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Investigating relationships among instrumental and expressive traits, health, and expectations of aging in a community sample of older adults.

Reagan M. Gale
University of Windsor

Investigating Relationships among Instrumental and Expressive Traits, Health, and Expectations of Aging in a Community Sample of Older Adults

by

Reagan M. Gale

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ABSTRACT

This study investigated the relationships among expectations of aging, instrumentality, expressivity, self-rated health, and gender in a sample of community dwelling older adults. One hundred and two (55 female, 47 male) participants were recruited through seniors' organizations in Windsor, Ontario. Correlation matrices and a series of hierarchical regression analyses were conducted separately by gender. For both genders, expectations of aging were positively correlated with self-reported health function but not correlated with either instrumentality or expressivity. For women only, instrumentality was positively correlated with life satisfaction, and expressivity was positively correlated with life satisfaction and general wellness. Women's expectations of aging and instrumentality explained variance in life satisfaction and general wellness over and above medical comorbid burden and economic status. Implications of negative aging expectations for the health of older adults are discussed, as are potential intervention strategies.

DEDICATION

This study is dedicated to the men and women who gave of their time and energy to participate, and especially to the men and women of the South Windsor Seniors' Association and the Windsor Kiwanis 'Golden K' Club. Their enthusiasm, support for the project, and overall zest for life are inspiring.

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I also wish to express my sincere thanks to Dr. Mary E. Charlson, Dr. Lee Slivinske, Dr. Catherine Sarkisian, Dr. Jeffrey Katz, and the Gerontological Society of America, for their permission to include the Charlson Comorbidity Index and its questionnaire adaptation, the Wellness Index, and the Expectations Regarding Aging-38 Scale, respectively, in my published Masters Thesis.

Finally, I wish to express my sincere thanks and love to the unofficial committee members who have supported me through the last 18 months: Laurel Montrose, John Gale, James Smith, Daniel Ross, Christa Ryan, and many others who shall remain nameless here. Your unwavering patience, encouragement, and love have enabled me to stay on track and to persevere through times of hardship and frustration. Thank you for believing in me when I didn't believe in myself.

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CHAPTER ONE

Introduction

It is important to investigate factors affecting the health of older adults, given the current demographic trend towards a higher concentration of older adults in the general population (Martel, Bélanger, Berthelot, & Carrière, 2003). In Canada, people aged 65 years and over are the fastest growing segment of the population: 4 217 700 Canadian adults are older than sixty-five, making up 13 percent of the total population (Statistics Canada, 2005). This number will increase to roughly 25% of the total population before the year 2031 (Lai, 2001; Statistics Canada, 1990). In fact, before the year 2036, Canadians aged 75 and over will constitute almost half of the elderly population (Statistics Canada, 1993). It is clear that aging is inexorably linked to the health functioning of older adults (Hayflick, 1998). As the first waves of the baby-boomer generation enter their senior years (Chop & Robnett, 1999), investigating aging, how we think about aging, and factors affecting the health of older adults becomes even more important.

A review of the literature suggests a high degree of variation in both individual and cultural expectations of aging. Some people see their aging in terms of primarily positive events, such as leaving the formal workplace and spending more time on enjoyable hobbies, or spending more time with children and loved ones (Quirouette & Pushkar, 1999). However, research suggests that aging is often perceived less positively (Levy, 2003). Some individuals focus on how the physical body will decline with age, and how it will become increasingly subject to illness, memory problems, or dementia (Connidis, 1989). People's expectations about the aging process are of more than

academic importance, given data indicating that these expectations have a significant impact on the aging process itself (Levy, 2003).

Gender by itself appears to be one of the most important variables in health functioning for older adults in North America (Huyck, 1990). For example, there are many more women over 65 (2 475 488 in the year 2005) than there are men (1 842 496; Statistics Canada, 2005). Martel et al. (2003) reported that women live longer than men, with an average life expectancy of 83.63 years, compared to 76.73 years for men; however, as women get older they tend to experience more chronic health problems than their male counterparts. These gender differences in health functioning have been attributed to various factors, including hormonal, genetic and behavioural differences (Huyck, 1990; Perls & Fretts, 1998).

Research also suggests that certain personality traits are associated with better health functioning. For example, relatively high instrumentality (defined as a set of personality traits associated with the accomplishment of physical and social tasks) is associated with better health and psychological adjustment than expressivity (defined as a set of personality traits associated with maintenance of social relationships; Whitley, 1983). Both males and females can be relatively high in both instrumentality and expressivity, predominantly instrumental or expressive, or relatively low in both (see Bem, 1974). Instrumental traits such as dominance and competitiveness are commonly associated with stereotypical masculinity, while expressive personality traits such as dependence and sensitivity are commonly associated with stereotypical femininity (Bem, 1974).

Little research exists exploring the relationships between gender, instrumental and expressive personality traits, expectations of aging, and health functioning in older adults. The purpose of the current study was to explore these relationships.

Expectations Regarding Aging and Health

In some cultures, such as Middle Eastern Culture (Middle East Centre, 2005), aging is associated with positive attributes such as wisdom and authority, and accorded a great deal of respect. This is also the case in many Asian cultures (e.g., Thailand, China, Samoa, Philippines) where respect for seniority and filial piety are highly valued (Chappell, 2003; Harwood et al., 2001; Levy & Langer, 1994; Pearson, 1992; Sobieszczyk, Knodel, & Chayovan, 2003). For example, in the Pacific-rim country of Samoa, over 75% of a sample of residents reported that older adults are respected and consulted for their wisdom (Pearson, 1992). Harwood et al. (2001) similarly found that, among Asian cultures, aging is seen as being associated with increased generosity and kindness.

In a study comparing perceptions of aging among a sample of Chinese adults, deaf American adults, and hearing American adults, Levy and Langer (1994) found that people from China rate older adults more positively than do their (hearing) North American counterparts. Among Eurocentric cultures, negative stereotypic views of older adults are prevalent. For example, Best and Williams (1996) found that some of the world's most negative feelings about growing older and negative views of aging are held by Canadians. Eurocentric cultures see old people as weak, helpless, incompetent, needy, and often senile (Hummert, Garstka, Ryan, & Bonnesen, 2004). Adoption of these negative views has been shown to begin early in life (DePallo et al., 1995), and children

as young as four have identified older adults as helpless and passive (Seefeldt, Jantz, Galper, & Scrock, 1977). Research suggests that the negative views of older adults reinforced in our youth are increasingly applied to the self during aging (Levy, 2003), and are significantly related to the health of older adults living in North America and Europe (Levy, Slade, Kunkel, & Kasl, 2002).

It has been suggested that these results may be explained by other factors related to older adults' life circumstances (e.g., social support, economic status, chronic health conditions [Connidis, 1989; Quirouette & Pushkar, 1999; Statistics Canada, 2003]). For example, social support (the availability of friends, family, and other acquaintances who offer information, emotional relief, and even material aid: Revenson & Gibofsky, 1995) is associated with reduced levels of loneliness (Homen & Furukawa, 2002), and higher ratings of quality of life (Gabriel & Bowling, 2004), and is a significant predictor of long-term maintenance of physical activity (McAuley, Jerome, Elavksy, Marquez, & Ramsey, 2003) in older adults.

As an example of the effect of social support, research has demonstrated that living arrangements are associated with the health of older adults. Older adults who live alone report being more lonely and less healthy than their peers who live with someone else (Choi & Wodarski, 1996; Rogers, 1996) even when controlling for age, health, gender and socioeconomic status (de Jong Gierveld & van Tilburg, 1999). Living alone is associated with increased risk of major depression, social isolation, feeling unsafe, and earlier admission to nursing facilities (Gustavson & Lee, 2004). Living alone and apart from one's family is even associated with increased risk of death (Rogers, 1996).

