and (3) the potential of 'limited' discussion points due to the group nature of data collection. Primarily, qualitative research is subject to researcher bias in which the personal characteristics, experiences, and beliefs of the researcher can influence the collection and analysis of data (Mays & Pope, 1995). This

limitation was addressed during data collection by limiting the moderator's participation during the focus groups and encouraging discussion to open-ended questions among participants. Thus, the 'visibility' of the moderator was reduced in order to minimize the moderator's influence over participant answers, as well as to allow discussion to flow freely without providing excessive direction (Morgan, 1997). In addition, researcher bias was minimized through making specific biases explicit through continuous systematic documentation of such biases (Morse & Richards, 2002), as well as ensuring rigor of research through the approaches outlined by Morse et al. (2002), as detailed during the explanation of the study methodology. Secondly, some focus groups that were conducted included the presence of 'ramblers and wanderers'. As explained by Krueger (1998), responses provided by 'ramblers and wanderers' are excessive in length, and often do not provide a meaningful contribution to the discussion. As such, these participants can negatively impact the richness of the data collected during a focus group. In order to minimize the effect of 'ramblers and wanderers' to the overall qualitative dataset, an additional focus group was conducted within each decade of older adulthood (i.e., 65-74 year olds and 75-84 year olds) to compensate for the data that was potentially omitted due to interruptions during participant discussion caused by the 'ramblers and wanderers'. Finally, the interaction among participants within focus groups is a distinct advantage of this qualitative methodology as it aids comprehensive discussion as a result of thought-provoking conversation within a group setting (Côté-Arsenault & Morrison-Beady, 1999). However, this benefit is not without a caveat. Specifically, it is this group interaction that may cause participants to conform to others' opinions, as well as create reluctance to discuss sensitive thoughts or experiences. Evidently, this could affect the

overall accuracy of the data collected (Morgan, 1997; Smithson, 2000). This limitation was accounted for by conducting follow-up interviews to focus groups with a small subsample of focus group participants. This allowed participants an opportunity to share insights that were ‘held-back’ during focus group discussion. However, it is important to note that follow-up interviews did not provide additional themes beyond focus group data, and thus it was assumed focus group participants did not conform to others’ opinions or withhold information as suggested within the literature. This may be a reflection of the maturity of the participants which translated into confidence in one’s thoughts, as well as a respect of differing views, or it may simply be a function of the discussion topic not being viewed as sensitive in nature.

### **Future Directions**

The exploratory nature of the present study has provided a foundation in which future researchers can expand upon through the direct examination of specific engagement patterns of older adulthood described herein. For example, the current study provided an understanding of ‘how’ and ‘why’ engagement patterns change in a positive way during specific periods of older adulthood (i.e., participation in active leisure activities over the previous five years for adults 65 to 74 years of age to combat health issues and physical limitations). As such, it would be worthwhile to understand how one could use these changes as a model to create positive change among engagement profiles of older adults of all ages. In addition, future research could prove valuable by providing a further understanding of the applicability of the various reasons *why* engagement patterns change in different contexts. For example, if experiencing a sense of ‘freedom’ during older adulthood is associated with increased participation because it allows older

adults to engage in preferred activities, then perhaps this concept can be applied and emphasized to ensure continued participation in spite of additional reasons creating negative changes to one's engagement pattern (i.e., decreased overall participation due to the loss of one's spouse or loss of desire).

Furthermore, future research would benefit by understanding the impact that changes in engagement profiles have on the older adult's level of life satisfaction. The current study provided a description of 'how' and 'why' engagement profiles change throughout older adulthood, however it did not provide insight on how such changes affected participants' contentment. If, despite changes in engagement patterns, older adults remain satisfied with life then one could speculate that engagement patterns need not stay stable throughout older adulthood, rather shifting participation in personally meaningful activities may be vital to the aging process. As explained in previous literature, happiness and life satisfaction can contribute to one's ability to age successfully (Bowling, 2006; Knight & Ricciardelli, 2003; Matsubayashi & Okumiya, 2006; Tate, Lah, & Cuddy, 2003), and thus, future researchers are presented with an opportunity to associate participation in meaningful activities with happiness and life satisfaction, and ultimately successful aging.

Though the future directions discussed above require an ongoing commitment to research, it is important to recognize knowledge translation as a forthcoming contribution of the current study. The concepts regarding 'how' and 'why' engagement profiles change throughout older adulthood, and the deeper understanding future research will provide, will remain limited if isolated solely to academia. Thus, future directions must support knowledge translation to practitioners, policy makers, and community organizers

to ensure a meaningful impact to those the research is conducted for – each individual within the senior population.



## V. Conclusion

As the proportion of seniors within the population continues to increase (Statistics Canada, 2012), the concept of successful aging becomes exceedingly important. Within this concept, an active engagement in life has consistently been identified as contributing to (Bowling & Dieppe, 2005; Knight & Ricciardelli, 2003; Peel et al., 2004) or predicting (Lee & Fan, 2008; Montross et al., 2006) one's ability to age successfully. Since maintaining an active engagement with life has many implications for aging successfully, it becomes essential to understand 'how' and 'why' engagement profiles change throughout older adulthood. Taken together, this study suggests that older adults decrease participation in productive and active leisure activities, while maintaining engagement patterns in social and passive leisure pursuits. Such changes may be a function of health and physical limitations, experiencing the death of social contacts or one's spouse, the sense of 'freedom' associated with later life, changes in one's desire, or various external influences. Ultimately, such changes can be understood within the framework of successful aging, as older adults express the importance of maintaining engagement into later adulthood. Future research has the opportunity to expand the exploratory data provided herein, by examining the impact that changes in engagement profiles have on happiness and life satisfaction during older adulthood. Furthermore, the importance of translating this knowledge in broader contexts must be re-iterated as it is the foundation to ensuring that one's greying years become more golden.

## VI. Review of Literature

### A Greying Population

A shift in demographics has led to a greying population. The five year time frame prior to 2011 exemplifies this demographic shift with a 14.1% increase in Canadian citizens 65 years of age and older (Statistics Canada, 2012). This trend is expected to accelerate in the coming years as the fastest growing population was for adults 60-64 years of age (Statistics Canada, 2012). Projections of the Canadian population for 2036 suggest that seniors will account for nearly a quarter of our population (Statistics Canada, 2010b). This projection is a 50% increase from 2009, and will result in a greater number of seniors than children; a first in Canadian history (Statistics Canada, 2010b). Though the statistics provided are representative of the Canadian population, demographic aging is recognized as a global issue (Anderson & Hussey, 2000; Lloyd-Sherlock, 2000) resulting from increased longevity and decreased fertility rates (Anderson & Hussey, 2000; Health Canada, 2002; Statistics Canada, 2010b).