Economic status has also been found to be strongly associated with the health functioning of older adults (Breeze et al., 2004; House, Lantz, & Herd, 2005; Prus, 2004; Steptoe, Kunz-Ebrecht, Wright, & Feldman, 2005), given that it may shape an older adult's "exposure to and experience of almost all risk factors for health" (House et al., p.17). Economic status affects health behaviours, chronic and acute stress, and access to and use of medical care, all of which have been found to be associated with health and mortality (House et al., 2005; Prus, 2004; Roberge, Berthelot, & Wolfson, 1995). Canadians with higher economic status have lower mortality and chronic illness rates than those with lower economic status (Prus, 2004).

Chronic illnesses and medical comorbidities are also associated with the self-reported health functioning of older adults (Lee & Shinkai, 2003; Leinonen, Heikkinen, & Jylha, 2002; Schneider et al., 2004), specifically, higher rates of chronic illness are associated with lower health functioning. Among older adults, changes in self-reported health functioning over time systematically reflect their level of medical comorbidities (Leinonen et al., 2002). As medical comorbidities increase, self-reported health tends to decrease (Leinonen et al., 2002).

However, factors such as social support, economic status, and chronic health conditions do not explain everything about older adult's health functioning ; when words associated with negative aging characteristics are presented in the laboratory outside of their conscious awareness, older research participants show diminished physical ability and more memory problems relative to older adult participants in whom positive aging stereotypes have been evoked (Levy, 2003). Interestingly, when younger adults are

presented with these negative aging characteristics, they show the same response patterns as older adults (Levy, 2003).

Unfortunately, as we get older, negative views of aging may continue to be reinforced because of cultural attitudes and prejudice towards aging and older adults (Levy, 2003), and are likely to be incorporated into our expectations of our own aging (Seefeldt et al., 1977). Expectations regarding one's own aging have also been shown to have a marked impact on health functioning. For example, expectations of aging influence health decisions made by older adults (Levy, Ashman, & Dror, 1999). Older adults who were primed in the lab with words associated with positive aging characteristics (e.g., wise, alert, sage, accomplished) showed a marked increase in their tendency to make decisions involving life-prolonging invasive medical treatment. Older adults primed with words associated with negative aging characteristics (e.g., confused, senile, dying, decrepit) tended to reject life-prolonging interventions of any sort.

Longitudinal field research involving expectations regarding aging has also provided interesting insights into their effect on psychological and functional health. For example, Levy and Myers (2004) investigated the effect of expectations of personal aging on participation in preventive health behaviours, such as eating a balanced diet, prescription drug compliance, and exercising. Even when researchers controlled for chronic health conditions and social supoort, individuals with more positive views about their own aging were more likely to engage in these behaviours over a twenty-year period from 1975 to 1995. Another field-based study examined whether these expectations of personal aging might predict functional health (Levy, Slade, & Kasl, 2002). Using data from the Ohio Longitudinal Study of Aging (OLSA), Levy et al. (2002) discovered that

older adults with more positive self-perceptions of aging consistently reported better functional health over the same twenty-year period. Further research with the OLSA data indicated that mortality was affected by these expectations regarding personal aging, such that older adults with more negative perceptions of aging lived on average seven and a half years less than their peers (Levy, Slade, Kunkel, & Kasl, 2002). It seems clear that older adults' expectations regarding aging affect their health functioning, both over the long term (e.g., the OLSA data) and the short term (lab-based studies).

It may be that internalization of negative views of aging and aging stereotypes acts as the mechanism through which aging expectations impact the health of older adults. The negative views of aging held in Eurocentric cultures may carry over into our expectations of our own aging, and stereotyped attitudes about aging may be further strengthened through everyday life. For example, if we see an older adult engaging in a behaviour we would expect given our ageist stereotypes (e.g., an older adult walking slowly with a cane or a walker), the stereotype is reinforced. Portrayal of older adults in the media often reinforces these stereotypes: the media often represents older adults as feeble, absent-minded, stubborn, and helpless (Donlon, Ashman & Levy, 2005; Tupper, 1995). According to the view of the adult as cognitive miser (Taylor, 1998), we often draw on stereotypes as they allow for efficient processing of the information to which we are exposed. Aging stereotypes are so potent that they have been found to be dominant over actual experiences with older adults (Levy, 2003).

A stereotype is a conventional, formulaic, and oversimplified image that is regarded as exemplifying a person, object, or event (Schneider, 2004). A stereotype about others who are aging, or who are aged, may be applied to ourselves as we age, and thus becomes

a "self-stereotype." Tajfel and Turner (1979) identify self-stereotypes as "those aspects of an individual's self-image that derive from the social categories to which he perceives himself as belonging" (p. 40). Self-stereotyping occurs when people adopt attitudes and prejudices relevant to themselves from family or the cultural environment. Perdue and Gurtman (1990) wrote that "cognitively categorizing a person as 'old' may create a subset of predominantly negative constructs which are more accessible... and thus [continually perpetuate] ageism" (p. 213), which is the application of prejudices and stereotypes to older people solely on the basis of their age (Butler & Lewis, 1982, p.175, as cited in Nuessel, 1992). Thus, older adults tend to express attitudes about aging that are as negative as attitudes about aging expressed by younger adults (Nosek, Banaji, & Greenwald, 2002) when these attitudes are assessed with a test of implicit attitudes on the internet. It is possible that these stereotyped attitudes about aging may act as self-fulfilling prophecies for older adults. For example, if we expect certain behaviours from older adults (such as poor hearing, memory problems, or urinary incontinence), or picture our own aging in negative ways (such as losing our independence), we may behave in such a way as to fulfil our expectations (engaging in behaviour that may cause loss of independence, such as not renewing a driver's license, or by choosing not to use a hearing aid in circumstances of hearing loss).

Instrumentality and Expressivity

Just as older adults' expectations regarding aging have been shown to be associated with longevity and health as discussed above (Levy, Slade, & Kasl, 2002; Levy, Slade, Kunkel, et al., 2002), certain stereotypically gender-linked personality traits are associated with better health and psychological adjustment. Bales (1951) was the first

to use the terms "instrumental" and "expressive" in his study of leadership roles. Instrumental leadership is concerned with the accomplishment of group tasks, especially with regard to physical and social conditions. Expressive leadership entails a less dominant style, and is concerned with internal problems and maintenance of in-group relations. Various researchers quickly made the connection between the clusters of traits associated with instrumentality and expressivity and stereotypically-defined definitions of masculinity and femininity, respectively (Bem, 1974, 1979; Spence & Helmreich, 1980; Stake, 2000). The family of traits associated with masculinity by these researchers encompasses competence, independence, and instrumentality; the family of traits associated with femininity includes warmth and expressiveness (see Table 1; Bem, 1974). For the purposes of the current study, instrumentality was defined as the group of traits concerned with the active accomplishment of goals through personal agency.