Speculations regarding the greying demographics suggest that the overall proportion of the population with a chronic condition will rise (Denton & Spencer, 2010). Over a 25 year time span, the overall prevalence of chronic conditions are expected to increase by 5% with conditions associated mostly with older age (i.e., hypertension, arthritis, diabetes) experiencing a 25% increase (Denton & Spencer, 2010). In addition, conditions often accounting for the death or disability of seniors, such as cancer, coronary heart disease, and stroke (Health Canada, 2002) are expected to see increases of 47% (Smith, Smith, Hurria, Hortobagyi, & Buchholz, 2009), 45% (Odden et al., 2011), and 35% (Stein et al., 2012) respectively. If these projections regarding chronic conditions

hold true, the coming decades are expected to experience a two-fold increase in hospital night stays (Denton & Spencer, 2010; Rice & Feldman, 1983), a 20% to 25% increase in specialist and general physician visits (Denton & Spencer, 2010), and a substantial increase in nursing home residents (Rice & Feldman, 1983), medical expenditures (Rice & Feldman, 1983; Rosenberg & Moore, 1997), in-home care services (Jacobzone, 2000; Rosenberg & Moore, 1997), and informal care provision (i.e., family member as a caregiver; Jacobzone, 2000). In addition, these changing demographics present challenges for smaller public programs in which seniors rely on for housing, social services, transportation and monetary assistance (Wiener & Tilly, 2002). Therefore, it is imperative to remain conscious of the growing elderly population, as evidence suggests that the near future must withstand a heavy strain on healthcare services and medical professionals, as well as increases in societal and economic pressures (Denton & Spencer, 2010; Rice & Feldman, 1983; Rosenberg & Moore, 1997; Wiener & Tilly, 2002). With such implications in mind, it is essential that older adults increase the years in which they maintain highly functional and independent lives (Crimmins et al., 2009; Guralnik, Fried, Salive, 1996; Health Canada, 2002), and embrace the concept of successful aging.

### **Successful Aging**

Despite the globally renewed interest regarding the concept of successful aging there remains minimal consensus and clarity surrounding its terminology and definition (Bowling, 1993; Depp & Jeste, 2006; Jeste, 2005). Literature presents inconsistency with the term successful aging as it is continually interchanged with ‘aging-well’ (Chapman, 2005), ‘healthy aging’ (Keating, 2005; Peel et al., 2004; Peel, McClure, & Bartlett, 2005), ‘robust aging’ (Garfein & Herzog, 1995), ‘productive aging’ (Kerschner &

Pegues, 1998), and 'positive aging' (Bowling, 1993). Beyond the variations to the term successful aging, there is a lack of a universally accepted operational definition of this concept (Phelan & Larson, 2002). Specifically, a review of 28 studies focusing on successful aging suggested 29 differing definitions within the literature (Depp & Jeste, 2006). As such, continued research efforts seek for an agreement on the definition of successful aging as this concept bears much responsibility as society is challenged with shifting demographics (Ryff, 1989).

Main themes emerging from theoretical literature identify definitions of successful aging as biomedical, psychosocial, or a combination of these constructs (Bowling & Dieppe, 2005). Evidence suggests the acceptance of a biomedical perspective, as the most frequently included component within the definition of successful aging is often disability and physical capacity (Depp & Jeste, 2006). However, the majority of definitions also include domains of mental and social functioning, in addition to physical abilities (Peel et al., 2004). For example, a prominent and empirically-based definition of successful aging proposed by Rowe and Kahn (1987; 1997) includes: (1) a low probability of disease and disease-related disability, (2) high physical and cognitive functioning, and (3) an active engagement with life. This model suggests that these three components are to some extent hierarchical, which emphasizes the importance of health and physical functioning within the theoretical concept of successful aging (Rowe & Kahn, 1997). This conceptualization of successful aging has been supported (Baker et al., 2009), similarly modeled (Young et al., 2009), and often expanded by including additional components such as, positive spirituality (Crowther,

Parker, Achenbaum, Larimore, & Koenig, 2002), and theories of compensation (Schulz & Heckhausen, 1996).

Contrasting, yet complementary, to biomedical approaches include psychosocial definitions of successful aging. Such definitions often focus on satisfaction with life, social engagement, and psychological resources (Bowling & Dieppe, 2005). For example, Ryff's (1989) psychosocial model of successful aging includes: (1) self-acceptance, (2) positive relations with others, (3) autonomy, (4) environmental mastery, (5) purpose in life, and (6) personal growth. Evidently, differences in theoretically derived biomedical and psychosocial definitions of successful aging create the lack of consensus surrounding this concept. However, this inconsistency may also provide the critical insight for the need of a universally accepted, multidimensional, and interdisciplinary definition of successful aging (Bowling & Dieppe, 2005; Pruchno, Wilson-Genderson, & Cartwright, 2010a; Pruchno, Wilson-Genderson, Rose, & Cartwright, 2010b).

Though based on empirical findings, theoretical definitions of successful aging are limited as they do not incorporate the broad perspective of the lay definitions documented in the literature, which suggests a lack of social relevance (Bowling, 2007; Phelan & Larson, 2002). As such, it has been proposed that older adults are the most appropriate individuals to define successful aging (Bowling, 1993; Keating, 2005). Similar to the biomedical approach, older adults often define successful aging in terms of health and functioning when information is gathered both quantitatively (Bowling, 2006; Matsubayashi & Okumiya, 2006; Tate et al., 2003) and qualitatively (Hilton, Gonzalez, Saleh, Maitoza, & Anngela-Cole, 2012; Knight & Ricciardelli, 2003; Lee & Fan, 2008). However, comparable to Rowe and Kahn's (1997) hierarchical-based model of successful

aging, older adults perceived health and functioning as influencing other aspects of life, such as social interaction (Knight & Ricciardelli, 2003). This concept is exemplified by older adults who are free from limitations reporting higher levels of activity (Tate et al., 2003). Thus, older adults perceive cognitive and physical functioning as pertinent to successful aging; however, only required for maintaining a desired engagement level (von Faber et al., 2001). This relationship provides evidence of the complexity of the concept of successful aging when viewed from the perspective of the older adult.

In addition to health and functioning, older adults add to the multidimensionality of successful aging by defining it in terms of psychological (Bowling, 2006; Lee & Fan, 2008; Phelan et al., 2004; von Faber et al., 2001) and social health (Phelan et al., 2004, Reichstadt, Sengupta, Depp, Palinkas, & Jeste, 2010; von Faber et al., 2001) as outlined in Table 16. Others included finances (Bowling, 2006; Hilton et al., 2012; Lee & Fan, 2008), independence (Hilton et al., 2012; Knight & Ricciardelli, 2003; Matsubayashi & Okumiya, 2006; Tate et al., 2003), longevity (Knight & Ricciardelli, 2003), and adaptation (Matsubayashi & Okumiya, 2006; Tate et al., 2003; von Faber et al., 2001) in their definitions of successful aging. Overall, older adults' perceptions of successful aging appear to be multidimensional (Phelan et al., 2004) with all components (i.e., physical, cognitive, and social) being highly related to one another (i.e., older adults are likely to use combinations of components within lay definitions; Tate et al., 2003).

Table 16

*Psychological and social health items identified within lay-based definitions of successful aging.*

Reference	Psychological Health				Social Health		
	Happiness/ enjoyment of life	Positive outlook on life	Personal growth	Acceptance of oneself	Social roles	Active engagement	Close, personal relationships
Bowling, 2006	✓				✓	✓	
Fisher & Specht, 1999			✓				
Hilton et al., 2012		✓		✓		✓	✓
Knight & Ricciardelli, 2003	✓		✓			✓	✓
Lee & Fan, 2008						✓	✓
Matsubayashi & Okumiya, 2006	✓						✓
Reichstadt et al., 2010				✓		✓	
Tate et al., 2003	✓	✓		✓		✓	✓

Similar to, and stemming from, the lack of consensus regarding the definition of successful aging, is the large variability in the reported proportion of older adults who are aging successfully. These inconsistent results have been documented to range from 0.4% to 95% of the aging population (Depp & Jeste, 2006) and have been attributed to the differing criteria used to measure success throughout the aging process (Bowling & Iliffe, 2006; Cho, Martin, & Poon, 2012; Peel et al., 2005). For example, studies including physical function as a defining factor of successful aging report substantially fewer older adults meeting the required criteria than studies that do not include a measure of physical ability (i.e., 27.2% vs. 63.8% respectively; Depp & Jeste, 2006). In addition, differences exist between identifying individuals as successfully aging through theoretical criteria opposed to subjective self-identification (von Faber et al., 2001). This concept has been exemplified by Stawbridge et al. (2002) who reported over 50% of participants identifying themselves as aging successfully despite only 19% of these individuals attaining the criteria required of Rowe & Kahn's (1997) definition of successful aging. Overall, it has been widely accepted in literature that substantially fewer older adults are identified as aging successfully when theoretical criteria is employed (Andrews, Clark, & Luszcz, 2002; Baker et al., 2009; Chou & Chi, 2002; Ford et al., 2000; Li et al., 2006; Montross et al., 2006; Roos & Havens, 1991; von Faber et al., 2001) compared to the subjective self-identification of successful aging (Bowling, 2006; Montross et al., 2006; Tate et al., 2003). However, it is important to note that regardless of the methodological approach conducted to identify individuals who are aging successfully, the factors that predict successful aging remain similar. Examples of predictors of successful aging that



have been well supported and prevalent within the literature have been highlighted in Table 17.