Acceptance of the philosophical argument of inherent gender differences suggests that because men naturally show more instrumental traits, while women naturally show more expressive traits, psychological health for both men and women would depend on the correspondence of their actual personality traits to those most appropriate for their sex. According to this paradigm, women who endorse predominantly expressive traits and men who endorse predominantly instrumental traits will demonstrate optimal psychological and physical adjustment. For many years, psychologists thus assumed a one-dimensional model, with instrumentality and expressivity as polar opposites (for example, see Abraham & Kagan as cited in Whitley, 1983; Bem, 1974). In fact, initial attempts by psychologists to assess masculinity and femininity relied on a one-dimensional scale, such that one could be high on masculinity or on femininity, but not

Table 1

Instrumental and Expressive Traits

Instrumental	**Expressive**
Aggressive	Passive
Independent	Dependent
Dominant	Quiet
Competitive	Aware of others' feelings
Active	Affectionate
Makes decisions easily	Expresses feelings easily

Note. Examples of instrumental and expressive traits taken from Bem (1974).

on both (Bem, 1974; Constantinople, 1973; Spence & Helmreich, 1978). Significantly, however, the presumed association of psychological health with stereotypically 'gender-appropriate' personality traits, although accepted for much of the twentieth century, has received little or no support in research (Bassoff & Glass, 1982; Taylor & Hall, 1982; Whitley, 1983). In 1974, Bem proposed an androgyny approach, arguing that having high levels of stereotypic masculine and stereotypic feminine traits is essential for optimal adjustment at any age. This approach necessarily assumes that stereotypic masculine and stereotypic feminine traits are independent and orthogonal dimensions. To create a measure consistent with her theory, Bem developed a gender role inventory (1974). People who incorporate high levels of both stereotypic masculine and stereotypic feminine traits into their personality are said to show an androgynous orientation, whereas those who incorporate high levels of only one set of traits are regarded as showing stereotypically masculine or stereotypically feminine orientations, respectively. People who incorporate low levels of both exhibit undifferentiated orientations. The androgyny approach proposes that an androgynous orientation leads to maximized psychological well-being and "defines a [better] standard of mental health" (Bem, 1974, p.162). While the Bem Sex Role Inventory (BSRI) was initially developed to assess self-ratings of masculinity and femininity, subsequent studies demonstrated that it was more accurate to label these two qualities instrumentality and expressivity (see Holmeck & Bale, 1988, for a review). Spence and Helmreich (1979, 1980) argued that instead of assessing gender roles, the BSRI was rather a measure of different types of traits not necessarily linked to gender. Spence and Helmreich's argument has been supported in

numerous studies (e.g., Gill, Stockard, Johnson, & Williams, 1987; Holmbeck & Bale, 1988; Spence & Helmreich, 1980; Windle & Sinnott, 1985).

Instrumentality, Expressivity, and Health

Providing support for the theory that both high instrumentality and high expressivity are healthiest for both males and females, Shifren and Bauserman (1996) surveyed a group of 336 male and female undergraduate students to assess levels of instrumental and expressive traits, as well as health related behaviours. In their sample, participants high in both instrumentality and expressivity reported significantly better health practices (less smoking, reduced alcohol and drug use, and using more safety precautions [i.e., condom use]) than their peers. These results replicated earlier studies showing that individuals who score high on both instrumental and expressive traits report better health practices and outcomes (Baffi, Redican, Sefchick, & Impara, 1991). Individuals with high levels of instrumentality and expressivity also reported less difficulty than their peers when dealing with stress (Stake, 2000). Of 194 undergraduate participants surveyed, people with high levels of both instrumentality and expressivity reported higher levels of social support from family and friends, and higher self-appraisals than did their peers (Stake, 2000). They also showed lower levels of stress across multiple situations and higher levels of self-esteem than their peers. Stake also suggested that there is a strong link between having high levels of both instrumentality and expressivity and positive adjustment (Stake, 2000).

However, others have suggested that one's overall well-being is a function of the extent to which one has instrumental, rather than both instrumental and expressive traits (e.g., Adams & Sherer, 1985; Lau, 1989; Radecki & Jaccard, 1996). Various meta-

analyses of the early literature on instrumentality and expressivity have supported this position (e.g., Bassoff & Glass, 1982; Taylor & Hall, 1982; Whitley, 1983). Whitley (1983) found that instrumental, but not expressive traits, were strongly related to the absence of depression, general adjustment, and general health, findings consistent with the earlier results of Bassoff and Glass (1982) and Taylor and Hall (1982).

The majority of empirical studies support the strong relationship between instrumentality and health functioning (Bassoff & Glass, 1982; Marsh & Byrne, 1991; Orlofsky & O'Heron, 1987; Whitley, 1983). In one of the best-known studies of this type, Antill and Cunningham (1979) showed that instrumental traits in both males and females were positively correlated with self-esteem, while expressive traits were either negatively correlated or non-significantly correlated. Lau (1989) investigated this relationship among a sample of Chinese students, and also found that instrumental traits were more strongly associated with academic performance, appearance, and general self-esteem than were expressive traits.

Instrumental traits are also positively correlated with greater psychological adjustment in both males and females (Adams & Sherer, 1985). One hundred and one undergraduate participants completed measures of instrumental and expressive traits, psychopathology, and self-efficacy. Individuals who scored high on instrumental traits also showed significantly higher levels of general self-efficacy and assertiveness, and scored significantly lower on the D (depression) and SI (social introversion) scales of the Minnesota Multiphasic Personality Inventory than their expressive and androgynous peers. Participants who scored high on expressive traits and low on instrumental traits also scored significantly lower than their androgynous peers on general-self efficacy

(Adams & Sherer, 1985). Support for the importance of instrumentality as it affects health functioning is also found in studies of effective decision making (Radecki & Jackard, 1996). Positive decision making orientations are associated with instrumental traits, such that increased instrumental traits are associated with behavioural confrontation, positive affect, and positive beliefs about decision making abilities.

Interestingly, many of the negative *expressive* traits identified in the literature are also the negative *aging* traits we see in ageism literature: e.g., dependent, submissive, passive, gullible, childlike, and susceptible to flattery (Canetto, Kaminski, & Felicio, 1995). When reviewing Bem's list of 20 expressive traits, a number of them seem to be negative, at least from a North American cultural perspective; consider, for example, dependence and submissiveness, two expressive traits mentioned in the BSRI.

Instrumentality, Expressivity, Gender, and Aging

It is important to note that there may be a relationship between instrumentality, expressivity, and a person's gender; for example, males may well show more instrumental personality traits than females do. Gender may be defined as the social construct regarding culture-bound conventions for males and females, whereas sex may be defined as an individual's biological and physiological classification as either male or female (Krieger, 2001). Research with children and young adults living in North America suggests that young males are more instrumental than young females, and young females are more expressive than young males (Hyde, Krajnik, & Suldt-Niederberger, 1991). Unfortunately, there is little conclusive evidence about levels of instrumentality and expressivity as people age. Some have found that that women endorse more instrumental traits as they age than they did in their youth (Huyck, 1996; Turner as cited in Sinnott,

1987), while others have found that both men and women endorse more expressive traits as they age (Hyde et al., 1991; Rabin as cited in Sinnott, 1987). Others have found that women appear to become more instrumental in mid-life but that this trend does not always continue into old age (Helson & Moane, 1987). Based on the literature, it may be most accurate to say that individual scores on stereotypic gender-linked personality traits become *less fixed* and *more fluid* as a person ages (Costa & McCrae, 1977; Sinnott & Shiffren, 2001; Neugarten & Gutmann as cited in Sinnott, 1987). For example, older males may become more expressive, while older females may become more instrumental (Guttman, 1994). This view is supported by psychometric studies showing that older adults tend to score high on both instrumental and expressive traits (Sinnott & Shifren, 2001); as we get older, we show diminished correspondence between stereotypically gender-linked traits and our gender, and we exhibit increased levels of androgyny. This may be the result of men shifting from an aggressive to a more peacemaking personality style, and women shifting from a yielding to a more assertive personality style (Sinnott & Shifren, 2001). As there may be a relationship between gender and instrumentality and expressivity, levels of these traits were assessed separately for men and women in the current study.

At the end of her 2003 paper, Levy challenges the psychological community to investigate the potential relationship between views of aging and gender. While we function within the masculine/feminine framework our lives, axiomatically we function as older adults only during the latter years of our lives. Because gender-linked personality traits are, essentially, adopted and experienced throughout the lifespan, it may be that older adults' expectations of their own aging are affected more by stereotypically gender-

linked personality traits than expectations about one's own aging. For example, those who see themselves as independent (an instrumental, stereotypically masculine trait [Bem, 1974]) might have more positive expectations of aging than those who see themselves as gentle (an expressive, stereotypically feminine trait [Bem, 1974]), given that independence is associated with more positive views of aging, while gentleness is not (Canetto, Kaminski, & Felicio, 1995). In this way, it may be suspected that personality traits might even cause, or trigger, certain expectations of aging. Those who have grown up seeing themselves as independent and assertive might project those traits onto personal expectations of aging, expecting to be able to retain their independence in their senior years. A person's expectation of independence or mental health as they age may not affect levels of traits such as passivity or helpfulness in the same way.

Alternatively, in late life, it may be that expectations regarding one's own aging and personality mutually reinforce each other. For example, it may be that older adults who see themselves as more independent (an instrumental personality trait) may also expect to age with more independence than those who rate themselves highly on traits such as gentleness and sensitivity to the needs of others.

Health Functioning

Health functioning may be defined as the overall condition of a person, reflecting their state of being as measured by life satisfaction, general wellness, and self reported physical health. The health functioning of older adults is determined by "interrelated, interactive, and interdependent" interactions between the physical environment, behaviour, and social and economic factors (Carpenito, 2000, p. 47; Public Health Agency of Canada, 2003). These factors directly impact our patterns of health

functioning. Patterns of health functioning include activity and sleep patterns, self perception, health perception, health management, and coping with stress (Carpenito, 2000). The current study focused primarily on economic status, social support, and gender as a subset of health determinants of older adults, in addition to personality traits (instrumentality and expressivity) and chronic medical conditions. The Canadian Public Health Agency (2003) recognizes 12 key determinants of health: economic status, social support, education, employment and working conditions, social support networks, physical environment, personal health practices and coping skills, child development, genetic endowment, health services, gender, and culture.

Importantly, the health problems of older adults are often both physical and psychological. For example, nerve, kidney and heart muscle cells do not divide and reproduce as one ages but are rather lost through necrosis (cell-death) and through wear and tear (Hayflick, 1998; Novartis, 2001). Cell division slows with age, affecting the immune system and reducing its ability to respond to infections (Hayflick, 1998; Novartis, 2001). There are also age-related declines in various physiological processes; for example, there are age-related structural changes in the brain such as lifetime losses of 5 to 50% of neurons and 15 to 20% of synapses (Novartis, 2001). Older women have increased rates of chronic health conditions as they age compared to all men and younger women. Older men are more likely than younger men to contract cancers or pulmonary disease (Huyck, 1990; Thomas & Kelman, 1990). Cardiovascular disease is another common illness of old age, and is responsible for more deaths across the lifespan in Canada than any other illness. The 2002 Canadian census results indicated that

cardiovascular disease accounted for 74,626 Canadian deaths – 32% of all male deaths and 34% of all female deaths (Heart and Stroke Foundation of Canada, 2002).

However, there is some controversy about whether health problems such as cancer and cardiovascular disease are the result of inevitable biological changes associated with aging, or the result of environmental and lifestyle factors. Specifically, as noted by Birren and Cunningham (1985) and Cavanaugh and Blanchard-Fields (2006), it is unclear whether the statistics reported above are the result of primary aging, innate maturational processes, or secondary aging, "environmentally induced changes that are not inevitable" (Cavanaugh & Blanchard-Fields, 2006, p.15). A distinction is often drawn between primary and secondary aging; however there are many other conditions for which it is not clear whether primary or secondary aging is reflected (e.g., arthritis). Changes as a result of primary aging include changes in biology and physiology, such as menopause and oseoarthritis (Aging Studies, 2005; Anstey, Stankov, & Lord, 1993), whereas changes resulting from secondary aging are developmental changes related to environmental and lifestyle factors, such as Type II diabetes and cardiovascular diseases.

Adding to this controversy is the prevalent "myth" of old age in Eurocentric cultures: that illness, disease, and suffering are normal for older adults. However, just because a person ages does not mean that they will become ill. As an example of this myth, it is often assumed that older adults have higher rates of depression than their younger counterparts. Rather, rates of clinical depression decline in older adulthood (Gatz, 2000; Qualls, 1999), and depressive symptoms are reported less frequently in late life than in middle life (Blazer, 2003).

Unfortunately, however, completed suicides increase with age (Blazer, 2003), especially among older Caucasian males. In the United States, the suicide rate for elderly Caucasian men is 62/100 000, more than five times the rate for the general population (Conwell, Duberstein & Caine, 2002), while in Canada, the rate for older adult males suicides varies from 20-40/100 000 (Statistics Canada, 2006), also higher than the general population. Alexopoulous (2005) reports that "suicide is almost twice as frequent in elderly individuals than in the general population" (p. 1964) and that depressive symptoms are present in approximately 80% of older adults who successfully commit suicide. In general, older adults are at a higher risk of completing suicide than any other age group (Conwell et al., 2002).

According to the biopsychosocial model of health, health is a state of physical, mental, and social well-being and not merely the absence of disease (World Health Organization, 1994, as cited by Carpenito, 2000). For that reason, in order to assess health functioning among older adults, it is necessary to examine more than physical health and to look at life satisfaction and general wellness. For the purposes of the current study, life satisfaction was defined as a person's satisfaction with their achieved goals (Harkins, 2003) and general wellness was defined as the level of enjoyment and fulfillment people derived from their life within economic, cultural, social, and environmental conditions (Sumner, 1996; Top10, 2006). These outcome variables (life satisfaction and general wellness) are important as they reflect overall health and not just physical health.

A rating of participants' chronic health conditions also allows a comparison between reports of chronic health conditions and self-reported physical health. Given

research suggesting that chronic health conditions and economic status may be related to perceptions of aging (Connidis, 1989; Quirouette & Pushkar, 1999), and to health functioning (Breeze et al., 2004; Charlson, Pompei, Ales, & Mackenzie, 1987; House, Lantz, & Herd, 2005; Lee & Shinkai, 2003; Leinonen et al., 2002; Prus, 2004; Schneider et al., 2004; Smith, 2005; Steptoe et al., 2005), the relationships among chronic health conditions, socioeconomic status, instrumentality, expressivity, expectations of aging, and health functioning were also assessed.

In the current study, chronic health conditions, economic status, expectations of aging, and instrumental personality were examined as theoretical predictor variables and life satisfaction, general wellness, and self-reported physical health were examined as theoretical outcome variables.

Hypotheses

This study seeks to investigate the relationships among expectations of aging in older adults, instrumentality and expressiveness, gender and health functioning. Based on the research reviewed, the following hypotheses were advanced:

Hypothesis 1. Favourable expectations of aging will correlate positively with a higher level of health functioning.

Hypothesis 2. Instrumentality and favourable expectations of aging will correlate positively.

Hypothesis 3. Instrumentality will correlate positively with a higher level of health functioning.

Hypothesis 4. Instrumentality and expectations regarding aging will add predictive value to measures of health functioning over and above socioeconomic status, chronic health conditions, and gender.

Hypothesis 5. Living arrangements will be associated with health functioning.

Hypothesis 6. Higher economic status will correlate positively with a higher level of health functioning.

Hypothesis 7. Decreased levels of chronic health conditions will correlate with a higher level of health functioning.

We anticipate the same pattern of response for males and females.

These hypotheses are based on the assumption that instrumentality and expressivity are orthogonal variables. We will also examine the role of androgyny in health functioning. The androgyny model (which contends that having high levels of both instrumental and expressive personality traits is most adaptive for both men and women) would predict that androgynous individuals would report more positive health functioning than their high instrumental/low expressive, low instrumental/high expressive or undifferentiated peers. This will be explored in auxiliary analyses.