Table 17. *Predictors of successful aging as identified within the literature.*

Predictors	References
<b>Demographics</b>	
Younger age	Andrews et al., 2002; Baker et al., 2009; Cho et al., 2012; Chou & Chi, 2002; Garfein & Herzog, 1995; Jorm et al., 1998; Li et al., 2006; Reed et al., 1998
Being male	Andrews et al., 2002; Baker et al., 2009; Chou & Chi, 2002; Jorm et al., 1998; Li et al., 2006; Strawbridge, Cohen, Shema, & Kaplan, 1996
Years of education	Andrews et al., 2002; Chou & Chi, 2002; Garfein & Herzog, 1995; Jorm et al., 1998; Li et al., 2006; Strawbridge et al., 1996
Financial status	Andrews et al., 2002; Baker et al., 2009; Chou & Chi, 2002; Garfein & Herzog, 1995; Jorm et al., 1998; Lee & Fan, 2008; Li et al., 2006; Strawbridge et al., 1996
<b>Physical Health</b>	
Increased self-rated health	Andrews et al., 2002; Bowling, 2006; Chou & Chi, 2002; Garfein & Herzog, 1995; Roos & Havens, 1991; Tate et al., 2003
Fewer chronic conditions	Andrews et al., 2002; Chou & Chi, 2002; Garfein & Herzog, 1995; Reed et al., 1998; Roos & Havens, 1991; Strawbridge et al., 1996
<b>Social Health</b>	
Active/social engagement	Lee & Fan, 2008; Li et al., 2006; Montross et al., 2006
Contact with family/friends	Chou & Chi, 2002; Garfein & Herzog, 1995; Lee & Fan, 2008; Montross et al., 2006; Strawbridge et al., 1996
Married/cohabitating	Garfein & Herzog, 1995; Lee & Fan, 2008; Li et al., 2006; Reed et al., 1998; Vaillant & Mukamal, 2001
<b>Behavioural Determinants</b>	
Not smoking	Haveman-Nies, de Groot, & van Staveren, 2003; Jorm et al., 1998; Pruchno et al., 2012; Reed et al., 1998; Sabia et al., 2012; Vaillant & Mukamal, 2001
Physical activity	Baker et al., 2009; Dogra & Stathokostas, 2012; Haveman-Nies et al., 2003; Sabia et al., 2012

A common theme in reviewing literature on successful aging is engagement and interpersonal relationships as these items are included in Rowe and Kahn's (1997) definition, psychosocial models (Ryff, 1989), and lay-based definitions (i.e., Bowling, 2006; Reichstadt et al., 2010). In addition, various forms of engagement have also been identified as predictors of achieving success in late adulthood (i.e., Lee & Fan, 2008; Montross et al., 2006). Taken together, it is evident that engagement provides an important contribution to the concept of successful aging regardless of its role. Furthermore, it is a unique component compared to health and functioning as it is modifiable (Everard et al., 2000) and exists in a variety of forms (i.e., passive leisure, productive activities). With this in mind, an in-depth literature review of engagement in older adulthood is warranted as it has important implications during the aging process.

### **Engagement**

Active engagement in life has been defined by Rowe and Kahn (1997) to include the maintenance of interpersonal relationships (i.e., contact with others, and emotional or direct support), as well as a continued participation in productive activities (i.e., activities that create societal value). This two pronged approach has been expanded within literature to include three broad social components of aging: (1) social networks, (2) social support, and (3) social participation (Bennett, 2002). Though social networks and support are similar to Rowe and Kahn's (1997) concept of 'interpersonal relationships,' a difference exists within the component of 'social participation' as it expands the concept of engagement beyond solely productive activities (Liffiton et al., 2012). For example, Maier & Klumb (2005) proposed a model that included regenerative, discretionary, productive and consumptive activities, whereas others have introduced concepts of

leisure, social, and instrumental activities (Everard et al., 2000). This provides evidence of the breadth of conceptualizations and measurements within this novel research area (Andersson, 1998; Bath & Deeg, 2005; Mendes de Leon, 2005). However, to ensure consistency throughout the current review, the term ‘engagement’ will be used as an all-encompassing concept for the various elements of an active engagement in life (i.e., interactions with others and participation in activities), as it is not limited by terms such as ‘social’ and ‘productive’ (Mendes de Leon, 2005).

Regardless of the nomenclature subscribed to, literature suggests that engagement provides a unique and essential component to various models of successful aging. Thus, from both a research and a practical standpoint, it may be advantageous to understand the demographics of older adults who tend to maintain an active engagement in later life. In doing so, it would expose individuals who are at a ‘high risk’ of disengagement, which would allow academics, clinicians, and community administrators to target such individuals for engagement opportunities, and ultimately encourage successful aging. As such, demographics of the ‘engaged’ are reviewed.

**Demographics of the ‘engaged’.** Demographic characteristics of individuals who maintain an active engagement in later life have been organized into ‘Interactions with others’ and ‘Active participation’. The purpose in doing so is to ensure that each concept within the broad conceptualization of engagement is individually overviewed to allow for demographic differences to be highlighted.

***Interactions with others.*** Overall, the literature suggests that having a smaller social network and experiencing a lack in social support is associated with older age, (Bassuk et al., 1999), minimal education (Andrew, 2005; Bassuk et al., 1999;

McLaughlin et al., 2010), lower income (Bassuk et al., 1999), residing in a home care residence (Andrew, 2005), and increased functional impairment (Andrew, 2005; Bassuk et al., 1999; McLaughlin et al., 2010; Newsom & Schulz, 1996). Though males are thought to maintain more social ties than females, a greater abundance of social and emotional support is perceived by women (Andrew, 2005; Seeman et al., 2001). This may be a result of men engaging in more negative interactions with social ties, thus weakening feelings of closeness (Seeman et al., 2001). Therefore, it is not surprising that females are generally more satisfied with their social networks (Bourque et al., 2005; McLaughlin et al., 2010) and report a greater desire to maintain personal relationships and intimacy with others into older adulthood (Holahan & Chapman, 2002).

Social support and networks are also associated with marital status, and are dependent on an individual's sex. Specifically, for women, marriage reflects a reduction in close social ties and emotional support (Seeman et al., 2001); whereas for men, marriage is related to maintaining a larger social network, and receiving greater emotional support (Seeman et al., 2001). Thus, as expected, separated, divorced, or single men are less satisfied with their social networks than persons who are married or partnered (McLaughlin et al., 2010). Furthermore, widowhood is associated with a larger social network, though findings regarding the satisfaction with social support are inconclusive (McLaughlin et al., 2010).

***Active participation.*** Similar to the above findings, a decrease in active participation is related to increasing age and greater functional impairment (Andrew, 2005; Mendes de Leon et al., 2003; Menec, 2003). Specific to age associated engagement, older adults of younger ages (i.e., 65 years of age compared to 75 years of

age) participate in more physical, cognitive challenging (Hultsch, Hertzog, Small, & Dixon, 1999), and productive activities (i.e., voluntary work and informal help; Oman et al., 1999; Wahrendorf et al., 2006), which reflects the preference of social activities among the adults 85 years of age and older (Nilsson et al., 2006). Despite an age related decline in social participation for males, social engagement remains similar across time for females (Hultsch et al., 1999). In addition, preferences in specific engagement activities differ across genders (Table 18), though greater engagement in both social (Andrew, 2005; Hultsch et al., 1999; Mendes de Leon et al., 2003; Seeman et al., 2001) and productive pursuits (Holahan & Chapman, 2002; Klumb & Baltes, 1999b) is consistently reported among females (Menec, 2003). However, for both males and females, maintaining friends and being surrounded by individuals who support active participation, is an important predictor of an active engagement with life (Menec, 2003; O'Brien Cousins, 1995). Overall, it is evident that differences in engagement profiles exist between age cohorts, genders, and additional variables. These differences have important implications as they can predict engagement levels of older adults, and thus can affect one's potential to age successfully. Evidently, a strong connection has been formulated between engagement and successful aging which warrants a comprehensive review of the specific benefits derived from maintaining engagement into later life.

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Table 18

*Preferences of engagement activities across genders.*

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Males

- Paid work (Glass, Seeman, Herzog, Kahn, & Berkman, 1995; Holahan & Chapman, 2002)
- Formal volunteer positions (Wahrendorf et al., 2006)
- Home repairs or projects (Mobily, Leslie, Lemke, Wallace, & Kohout, 1986)
- Yard work (Cowgill & Baulch, 1962; Glass et al., 1995)
- Active leisure pursuits (Hurd & Rohwedder, 2007; Victorino & Gauthier, 2005)

Females

- Informal volunteer positions (i.e., caring for another person; Glass et al., 1995; Holahan & Chapman, 2002; Wahrendorf et al., 2006)
  - Entertainment within social contexts (i.e., concerts, theatre, lectures, and museums; Holahan & Chapman, 2002)
  - Meal preparation (Mobily et al., 1986)
  - Traditional indoor housework and household errands (Cowgill & Baulch, 1962; Glass et al., 1995)
-

**Benefits of engagement.** The benefits of maintaining an active engagement in later life are outlined below. For ease of understanding, benefits have been categorized by study outcome measures: (1) mortality risk, (2) physical and cognitive health benefits, and (3) psychological health benefits.

***Mortality risk.*** Research examining the benefits of engagement in later life has often used mortality as a crude measure of physical health. Since mortality has consistently been used as an outcome measure within large scale quantitative studies, there is consensus regarding the association between maintaining an active engagement in life and a decreased risk of death for community dwelling older adults, (Bassuk et al., 1999; Bennett, 2002; Berkman & Syme, 1979; Glass et al., 1999; Mendes de Leon et al., 2003; Menec, 2003; Musick, Herzog, & House, 1999; Oman et al., 1999) including the very old (70 years of age and older; Lennartsson & Silverstein, 2001; Luoh & Herzog, 2002; Maier & Klumb, 2005; Yum & Lightfoot, 2005). Survival benefits extend from maintaining positive spousal (Berkman & Syme, 1979) and child-parent relationships (Antonucci, Birditt, & Webster, 2010), close contact with relatives and friends, and memberships with religious institutions and/or community groups (Berkman & Syme, 1979). In some cases, a reduction in mortality risk has been attributed to the minimization of the negative effects of chronic conditions through the maintenance of social ties (Antonucci et al., 2010). However, the more intimate in nature the social tie (i.e., marriage or close friends versus church or group membership) the greater the protective effect against mortality (Berkman & Syme, 1979).

In addition to maintaining social ties into later adulthood, engagement in various activities, such as social and productive pursuits, has been suggested to reduce mortality



risk (Glass et al., 1999; Lennartsson & Silverstein, 2001). Though the *act* of engaging in social activities is consistently viewed as being beneficial, evidence suggests that a protective effect can also be obtained simply through the presence of other people within a social context. In comparison to being surrounded by a spouse or family members, this positive effect is potentiated when among friends (Maier & Klumb, 2005). However, for individuals 77 years of age or older, leisure activities need not to be social in nature (i.e., reading, working in the garden) to provide survival benefits (Lennartsson & Silverstein, 2001).

Literature further suggests that mortality risk can be reduced by participation in productive activities. Though categorization of specific activities is often not clear (Packer, Boshoff, & DeJonge, 2008), productive activities have consistently been viewed within literature as any activity that provides societal value (Rowe & Kahn, 1997), such as paid work or volunteerism. Overall, when examined through longitudinal analyses, participation in paid work (Luoh & Herzog, 2002) and volunteerism (Luoh & Herzog, 2002; Musick et al., 1999; Oman et al., 1999) in later adulthood has been associated with longevity up to a seven year follow-up period, despite the lack of a protective effect against entering a nursing home (Yum & Lightfoot, 2005). However, it is important to note that there is a threshold effect identified among participants of volunteer work, resulting in a curvilinear relationship between reduction in mortality risk and time spent volunteering. Currently, there is a lack of agreement in determining at what point this threshold is achieved (annual participation of 40 hours versus 100 hours; Luoh & Herzog, 2002; Musick et al., 1999), though it provides support to speculate that over-commitment can overshadow benefits of productive activities by creating role conflicts or work

burdens. Thus, simply the addition of a 'volunteer role' may be protective against mortality (Musick et al., 1999). Moreover, survival benefits throughout a six year period have also been suggested through participation in activities that are often (though not always) identified as productive (i.e., light housework, gardening; Menec, 2003). Overall, mortality provides a standard and concrete measure of health status in older adulthood (Bennett, 2002) however, it remains important to examine the influence that the maintenance of an active engagement in life has on other aspects of health.

***Physical and cognitive health benefits.*** Though a multitude of approaches exist to examine physical health, aging literature is dominated by measures of functional impairment and self-assessment. Functional impairment in later adulthood has been associated with a severe lack of social support (Newsom & Schulz, 1996), which is suggested to translate into greater odds of residing in a nursing home (Andrew, 2005). However, for older adults residing within the community or home care residences, maintenance of group participation can provide a protective effect against functional impairment (Andrew, 2005). This protective effect can also be achieved through continued participation in productive (i.e., volunteerism and paid work; Hinterlong et al., 2007; Luoh & Herzog, 2002; Yum & Lightfoot, 2005) and social (Mendes de Leon et al., 2003; Zunzunegui et al., 2005) activities, and maintenance of friendship contacts (Newsom & Schulz, 1996) and diverse social ties (i.e., spouse, relatives, and friends; Zunzunegui et al., 2005). Furthermore, maintaining a high diversity of social ties is suggested to enable older adults to recover the ability to complete activities of daily living, if such an ability becomes impaired (Zunzunegui et al., 2005). However, evidence suggests that the protective effect of an active engagement in life is weakened over time,

and thus does not completely slow the rate of functional decline in the aged (Mendes de Leon et al., 2003).