CHAPTER TWO

Method

Participants

The sample consisted of 102 participants, including 47 males (46.1%) and 55 (53.9%) females, living in Windsor/Essex County. Participants ranged in age from 65 to 93, with a mean age of 77.4 ($M = 78.3$, $SD = 6.0$, $Mdn = 78.5$ for men, $M = 76.7$, $SD = 6.5$, $Mdn = 77.0$ for women). After receiving approval from the Research Ethics Board at the University of Windsor, participants were recruited from two local seniors' organizations: the South Windsor Seniors Association ($n = 49$) and the Windsor Kiwanis Golden K Club ($n = 19$). In order to be able to recruit at least 100 participants, snowball sampling was also used. Thirty-four participants from the Windsor-area were recruited using this method.

The majority of participants were born in Canada or the United States of America ($n = 86$), followed by England ($n = 6$), the Netherlands ($n = 3$), Scotland ($n = 2$), Poland ($n = 1$), West Indies ($n = 1$), and India ($n = 1$). Two participants did not indicate where they had been born. The majority of participants indicated that English was their first language ($n = 93$), three ($n = 3$) noted that Dutch was their first language, and Slovak ($n = 1$), Italian ($n = 1$), Macedonian ($n = 1$), Polish, ($n = 1$) and French ($n = 1$) were also indicated. One participant did not indicate his first language.

Given that past research has demonstrated the dominance of negative over positive expectations of aging within Eurocentric cultures (Dijksterhuis & van Knippenberg, 1998; Levy, 2003; Levy, Hausdorff, Hencke, & Wei, 1999; Murphy, Monahan, & Zajonc, 1995) but not necessarily within others (as previously discussed),

data from the two participants who were from the West Indies and India (and not of European descent) were excluded from the main analyses. Thus, the sample was made up of participants from European and North American backgrounds. Data from participants born outside of Europe or North America was collected but not analyzed.

As indicated in Table 2, three quarters of participants identified their economic status as "Comfortably able to afford the necessities" ($n = 77$) and the remaining participants were "Able to afford the necessities with careful budgeting" ($n = 24$). One participant did not answer the question. Men and women did not show significantly different response patterns for economic status ($\chi^2[4, N = 101] = 2.21$, *ns*).

In order to assess levels of social support, participants were asked about their marital status and living arrangements. As indicated in Table 3, almost two thirds of participants indicated that they were married (60.8%), 31 indicated that they were widowed (30.4%) with the remainder separated or divorced (3.9%) or single (3.9%). One participant did not indicate his marital status. As indicated in Table 4, thirty-three participants reported that they lived alone (32.4%) and the rest of the sample indicated that they lived with a spouse, child, or someone else (77.6%). More men than women were married and significantly more women than men were widowed ($\chi^2[4, N = 102] = 13.72, p < .01$). Not surprisingly, men were marginally more likely to live with a spouse, while women were marginally more likely to live alone ($\chi^2[5, N = 102] = 10.92, p = 0.53$).

As indicated in Table 5, the mean number of years of formal education for all participants was 14.74 ($SD = 3.39$), with a range of 9-25 years and a median of 14.00. Seventeen participants indicated they had completed some high school (17.5%), four

Table 2

Participants by Economic Status

	Males		Females		Total	
	n	%	*n*	%	*n*	%
Comfortably able to afford necessities	39	83.0	38	69.1	77	75.4
Able to afford necessities with careful budgeting	8	17.0	16	29.1	24	23.8
Barely/Unable to afford all necessities	0	0	0	0	0	0
Missing	0	0	1	1.8	1	1.0
Total	47	46.1	55	53.9	102	100

Note. Question taken from the Joseph M. Foley Elderhealth Centre Self-Assessment Form (Ebersole & Hess, 1998).

Table 3

Participants' Marital Status

	Males		Females		Total	
	n	%	*n*	%	*n*	%
Married	36	76.6	26	47.3	61	58.6
Separated/Divorced	2	4.3	2	3.6	4	3.8
Widowed	6	12.8	25	45.5	31	29.8
Single	2	4.3	2	3.6	4	3.8
Missing	1	2.0	0	0	1	1.0
Total	47	46.1	55	53.9	102	100

Table 4

Participants' Living Arrangements

	Males		Females		Total	
	n	%	*n*	%	*n*	%
Alone	9	19.1	24	43.6	33	32.4
With spouse	35	74.5	26	47.3	61	59.8
With children	0	0	2	3.6	2	2.0
With companion /friend	2	4.3	1	1.8	3	2.9
With another relative	0	0	1	1.8	1	1.0
Other	1	2.1	1	1.8	2	2.9
Total	47	46.1	55	53.9	102	100

Table 5

Participants' Education Levels

	Males		Females		Total	
	n	%	*n*	%	*n*	%
Some high school	6	13.3	11	20.0	17	17
High school	4	8.8	9	16.4	13	13
Some college or university	8	17.7	17	31.0	25	25
Bachelor's degree or equivalent	3	6.6	6	10.9	9	9
Post-graduate studies	21	46.6	10	18.1	31	31
Missing	3	6.6	2	3.6	5	5
Total	45	100	55	100	100	100

participants had completed high school (4.1%), 35 participants indicated they had completed some college (36.0%), ten had completed a bachelor's degree (10.3%) and 31 participants indicated they had completed some post graduate studies (32%). Men and women reported significantly different means in the number of years of formal education they had, $t(74) = 2.83, p < .01, (n = 102)$ with women reporting a significantly lower mean ($M = 13.85$ years, $SD = 3.80$, $Mdn = 14.00$) than men ($M = 15.85$ years, $SD = 2.8$, $Mdn = 16.50$).

The sample showed a higher level of education than would be expected from a group of older North American adults of this cohort (Becker, 2003). Although the women in the sample had a lower mean education level than their male peers, their education level was particularly high when compared to the general population of older adult women. In the general Canadian population, only 20% of women over the age of 65 are estimated to have completed post-secondary education (Status of Women Office, 2005). In this sample, 60% of women reported having some post-secondary education.

In order to assess medical comorbidities and chronic health conditions, participants were asked about medical conditions for which they had received a physician's diagnosis (e.g., angina, diabetes, lymphoma). Responses were weighted according to the chronic health conditions index created by Charlson, Pompei, Ales, and Mackenzie (1987). As shown in Table 6, men reported a mean of 1.7 on the weighted index, while women reported a mean of 1.2, results which are similar to those reported in published studies of older community-dwelling participants (Leinonen et al., 2002; Sarkisian, Hays, Berry, & Mangione, 2002). These two means were not significantly different ($t(102) = 1.6, p = ns, n = 102$). Participants were clustered into groups according

Table 6

Participants' Responses on Katz Adaptation of the Charlson Chronic Health Conditions Index

	Males		Females		Total	
	n	%	*n*	%	*n*	%
Minimal	14	31.1	30	54.5	44	44
Mild	19	42.2	16	29.0	35	35
Moderate	9	20.0	4	7.3	13	13
Severe	3	6.6	5	9.1	8	8
Total	45	100	55	100	100	100

Note. A score of '0' on the Charlson Chronic Health Conditions Index represents a minimal mortality risk within the next year; a score of 1-2 represents a mild risk; a score of 3-4 represents a moderate risk; a score equal to or greater than 5 represents a severe risk (Charlson et al., 1987).

to their weighted index score using the weighted burden criteria used by Charlson et al. (1987) to assess mortality rates. This information is listed in Table 6.

Measures

All measures used in the current study have been used previously with older adults (Charlson et al., 1987; Deiner et al., 1985; Hyde et al., 1991; Katz et al., 1996; Perrault, 2001; Sarkisian et al., 2002; Sinnot; 1987; Slivinske et al., 1996; Windle & Sinnott, 1985). For a full list of variables please refer to Table 7.