In addition to measures of physical impairment, poorly assessed self-reported health has been associated with a lack of social support and minimal group participation (Andrew, 2005). Thus, maintaining engagement in productive (Hinterlong et al., 2007; Luoh & Herzog, 2002; Warburton & Peel, 2008; Yum & Lightfoot, 2005), leisure (Menec & Chipperfield, 1997), instrumental (i.e., shopping, paying bills), and social activities has been shown to have a positive effect on the subjective health of community dwelling older adults (Everard et al., 2000). This relationship is further exemplified by a larger scale, quantitative longitudinal analysis conducted by Bennett (2005), which revealed that higher levels of social engagement can predict greater subjective health after a four year time interval. However, high-demand leisure activities (i.e., woodworking, walking) are thought to provide perceived health benefits above that of low demand leisure activities (i.e., sewing, reading) for older adults (Everard et al., 2000). Complementary to subjective assessments of health are objective physical health benefits that have been suggested to be derived from maintaining an active engagement in life. These objective benefits include: (a) a reduced number of visits to a general practitioner or community nurse, (b) a decreased likelihood of receiving home help support, (c) a reduction in the number of medications prescribed (Bath & Gardiner, 2005), (d) an increase in physical activity levels (Litwin, 2003), and (e) a reduction in hip fracture risk among fall patients (Warburton & Peel, 2008).

Positive effects of an active engagement in later life also extend to cognitive functioning. Specifically, cognitive decline through older adulthood can be mitigated

through an increase in social ties (Bassuk et al., 1999), emotional support (Seeman et al., 2001), and participation in social (Everard et al., 2000; Hultsch et al., 1999) and leisure (both high and low demand) activities (Everard et al., 2000). Cognitive preservation through higher levels of emotional support (Seeman et al., 2001), frequent participation in social or productive activities (Wang, Karp, Winblad, & Fratiglioni, 2002), and engagement in complex leisure time activities (Schooler & Mulatu, 2001) throughout adulthood has further been supported by longitudinal data. Furthermore, older adults with a consistent history of disengagement experience a more pronounced cognitive decline compared to individuals who report recent disengagement (Bassuk et al., 1999), and those who remain engaged are at a decreased risk of developing dementia (Wang et al., 2002). Despite the numerous physical and cognitive health benefits associated with maintaining an active engagement in life, older adults are unlikely to participate in social, leisure, or productive pursuits for such reasons. Rather, older adults choose to participate for the overall enjoyment and positive affect such activities evoke (Menec & Chipperfield, 1997). Thus, an overview of the psychological benefits of continued engagement is warranted.

***Psychological health benefits.*** Evidence suggests that maintaining an active engagement in life provides an avenue for older adults to elicit a number of psychological benefits. Specifically, older adults who have greater support networks experience increased life satisfaction (Bourque et al., 2005; McAuley et al., 2000; Newsom & Schulz, 1996) and self-efficacy beliefs (Seeman et al., 2001), as well as decreased loneliness (McAuley et al., 2000) and depressive symptoms (Newsom & Schulz, 1996; Seeman et al., 2001). However, for older adults living with multiple morbidities, support

networks can provide negative affect, as literature suggests increases in received support can create reductions in self-esteem (Warner, Schuz, Wurm, Ziegelmann, & Tesch-Romer, 2010).

Psychological benefits can also be attained through participation in various activities. Older adults who are more socially and productively engaged also experience fewer depressive symptoms (Glass, Mendes de Leon, Bassuk, & Berkman, 2006; Thoits & Hewitt, 2001; Yum & Lightfoot, 2005), as well as increased feelings of belonging (Murray & Crummett, 2010), happiness (Menec, 2003; Thoits & Hewitt, 2001) and wellbeing (Herzog et al., 1998; Thoits & Hewitt, 2001). Wellbeing has been directly associated with increased volunteer hours (Morrow-Howell, Hinterlong, Rozario, & Tang, 2003) and is further increased when productivity is reciprocated (Wahrendorf et al., 2006). Furthermore, volunteering increases wellbeing especially among retired people, suggesting a social role beyond employment is beneficial, (Wahrendorf et al., 2006) as it creates a purpose in life by providing a role-identity during a major identity absence (i.e., no longer employed; Greenfield & Marks, 2004).

**Limitations of research findings.** Taken together, previous research provides ample evidence of the physical, cognitive, and psychological benefits of maintaining an active engagement in later life. However, it is imperative to remain cognizant of the limitations of the above findings. The literature is dominated by cross-sectional research which hinders the ability to determine a causal effect (i.e., does engagement lead to better functioning, or are better functioning older adults more likely to engage; Greenfield & Marks, 2004; Maier & Klumb, 2005; Mendes de Leon et al., 2003; Newsom & Schulz, 1996; Zunzunegui et al., 2005). Yet, when stronger longitudinal

methods were applied, it would be naïve to assume perfect control of extraneous variables (Luoh & Herzog, 2002). Despite the uncertainty regarding a causal effect, many mechanisms have been theorized attempting to explain how the benefits of maintaining an active engagement in later life are attained (see Table 19 for examples of such theories). Furthermore, such limitations need not overshadow the positive application of this research. For example, it remains appropriate for clinicians to recommend that older adults participate in a broad range of activities in order to improve health and well-being (Cannuscio, Block, & Kawachi, 2003; Glass et al., 1999) as such benefits should not be discounted. Since this review emphasizes the benefits of an active engagement in later life, it is of value to illustrate the time dedicated to specific activities in older adulthood. Though detailed time-use studies of older adulthood are currently limited in literature, a to-date review is provided to offer insight to ‘a day in the life’ of an older adult.

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Table 19

*Examples of theorized mechanisms regarding how benefits of maintaining an active engagement in later life are attained.*

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Mechanisms	References
<ul style="list-style-type: none"><li>• Provides cognitive stimulation</li></ul>	Luoh & Herzog, 2002; Menec, 2003; Schooler & Mulatu, 2001; Seeman et al., 2001
<ul style="list-style-type: none"><li>• Increases physical activity/physical stamina</li></ul>	Lennartsson & Silverstein, 2001; Luoh & Herzog, 2002; Menec, 2003
<ul style="list-style-type: none"><li>• Provides a sense competence and usefulness</li></ul>	Herzog et al., 1998; Maier & Klumb, 2005
<ul style="list-style-type: none"><li>• Increases feelings of personal control and mastery</li></ul>	Glass et al., 1995; Maier & Klumb, 2005; Menec & Chipperfield, 1997; Mirowsky & Ross, 1998
<ul style="list-style-type: none"><li>• Allows individuals to modify the functional consequences of diseases</li></ul>	Mendes de Leon et al., 2003
<ul style="list-style-type: none"><li>• Provides a role identity/sense of purpose</li></ul>	Greenfield & Marks, 2004; Lennartsson & Silverstein, 2001; Musick et al., 1999; Thoits, 1992; Thoits & Hewitt, 2001

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*Note.* Engagement components responsible for eliciting specific benefits are not outlined as there is overlap between specific engagement components and the mechanism theorized to attain benefits.

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## **Time Use in Older Adulthood**

From a time-use perspective, the limits of a 24 hour day can create competition surrounding the time devoted to all engagement activities (Burr, Mutchler, & Caro, 2007). However, retirees may experience a reduced burden of daily time constraints, as a decline in the time spent on paid work creates an opportunity to reallocate time to various other activities (Statistics Canada, 2005). This reallocation of time in older adulthood seems to coincide with contentment as the majority (69%) of older adults reports no desire to change personal time use patterns (Seleen, 1982). Such contentment may be a reflection of older adults allocating the greatest amount of time to activities that provide personal enjoyment (once sleep is excluded; Chilvers et al., 2010; Fricke & Unsworth, 2001). As this review proceeds to illustrate time use patterns in older adulthood, it is important to consider (a) the novelty of this research area, and thus the lack of relevant literature and (b) the potential variability of time use patterns due to the demographic characteristics previously explained.