Personality Traits. The BSRI (Bem, 1974) was used to measure instrumental and expressive traits of participants, providing masculinity and femininity scores with two subscales, the BSRI Masculinity (M) and Femininity (F). The BSRI consists of 60 adjectives: 20 expressive traits, stereotypically associated with femininity (e.g., tender, quiet, affectionate), 20 instrumental traits, stereotypically associated with masculinity (i.e., dominant, aggressive, active), and 20 neutral items. Participants rated how well each adjective accurately describes them using a seven-point Likert scale from never or almost never true (1) to always or almost always true (7). Instrumentality and expressivity scores on the BSRI were highly reliable (Lenney, 1991) with coefficient alpha values between .86 and .88 for instrumentality and .8 to .78 for expressivity (Lenney, 1991).

Expectations Regarding Aging. The Expectations Regarding Aging Scale (ERA-38; Sarkisian et al., 2002) total score was used to assess participants' expectations regarding aging (Appendix 2; reprinted with permission of the Gerontological Society of America). This scale is made up of 38 items, twenty of which assess expectations regarding aging in general (e.g., "Age slows people down"), and 18 of which assess expectations regarding one's own aging (e.g., "When I get older I expect I will be able to

Table 7

Variables

Variable	**Subscale**	**Scale Name**
Expectations of Aging	Expectations of Cognitive Function	The Expectations Regarding Aging-38 Scale
	Expectations of Mental Health	
	Expectations of Functional Independence	
	Expectations of Sexual Function	
	Expectations of Pain	
	Expectations of Urinary Incontinence	
	Expectations of Sleep	
	Expectations of Fatigue	
	Expectations of Health	
Self-reported Physical Health	Physical Functioning	RAND Short Form health Survey
	Limitations in physical activities due to physical health	
	Pain	
	Energy	
Life Satisfaction		Satisfaction with Life Scale
General Wellness	Morale	The Wellness Index

	ADL-IADL	
	Religiosity	
	Social Resources	
Instrumentality	BSRI Masculinity	BSRI
Expressivity	BSRI Femininity	BSRI
Chronic Health Conditions		Katz adaptation of the Charlson Chronic Health Conditions Index
Economic Status		

Note. BSRI represents the Bem Sex Role Inventory.

do everything I want to do"). The subscales are entitled General Health (five items) Cognitive Function (four items), Mental Health (12 items), Functional Independence (five items), Sexual Function (two items), Pain (two items), Urinary Incontinence (one item), Sleep (two items), Fatigue (four items), and Appearance (one item). Questions are rated on a four-point scale (definitely true, somewhat true, somewhat false, definitely false) with higher scores indicating more positive expectations of aging. Sarkisian et al. (2002) reported reliability coefficients of .73 for all subscales except the Pain subscale, for which an alpha of .58 was reported.

Physical Health. Twenty questions from RAND's 36-Item Medical Outcomes Study Short Form Health Survey (RAND SF-36) (RAND, 1995) were used to assess the self-reported physical health of participants. Four subscales were used: Physical Functioning (ten questions); Limitations in Physical Activities because of Physical Health Problems (four questions); Bodily Pain (two questions); and Vitality (four questions). "During the past four weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?" (RAND, 1995) is an example of a question from the Bodily Pain subscale. For these questions, answers are indicated on a six-point Likert scale from none/not at all (1) to very severely/extremely (6). Higher scores on the RAND SF-36 indicate better self-reported health. Reliability coefficients for the RAND SF-36 exceeded 0.70 for every subscale (Hays, Sherbourne, & Mazel, 1995).

Life Satisfaction. The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was used to measure participants' life satisfaction (Appendix 3). The SWLS consists of five items, which are rated on a seven-point Likert scale from

strongly disagree *(1)* to strongly agree *(7)*, with higher scores indicating increased satisfaction with life. An example of a question is, "The conditions of my life are excellent." The reliability of the SWLS has been estimated at .87 (Diener et al., 1985).

Well-Being. Slivinske, Fitch, and Morawski's (1996) Wellness Index (WI) Scale was used to assess the general well-being of participants (Appendix 4). The WI is comprised of six subscales, four of which (Morale, ADL-IADL, Religiosity, and Social Resources) were used. The Physical Health subscale was excluded because the information it provides would be similar to that provided by the RAND SF-36. The Economic Resources subscale was excluded because it does not contribute to the composite measure of overall functioning as provided by the other subscales (see Slivinske et al. for a discussion). The Morale subscale contains 20 items; the ADL-IADL subscale has 13 items; the Religiosity subscale has 11 items; the Social Resources subscale has 13 items. Questions are rated on five-point Likert scale, from strongly agree *(1)* to strongly disagree *(5),* with lower scores indicating more positive well-being. Slivinske et al. (1996) report alpha reliability coefficients between .80 to .94.

Chronic Health Conditions. A questionnaire version of the Charlson Comorbidity Index (Charlson et al., 1987; Appendix 8) was used to assess levels of chronic health conditions. The Katz adaptation (Katz, Chang, Sangha, Fossel, & Bates, 1996; Appendix 10) of the Charlson Index (the C-K Index) provides a total score which indicates comorbid medical burden. The C-K Index contains 19 categories of illness, which are primarily defined using ICD-9-CM diagnoses (Charlson et al., 1987). The revised index provides a score based on the number and seriousness of comorbid health problems, which reflects the cumulative increased likelihood of one-year mortality based on chronic

health conditions. The higher the score, the more severe the burden of illness. The 1-year mortality rates for different scores on the C-K Index have been reported at between 12% for a score of '0' and 85% for a score ≥ 5 (Charlson et al., 1987). Levels of item-specific agreement between the original Charlson Chronic Health Conditions Index and the Katz adaptation of the original Index range between 83% and 100% (Katz et al., 1996). The Index has been used with community dwelling older adults in the past to measure their chronic health and medically comorbid conditions and to control for these conditions in various statistical analyses (Blalock et al., 2005; Desai, Rosenheck, & Craig, 2006; Hill et al., 2002).

Demographics. Demographic information was collected from each participant (Appendix 6), including date of birth, gender, years of formal education, marital status, first language, country of birth, and living arrangements. Two items from the Joseph M. Foley Elderhealth Center Self-Assessment Form (Ebersole & Hess, 1998) were used. The first assessed economic status: "Which of the following best describes your financial status?" with four possible responses ("Comfortably able to afford all necessities [food, clothing, transportation]," "Able to afford necessities with careful budgeting," "Barely able to afford the basic needs", and "Unable to afford the necessities"). The second question assessed living arrangements: "With whom do you live?" with six possible responses ("Alone," "Children," "Companion or friend," "Husband, wife, or partner," "Another relative [e.g., grandchild, niece, or nephew]," "Other").

Procedure

Prior to beginning the study, participants were informed that the study was based on written questionnaires that may have required an English reading level of grade 8 or

above, and that having a history of stroke or brain injury may have made it more difficult for them to participate. Based on this information, an unknown number of participants may have decided not to continue with the study. All participants were allowed to withdraw from the study at any time and for any reason, without penalty.

Participants met with the experimenter both individually and in groups, either at their seniors' club or another location convenient to the participant, such as their home. Once the participant(s) had arrived, the experimenter introduced herself and the consent forms were distributed and discussed. Participants were told about the purpose of the study and had the opportunity to ask questions throughout the session. Once the participant(s) had signed and returned the consent forms to the experimenter, the questionnaires were distributed. The experimenter then led participant(s) through two examples of how to answer test questions, beginning with items from the BSRI. The questionnaires required participants to indicate their own responses by circling the appropriate answer on paper. A few participants skipped entire pages of the survey. It appeared that they mistakenly turned over more than one page at a time, perhaps as a result of impaired fine-motor skills. Although the experimenter did not catch the error during the testing, data from these participants were still used as not all scales were affected. Once the participant(s) had completed the survey, they were debriefed in-person and given a letter summarizing the debriefing information. All participants were offered the chance to enter into a draw of one of four gift certificates valued at $50.00. Participant(s) were given a ballot form to enter the draw for the gift certificates.