The most consistent finding within the time-use literature suggests that the majority of an older adult's day is consumed by sleeping, as it accounts for eight to nine hours of a 24 hour period (Chilvers et al., 2010; Fricke & Unsworth, 2001; McKenna et al., 2007; McKinnon, 1992; Statistics Canada, 2005). Time use researchers often combine sleeping, personal maintenance tasks (i.e., dressing, bathing, and eating), and solitary tasks (i.e., reading, watching television) under a broad category identified as 'passive leisure activities' (Gauthier & Smeeding, 2003; Gauthier & Smeeding, 2010). It is this broad category of passive pursuits that the majority of 'free' time is reallocated to following retirement (Gauthier & Smeeding, 2003; Gauthier & Smeeding, 2010; Krantz-



Kent & Stewart, 2007). As such, it is evident that with increasing age there is an increase in the time devoted to passive leisure activities, including sleep (Krantz-Kent & Stewart, 2007; Statistics Canada, 2005) and additional personal maintenance tasks (Gauthier & Smeeding, 2003; Gauthier & Smeeding, 2010; Horgas, Wilms, & Baltes, 1998; Hurd & Rohwedder, 2007; Victorino & Gauthier, 2005). To illustrate, literature suggests that 12 daily hours are dedicated to passive leisure pursuits between the ages of 45 and 54 years, which increases to nearly 17 daily hours when adults pass the age of 75 years (Gauthier & Smeeding, 2003; Gauthier & Smeeding, 2010). Furthermore, beyond 90 years of age, passive leisure time is dominated by basic personal maintenance tasks, such as resting, rather than traditional solitary pursuits (Horgas et al., 1998).

Unfortunately, there is a lack of literature regarding the amount of time dedicated to specific solitary activities in older adulthood which is a reflection of the novelty of this research field. However, the solitary pursuit most frequently documented is watching television (Cowgill & Baulch, 1962; Krantz-Kent & Stewart, 2007; McKinnon, 1992), which is engaged in by older adults for approximately four hours daily (Horgas et al., 1998; Krantz-Kent, 2005; Victorino & Gauthier, 2005). Thus, it is not surprising that adults 70 to 85 years of age are the most sedentary group in the population (Matthews et al., 2008). Additional solitary leisure activities identified include home hobbies and crafts (Cowgill & Baulch, 1962; Gauthier & Smeeding, 2003), reading (Cowgill & Baulch, 1962; Gauthier & Smeeding, 2003; Horgas et al., 1998), and day resting (Gauthier & Smeeding, 2010; Horgas et al., 1998), however, minimal details pertaining to time use are documented. Similarly, active leisure activities remain absent within the time use literature, which as a whole, justifies the need for additional research.

Though older adults devote the majority of time to passive leisure activities, it would be naive to assume adults over the age of 65 years no longer engage in productive pursuits (i.e., paid or unpaid work, caregiving, or domestic chores). In fact, time use patterns suggest that productive activities account on average for over three hours of an older adult's day (McKinnon, 1992), which translates into a yearly contribution of 1300 hours (Zedlewski & Schaner, 2005). Of the time (approximately three daily hours) allocated to productive activities in older adulthood, participation in domestic tasks (i.e., home repairs, yard and garden care, meal preparation, laundry, indoor cleaning) exceeds that of paid or voluntary work and caregiving activities (Krantz-Kent, 2005; McKinnon, 1992). As such it has been reported that women between the ages of 45 and 74 years may dedicate up to four hours a day to such domestic activities (Victorino & Gauthier, 2005). However, the number of hours dedicated to voluntary and caregiving activities in older adulthood should not be underestimated as reports suggest that individuals 55 years of age and older provide a yearly societal contribution above \$160 billion through such productive pursuits (Butrica & Schaner, 2005; Johnson & Schaner, 2004). Though formal voluntary hours are not provided, it is estimated that adults over the age of 55 provide 580 hours yearly to caring for other individuals (i.e., parents, grandchildren, spouses; Johnson & Schaner, 2005). Though participation in voluntary pursuits remains high in later life (i.e., 28% of adults 75 years of age and older volunteer formally; Zedlewski & Schaner, 2005), such involvement is expected to decline with age (Fast et al., 2006; Johnson & Schaner, 2004; Johnson & Schaner, 2005).

A similar, yet more extreme pattern of decline associated with increasing age is experienced with time dedicated to paid work in older adulthood (Fast et al., 2006;

Krantz-Kent & Stewart, 2007). This pattern is illustrated by only 5% of individuals 79 years of age and older participating in the labor force compared to 76% of individuals in their 55th year of life (Krantz-Kent, 2005). When averaged across all adults 65 to 74 years of age, it is estimated that an individual spends less than one hour a day engaging in paid work (Gauthier & Smeeding, 2010). A reduction in paid work in older adulthood is further exemplified by examining time use patterns of individuals who *maintain* employment in later adulthood. Individuals in the labor market who are 70 years of age and older work nearly 11 less hours weekly than 65 to 69 year olds who work 7.5 less hours than 55 to 59 year olds (Krantz-Kent, 2005).

When considering the range of productive activities, it is plausible that such engagement has a unique opportunity to provide social contact for older adulthood. However, time use literature examining social participation in older adulthood is limited, and thus there is a lack of clarity surrounding the time that older adults dedicate to specific social activities beyond productive pursuits. However, it has been documented that older adults spend between 80% and 93% of the day within their own homes (Fricke & Unsworth, 2001; Horgas et al., 1998; McKenna et al., 2007) with the majority of this time being spent alone (Cornwell, 2011; Fricke & Unsworth, 2001; Horgas et al., 1998). When time is spent among social contacts, it is most often in the presence of kin (Cornwell, 2011), and more specifically one's spouse or partner (Horgas et al., 1998), as contact with friends accounts for only 5% of an older adult's time (Krantz-Kent & Stewart, 2007). Taken together, this substantial amount of time spent alone coincides with the increase in the amount of time spent engaging in passive leisure activities as one ages.

## **Future Directions**

Current time use literature in the field of aging provides a brief overview of how older adults spend time. Though limited, it is this foundation that is required to initiate future research projects aimed at detailing time use patterns across the decades of later adulthood. The potential of such research is invaluable, as discerning engagement profiles of older adults may prove to be the primary step to identifying how engagement changes during later life. Furthermore, it would be appropriate to speculate that the natural progression of such research would lead to the development of explanatory theories regarding engagement changes. Taken together, it is these research aspirations, built upon the existing literature, that are essential to providing the comprehensive understanding of engagement in older adulthood that is required to create strategies and opportunities to maintain and enhance engagement in later life. Such objectives appear worthwhile since engagement can be a beneficial component to the aging process and has been acknowledged as a unique and vital facilitator of successful aging.