CHAPTER THREE

Results

Preliminary Analyses

Missing data. Two of the 102 older adults who participated in the current study were excluded from the main analyses because they were born outside of Europe or North America (one was born in the West Indies, the other in India). Ideally, analyses would have been conducted only for participants who answered all of the items included in the questionnaire. However, an examination of the data revealed that only 89 of 102 participants answered all of the items. Therefore, a decision was made to delete cases on a scale-by-scale basis: for example, if a participant chose not to answer all items on the WI but completed all other scales, the WI score from that participant was dropped from the analysis, but all other data were included.

Item-total correlations for predictor and outcome variables for men and women. Item-total correlations and Cronbach's alpha values were calculated for predictor and outcome variables. All scales demonstrated acceptable Cronbach's alpha values, which appear in Table 8. All item-total correlations on the ERA-38, BSRI M and F subscales, SWLS, WI, and RAND SF-36 demonstrated acceptable values.

Male and female response patterns. We anticipated that males and females would show the same response patterns, especially on the BSRI M and BSRI F subscales. Preliminary examination of the data indicated that this assumption was not supported. Independent samples *t*-tests were run on the data comparing men's and women's means for a series of variables. Men rated themselves significantly more highly on instrumentality (BSRI M subscale: $M = 5.11$, $SD = .6$, $n = 45$) than women did ($M = 4.51$,

Table 8

Cronbach's Alpha Values for Measures Used in the Analyses

	N	Alpha
Bem Sex Role Inventory Masculinity Subscale	99	.86
Bem Sex Role Inventory Femininity Subscale	98	.73
Expectations Regarding Aging-38 Total Score	94	.92
Satisfaction with Life Scale Total Score	101	.89
Wellness Index Total Score	94	.92
RAND Short Form-36 Health Survey Total Score	100	.89

SD =. 8, $n = 55$), $t(92) = 3.7$, $p < .01$. Women rated themselves significantly more highly on expressivity (BSRI F subscale: $M = 5.22$, $SD = .8$, $n = 55$) than did men ($M = 4.89$, $SD = .6$, $n = 44$), $t(94) = 2.7$, $p < .01$. Accordingly, data were split into two groups for subsequent analysis.

Men and women and women did not show significant differences on measures of expectations regarding aging and chronic health conditions. Table 9 gives descriptive statistics for women and men, respectively.

Correlations between Age and Predictor and Outcome Variables

For women, there were no significant correlations between age and any predictor and outcome variables. For men, there was a significant modest negative correlation between age and the BSRI M subscale, $r = -.32$, $p < .05$ (2-tailed), ($n = 44$), as well as a modest positive correlation between age and scores on the C-K Index, $r = .32$, $p < .05$ (2-tailed), $n = 44$.

Correlations between Education and Predictor and Outcome Variables

For women, there was a significant moderate negative correlation between years of formal education and scores on the BSRI F subscale, $r = -.39$, $p < .05$ (2-tailed), $n = 53$. For men, there were no significant correlations between years of formal education and any predictor and outcome variables.

Correlations between Economic Status and Predictor and Outcome Variables

Ordinal-level correlations (Spearman's Rho) were calculated for the measure of economic status and predictor and outcome variables. For women, there was a significant moderate negative correlation between economic status and the ERA-38 total score $\rho_1 =$

Table 9

Descriptive Data for Males and Females on Measures of Instrumentality, Expressivity, Expectations Regarding Aging, Health Functioning, and Comorbid Health Conditions

	Women			Men		
	N	Range	Mean (SD)	*N*	Range	Mean (SD)
Bem Sex Role Inventory Masculinity Subscale	55	2.75-6.45	4.52(.86)	45	3.90-6.40	5.12(.60)
Bem Sex Role Inventory Femininity Subscale	55	3.70-6.60	5.22(.56)	44	3.45-5.95	4.89(.54)
Expectations Regarding Aging-38 Scale	50	54.00-129.00	87.70 (16.80)	42	48.00-134.00	80.84 (16.80)
Satisfaction with Life Scale	54	8.00-35.00	26.62 (7.15)	45	9.00-35.00	26.36 (5.55)
Wellness Index	50	65.00-147.00	103.15 (20.41)	42	79.00-160.00	116.50 (19.23)
RAND Short Form-36 Health Survey	54	483.00-2000.00	1341.20 (388.83)	44	380.00-1960.00	1323.78 (494.24)
C-K Index Score	55	0.00-7.00	1.16 (1.80)	45	0.00-6.00	1.71 (1.61)

Note. C-K Index represents the Katz adaptation of the Charlson Chronic Health Conditions Index.

-.39, $p<.01$ (2-tailed) (n = 53). There were no significant correlations for men between economic status and any predictor or outcome variables.

Relationships between Social Support and Predictor and Outcome Variables

As an alternative analysis to calculating ordinal-level correlations, four one-way ANOVAs were run to investigate potential relationships between the measure of marital status and theoretical predictor (BSRI M, ERA-38, C-K Index and economic status) and outcome (RAND SF-36, SWLS, WI) variables for both men and women. It should be noted that the necessary assumption of homogeneity of variance across groups was not upheld. However, ANOVA remains relatively robust to the violation of this assumption (Garson, 2004). Because the groups were of very unequal sample size, Welch's variance-weighted ANOVA was run. There were no significant main effects of marital status on any of the theoretical predictor and outcome variables for either men or women.

Expectations Regarding Aging and Self-Reported Health Functioning

Scale correlations. For the male sample, positive expectations of aging showed significant modest positive correlations with measures of life satisfaction and subjective physical health, and modest negative correlations with a measure of general well-being (It will be recalled that lower scores on the Wellness Index are indicative of higher levels of the factor in question. For example, lower scores on the WI Morale subscale are indicative of a participants' higher level of morale; see Table 10). Likewise for the female sample, positive expectations of aging showed significant modest positive correlations with measures of life satisfaction and subjective physical health, and modest negative correlations with a measure of general well-being (see Table 11). These results were consistent with the first hypothesis.

Table 10

Correlations For Males Between Measures of Instrumentality, Expressivity, Expectations Regarding Aging and Health Functioning (N =45)

	BSRI M	BSRI F	ERA-38	SWLS	WI	RAND SF-36
BSRI M	1.00					
BSRI F	.18[b]	1.00[b]				
ERA-38	.14[a]	-.04[a]	1.00[a]			
SWLS	.22	-.00[c]	.37*[a]	1.00		
WI	-.18[a]	-.19[a]	-.39**[a]	-.44**[a]	1.00[a]	
RAND SF-36	.21[b]	.05[b]	.29*[b]	.43**[b]	-.38** [a]	1.00[b]

Note. BSRI M represents the Bem Sex Role Inventory Masculinity subscale; BSRI F, the Bem Sex Role Inventory Femininity subscale; SWLS, the Satisfaction with Life Scale; ERA-38, the Expectations Regarding Aging-38 Scale; WI, the Wellness Index; RAND SF-36, the RAND Short Form Health Survey; C-K Index, the Katz adaptation of the Charlson Chronic Health Conditions Index. [a] $n = 42$. [b] $n = 44$. [c] $n = 43$.

* $p < 0.05$ two-tailed. ** $p < 0.01$ two-tailed.

Table 11

Correlations For Females Between Measures of Instrumentality, Expressivity, Expectations Regarding Aging and Health Functioning (N = 55)

	BSRI M	BSRI F	ERA-38	SWLS	WI	RAND SF-36
BSRI M	1.00					
BSRI F	.26	1.00				
ERA-38	-.03[a]	.13[b]	1.00[b]			
SWLS	.40**[b]	.34**[b]	.29*[b]	1.00[b]		
WI	-.25[a]	-.48**[b]	-.37**[b]	-.61**[a]	1.00[a]	
RAND SF-36	.18[b]	.14[b]	.31*[c]	.36**[b]	-.26[c]	1.00[b]

Note. BSRI M represents the Bem Sex Role Inventory Masculinity subscale; BSRI F, the Bem Sex Role Inventory Femininity subscale; SWLS, the Satisfaction with Life Scale; ERA-38, the Expectations Regarding Aging-38 Scale; WI, the Wellness Index; RAND SF-36, the RAND Short Form Health Survey; C-K Index, the Katz adaptation of the Charlson Chronic Health Conditions Index. [a]$n = 50$. [b]$n = 54$. [c]$n = 53$.