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**Appendix A**  
**Demographic Profile**

**Name:** \_\_\_\_\_

**Phone Number:** \_\_\_\_\_

**Age:** \_\_\_\_\_

**T-Shirt Size:** \_\_\_\_\_

**Gender (please circle):**      **MALE**      **FEMALE**

**Address (optional – only needed if you want study results mailed to your home):**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**I want study results mailed to my home (please circle one):**      **YES**      **NO**

**Please indicate with an ‘X’ when you are usually available:**

	<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>
<b>9:00am - 11:00am</b>					
<b>11:00am - 1:00pm</b>					
<b>1:00pm - 3:00pm</b>					

**Please indicate if there are any specific days that you know you will not be available between June and August (i.e., vacation, appointments):**

\_\_\_\_\_

\_\_\_\_\_

**Education (please check the highest level you have attained):**

**Elementary school**

**High school**

**College**

**University**

**Post-graduate**

**Total Household Income (please check the most appropriate value):**

**≤ \$20,000**

**≤ \$40,000**

**≤ \$60,000**

**≤ \$80,000**

**> \$80,000**

**Prefer not to answer**

**Living Arrangements (please check the most appropriate location):**

**House**

**Apartment/condominium**

**Retirement residence**

**Living Arrangement (please check the most appropriate option):**

**With spouse/partner**

**With family**

**Alone**

**Appendix B**  
**Present Engagement Questionnaire**

In the blank column to the left please classify each activity as either: productive (P), social (S), active leisure (AL), or passive leisure (PL). Please refer to the definitions provided.

In the blank columns please check the box that most accurately describes your weekly participation in each activity **CURRENTLY**. In the shaded columns please check the box that most accurately indicates the daily number of hours you spent on each activity **CURRENTLY**.

Type	Activity	Weekly Participation				Daily Participation				
		Never 0 x/wk	Seldom 1-2 x/wk	Sometimes 3-4 x/wk	Often 5-7 x/wk	< 30 min	30 min to 1 hr	1 hr to 2 hrs	2 hrs to 4 hrs	> 4 hrs
	Family/friendship activities									
	Watching television									
	Volunteer work									
	Light housework (i.e., dusting/washing dishes)									
	Handicrafts									
	Moderate sports or recreational activities (i.e., ballroom dancing, hunting, skating, golf without a cart)									
	Care for others (i.e., dependent spouse, child)									

Type	Activity	Weekly Participation				Daily Participation				
		Never 0 x/wk	Seldom 1-2 x/wk	Sometimes 3-4 x/wk	Often 5-7 x/wk	< 30 min	30 min to 1 hr	1 hr to 2 hrs	2 hrs to 4 hrs	> 4 hrs
	Visiting others									
	Reading									
	Outdoor gardening, sweeping balcony or stairs									
	Educational activities									
	Cultural activities (i.e., attending the symphony)									
	Strenuous sports or recreational activities (i.e., jogging, swimming, cycling, aerobics, skiing)									
	Church related activities									
	Bingo, cards, or other games									
	Day or overnight trips									
	Exercise to increase muscle strength and endurance (i.e., weight lifting, push ups)									
	Attending theatre events (i.e., live, movies)									

Type	Activity	Weekly Participation				Daily Participation				
		Never 0 x/wk	Seldom 1-2 x/wk	Sometimes 3-4 x/wk	Often 5-7 x/wk	< 30 min	30 min to 1 hr	1 hr to 2 hrs	2 hrs to 4 hrs	> 4 hrs
	Playing a musical instrument									
	Full-time or part-time paid employment									
	Home repairs (i.e., painting, wallpapering)									
	Take a walk outside your home or yard									
	Listening to radio/music									
	Heavy housework (i.e., vacuuming, washing windows)									
	Computer activities									
	Crosswords, puzzles, etc.									
	Light sports/recreational activities (i.e., bowling, golf with a cart, shuffleboard)									
	Lawn work or yard care (i.e., snow/leaf removal)									
	Service club or fraternal organization activities									
	Neighbourhood or community activities									

Type	Activity	Weekly Participation				Daily Participation				
		Never (0 x/wk)	Seldom (1-2 x/wk)	Sometimes (3-4 x/wk)	Often (5-7 x/wk)	< 30 min	30 min to 1 hr	1 hr to 2 hrs	2 hrs to 4 hrs	> 4 hrs
	Phone conversations									

**Fill in the blank rows with any other activities that you participate in that were not included previously.**



## Appendix C

### Past Engagement Questionnaire

In the blank columns please check the box that most accurately describes your weekly participation in each activity **FIVE YEARS AGO.**

In the shaded columns please check the box that most accurately indicates the daily number of hours you spent on each activity **FIVE YEARS AGO.**

Activity	Weekly Participation				Daily Participation				
	Never 0 x/wk	Seldom 1-2 x/wk	Sometimes 3-4 x/wk	Often 5-7 x/wk	< 30 min	30 min to 1 hr	1 hr to 2 hrs	2 hrs to 4 hrs	> 4 hrs
Family/friendship activities									
Watching television									
Volunteer work									
Light housework (i.e., dusting/washing dishes)									
Handicrafts									
Moderate sports or recreational activities (i.e., ballroom dancing, hunting, skating, golf without a cart)									
Care for others (i.e., dependent spouse, child)									

Activity	Weekly Participation				Daily Participation				
	Never 0 x/wk	Seldom 1-2 x/wk	Sometimes 3-4 x/wk	Often 5-7 x/wk	< 30 min	30 min to 1 hr	1 hr to 2 hrs	2 hrs to 4 hrs	> 4 hrs
Visiting others									
Reading									
Outdoor gardening, sweeping balcony or stairs									
Educational activities									
Cultural activities (i.e., attending the symphony)									
Strenuous sports or recreational activities (i.e., jogging, swimming, cycling, aerobics, skiing)									
Church related activities									
Bingo, cards, or other games									
Day or overnight trips									
Exercise to increase muscle strength and endurance (i.e., weight lifting, push ups)									
Attending theatre events (i.e., live, movies)									

Activity	Weekly Participation				Daily Participation				
	Never 0 x/wk	Seldom 1-2 x/wk	Sometimes 3-4 x/wk	Often 5-7 x/wk	< 30 min	30 min to 1 hr	1 hr to 2 hrs	2 hrs to 4 hrs	> 4 hrs
Playing a musical instrument									
Full-time or part-time paid employment									
Home repairs (i.e., painting, wallpapering)									
Take a walk outside your home or yard									
Listening to radio/music									
Heavy housework (i.e., vacuuming, washing windows)									
Computer activities									
Crosswords, puzzles, etc.									
Light sports/recreational activities (i.e., bowling, golf with a cart, shuffleboard)									
Lawn work or yard care (i.e., snow/leaf removal)									
Service club or fraternal organization activities									
Neighbourhood or community activities									

Activity	Weekly Participation				Daily Participation				
	Never (0 x/wk)	Seldom (1-2 x/wk)	Sometimes (3-4 x/wk)	Often (5-7 x/wk)	< 30 min	30 min to 1 hr	1 hr to 2 hrs	2 hrs to 4 hrs	> 4 hrs
Phone conversations									

**Fill in the blank rows with any other activities that you participate in that were not included previously.**

## Appendix D

### Definitions of Activity Types

#### **PRODUCTIVE ACTIVITIES = 'P'**

Create societal value and are carried out for the purpose of their outcome

#### **SOCIAL ACTIVITIES = 'S'**

Provide interactions among others

#### **PASSIVE LEISURE ACTIVITIES = 'PL'**

Tend not to include a social component and are commonly carried out by a single person without any necessary company

#### **ACTIVE LEISURE ACTIVITIES = 'AL'**

Help with the maintenance of physical functioning and tend to require a larger expenditure of metabolic energy

## Appendix E

### Standardized Interview Guide

- 1) What is your name and something that you look forward to doing?
- 2) What does it mean to you to age successfully?
  - What do you think contributes to successful aging?
- 3) What do you value or appreciate about participating in activity?
- 4) How has your participation changed in your *productive activities* over the past five years?
  - Are there activities you participated in five years ago that you now don't?
  - Are there activities you participate in now that you didn't five years ago?
  - Why has your participation changed?
  - Why has your participation been maintained?
- 5) How has your participation changed in your *social activities* over the past five years?
  - Are there activities you participated in five years ago that you now don't?
  - Are there activities you participate in now that you didn't five years ago?
  - Why has your participation changed?
  - Why has your participation been maintained?
- 6) How has your participation changed in your *active leisure activities* over the past five years?
  - Are there activities you participated in five years ago that you now don't?
  - Are there activities you participate in now that you didn't five years ago?
  - Why has your participation changed?
  - Why has your participation been maintained?
- 7) How has your participation changed in your *passive leisure activities* over the past five years?
  - Are there activities you participated in five years ago that you now don't?
  - Are there activities you participate in now that you didn't five years ago?
  - Why has your participation changed?
  - Why has your participation been maintained?
- 8) What is something you thought was important we discussed today?
- 9) Does anyone have any last thoughts, or something they would like to add that we didn't discuss yet today?

## Appendix F

### Follow-Up Interview Guide

- 1. What contributes to successful aging?**
- 2. How have your productive activities changed over the past five years? Why?**
  - *Volunteer work* (never/seldom)
  - *Handicrafts* (often/often)
  - *Care for others* (often/often)
  - *Reading* (seldom/seldom)
  - *Church related activities* (seldom/seldom)
  - *Exercise to increase muscle* (sometimes/sometimes)
  - *Employment* (never/never)
  - *Home repairs* (sometimes/sometimes)
- 3. How have your social activities changed over the past five years? Why?**
  - *Family/friendship activities* (often/often)
  - *Watching television* (often/often)
  - *Gardening, sweeping balcony or stairs* (seldom/seldom)
  - *Cultural activities (i.e., attending the symphony)* (sometimes/often)
  - *Bingo, cards, or other games* (never/never)
  - *Phone conversations* (often/often)
- 4. How have your passive leisure activities changed over the past five years? Why?**
  - *Listening to radio/music* (sometimes/sometimes)
- 5. How have your active leisure activities changed over the past five years? Why?**
  - *Light housework* (often/often)
  - *Sports or recreational activities* (sometimes/seldom)
  - *Visiting others* (often/often)
  - *Educational activities* (seldom/never)
  - *Day or overnight trips* (never/never)
  - *Attending theatre events* (sometimes/sometimes)
  - *Playing a musical instrument* (never/never)
  - *Taking a walk outside home or yard* (sometimes/sometimes)
  - *Heavy housework* (sometimes/sometimes)
  - *Computer activities* (sometimes/sometimes)
  - *Crosswords, puzzles, etc.* (never/never)
  - *Lawn work* (sometimes/sometimes)
  - *Service, club, or fraternal organization activities* (sometimes/sometimes)
  - *Neighbourhood or community activities* (never/never)
- 6. Is there anything that you think is important for me to know about your participation in activity that we haven't already covered?**

**Appendix G**  
**Participant Demographic Information Separated by Focus Group**

<i>Table F1. Demographic information of participants 65 – 74 years of age separated by focus group.</i>				
Variable	Focus Group 1 n = 5 (29.4%)	Focus Group 2 n = 6 (35.3%)	Focus Group 2 n = 6 (35.3%)	Total Sample N = 17 (100%)
<b>Age (years)</b>				
Mean (range)	69.4 (65 – 74)	70.7 (67 – 74)	70.2 (65 – 74)	70.1 (65 – 74)
<b>Sex</b>				
Male	4 (80.0%)	2 (33.3%)	1 (16.7%)	7 (41.2%)
Female	1 (20.0%)	4 (66.7%)	5 (83.3%)	10 (58.8%)
<b>Highest level of education</b>				
Elementary school	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
High school	2 (40.0%)	2 (33.3%)	4 (66.7%)	8 (47.1%)
College	1 (20.0%)	0 (0.0%)	2 (33.3%)	3 (17.6%)
University	0 (0.0%)	2 (33.3%)	0 (0.0%)	2 (11.8%)
Post-graduate	2 (40.0%)	2 (33.3%)	0 (0.0%)	4 (23.5%)
<b>Household Income</b>				
≤ \$20,000	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
≤ \$40,000	1 (20.0%)	1 (16.7%)	3 (50.0%)	5 (29.4%)
≤ \$60,000	1 (20.0%)	1 (16.7%)	1 (16.7%)	3 (17.6%)
≤ \$80,000	0 (0.0%)	1 (16.7%)	0 (0.0%)	1 (5.9%)
> \$80,000	0 (0.0%)	2 (33.3%)	0 (0.0%)	2 (11.8%)
Prefer not to answer	3 (60.0%)	1 (16.7%)	2 (33.3%)	6 (35.3%)
<b>Living Environment</b>				
House	5 (100.0%)	6 (100.0%)	3 (50.0%)	14 (82.4%)
Apartment/condominium	0 (0.0%)	0 (0.0%)	3 (50.0%)	3 (17.6%)
Retirement residence	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
<b>Living Arrangement</b>				
With spouse/partner	2 (40.0%)	3 (50.0%)	2 (33.3%)	7 (41.2%)
With family	1 (20.0%)	0 (0.0%)	1 (16.7%)	2 (11.8%)
Alone	2 (40.0%)	3 (50.0%)	3 (50.0%)	8 (47.1%)

*Note.* Percent values represent percentage of the sample within each focus group.



Variable	Focus Group 1 n = 6 (35.3%)	Focus Group 2 n = 5 (29.4%)	Focus Group 3 n = 6 (35.3%)	Total Sample N = 17 (100%)
Age (years)				
Mean (range)	80.2 (76 – 84)	79.4 (75 – 83)	75.8 (75 – 77)	78.0 (75 – 84)
Sex				
Male	2 (33.3%)	3 (60.0%)	3 (50.0%)	8 (47.1%)
Female	4 (66.7%)	2 (40.0%)	3 (50.0%)	9 (52.9%)
Highest level of education				
Elementary school	0 (0.0%)	1 (20.0%)	0 (0.0%)	1 (5.9%)
High school	4 (66.7%)	2 (40.0%)	3 (50.0%)	9 (52.9%)
College	2 (33.3%)	1 (20.0%)	1 (16.7%)	4 (23.5%)
University	0 (0.0%)	1 (20.0%)	2 (33.3%)	3 (17.6%)
Post-graduate	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Household Income				
≤ \$20,000	1 (16.7%)	1 (20.0%)	0 (0.0%)	2 (11.8%)
≤ \$40,000	0 (0.0%)	1 (20.0%)	0 (0.0%)	1 (5.9%)
≤ \$60,000	0 (0.0%)	0 (0.0%)	1 (16.7%)	1 (5.9%)
≤ \$80,000	0 (0.0%)	0 (0.0%)	4 (66.7%)	4 (23.5%)
> \$80,000	0 (0.0%)	1 (20.0%)	0 (0.0%)	1 (5.9%)
Prefer not to answer	5 (83.3%)	2 (40.0%)	1 (16.7%)	8 (47.1%)
Living Environment				
House	6 (100.0%)	5 (100.0%)	6 (100.0%)	17 (100%)
Apartment/condominium	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Retirement residence	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Living Arrangement				
With spouse/partner	5 (83.3%)	2 (40.0%)	6 (100.0%)	13 (76.5%)
With family	0 (0.0%)	1 (20.0%)	0 (0.0%)	1 (5.9%)
Alone	1 (16.7%)	2 (40.0%)	0 (0.0%)	3 (17.6%)

*Note.* Percent values represent percentage of the sample within each focus group.

## Vita Auctoris

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