* $p < 0.05$ two-tailed. ** $p < 0.01$ two-tailed

Subscale correlations within the male sample. Next, subscale correlations among these measures were examined. Scores on the ERA-38 Functional Independence subscale showed significant modest positive correlations with scores on the RAND SF-36 Physical Functioning subscale (see Table 12). Scores on the ERA-38 Functional Independence subscale showed significant modest positive correlations with scores on the RAND SF-36 Fatigue subscale.

Scores on the ERA-38 Mental Health subscale showed significant modest positive correlations with scores on the RAND SF-36 Physical Limitations subscale (see Table 12) and scores on the RAND SF-36 Fatigue subscale.

Scores on the ERA-38 Mental Health subscale also showed significant moderate positive correlations with scores on the SWLS (see Table 13) within the male sample. Scores on the ERA-38 Mental Health subscale showed significant moderate negative correlations with scores on the WI subscales Morale and showed significant modest negative correlations with scores on the WI Social Support subscale (see Table 14). Scores on the ERA-38 Sexual Function subscale showed significant modest negative correlations with scores on the WI Social Support subscale (see Table 14).

Scores on the ERA-38 Fatigue subscale showed significant modest negative correlations with scores on the WI Religiosity subscale (Table 14).

Subscale correlations within the female sample. For women, scores on the ERA-38 Functional Independence subscale showed significant modest positive correlations with scores on the RAND SF-36 Physical Functioning scale (see Table 15). Scores on the ERA-38 Urinary Incontinence subscale showed significant moderate positive correlations with the RAND physical functioning subscale. Finally, women's scores on the ERA-38

Table 12

Correlations For Males Between Measures of Expectations Regarding Aging and Subjective Reports of Physical Health (N = 44)

	RAND Short Form Health Survey Subscales				
	Physical Functioning	Limitations	Pain	Fatigue	**Total Score**
Expectations Regarding Aging-38 Subscales					
Functional Independence	.39*[a]	.27[a]	.11[a]	.37*[a]	.36*[a]
Cognitive Function	.10	.25	.28	.27	.22
Sleep	.12	.19	.25	.23	.28
General Health	-.04	.04	-.02	.13	-.02
Urinary Incontinence	.15	.22	.15	.25	.19
Mental Health	.19[a]	.33*[c]	.24[a]	.39*[a]	.36*[a]
Pain	.08	.19	.26	.16	.14
Fatigue	.18	.26	.21	.18	.27
Appearance	.20	.07	.03	.22	.18
Sexual Function	.04[b]	.07[b]	-.14[b]	.19[b]	.05[b]

Total Score	.24	.32*[b]	.20	.39*[b]	.33*[b]

Note. [a]$n = 43$. [b]$n = 42$. [c]$n = 45$.

* $p < 0.05$ two-tailed

Table 13

Correlations for Males (N = 42) and Females (N = 50)s Between Measures of Expectations Regarding Aging and Life Satisfaction

	Satisfaction with Life Scale	
Expectations Regarding Aging-38 Subscales	Males	Females
Functional Independence	.23	.34*[b]
Cognitive Function	-.04	.10
Sleep	.15	.06
General Health	.15	.21
Urinary Incontinence	.20	.29*[c]
Mental Health	.51**[a]	.40**[b]
Pain	.12	.00
Fatigue	.12	.13
Appearance	.10	.19
Sexual Function	.27	.15
Total Score	.34*	.29*[b]

Note. [a]$n = 45$. [b]$n = 54$. [c]$n = 53$.

* $p < 0.05$ two-tailed. ** $p < 0.01$ two-tailed.

Table 14

Correlations for Males Between Measures of Expectations Regarding Aging and Reports of General Wellness (N=42)

	Wellness Index Subscale				
	Morale	ADL-IADL	Religiosity	Social Support	**Total**
Expectations Regarding Aging-38 Subscales					
Functional Independence	-.26	-.24	-.22	-.26	-.38*[b]
Cognitive Function	-.26	-.10	-.16	-.08	-.22
Sleep	-.24	-.13	-.08	-.05	-.20
General Health	-.22	.14	-.20	-.01	-.15
Urinary Incontinence	-.17	-.06	-.04	-.02	-.08
Mental Health	-.54**[a]	-.26	.03	-.42**[a]	-.43**[b]
Pain	-.16	-.10	-.36*	-.08	-.24
Fatigue	-.21	-.05	-.34*[a]	-.21	-.33*
Appearance	-.21	-.15	.04	-.10	-.19
Sexual Function	-.20	-.22	.00	-.38*[b]	-.23

Total	-.50**	-.19	-.15	-.29	-.41**

Note. [a]$n = 45$. [b]$n=44$.

$p < 0.05$ two-tailed. ** $p < 0.01$ two-tailed.

Table 15

Correlations for Females Between Measures of Expectations Regarding Aging and Subjective Reports of Physical Health (N = 50)

	RAND-36 Short Form Health Survey Subscales				
	Physical Functioning	Limitations	Pain	Fatigue	**Total Score**
Expectations Regarding Aging-38 Subscales					
Functional Independence	.36**[a]	.19	.05	.20	.33*[b]
Cognitive Function	.16	.21	.10	.18	.23
Sleep	-.09	.02	.08	.07	-.01
General Health	.24	.19	.09	.10	.24
Urinary Incontinence	.46**[b]	.19	.05	.13	.36**[b]
Mental Health	.26	.19	.11	.16	.27*[b]
Pain	.13	.17	.19	.23	.22
Fatigue	.14	.14	.09	.29*[a]	.22
Appearance	.26	.29*[b]	.01	.12	.28*[b]
Sexual Function	.22	.09	.13	.26	.24

Total	.28*	.30	.12	.23	.31*

Note. [a]$n = 55$. [b]$n=54$.

*$p < 0.05$ two-tailed. **$p < 0.01$ two-tailed.

Fatigue showed significant modest positive correlations with the RAND SF-36 Fatigue subscale, such that less experience of subjective fatigue was associated with lesser expectations that experiencing fatigue would be a part of aging.

Women's Scores on the ERA-38 Functional Independence, Mental Health, and Urinary Incontinence subscales showed significant modest positive correlations with scores on the SWLS (see Table 14).

For women, scores on the ERA-38 Functional Independence showed significant modest negative correlations with the WI Social Support subscale (see Table 16), such that more positive expectations regarding functional independence were correlated with lower scores (indicating increased levels – see preceding footnote) on a measure of social support. Scores on the ERA-38 Mental Health subscale showed significant moderate negative correlations with scores with the WI Morale subscale and modest negative correlations with the Social Support subscale. Expectations regarding appearance in aging, sleep, urinary incontinence, and general health showed significant modest negative correlations with the WI Morale subscale, such that more positive expectations regarding appearance, sleep, urinary incontinence and general health were all correlated with higher self-reported morale.

Scores on the ERA-38 Fatigue and Urinary incontinence subscales also showed significant modest negative correlations with scores on the WI ADL-IADL subscale (see Table 16).

Instrumentality, Expressivity, and Expectations Regarding Aging

Contrary to the second hypothesis, there were no significant correlations in any direction between scores on the BSRI M subscale and the ERA-38 for either men or

Table 16

Correlations for Females Between Measures of Expectations Regarding Aging and Reports of General Wellness (N = 50)

	Wellness Index Subscale				
	Morale	ADL-IADL	Religiosity	Social Support	**Total**
Expectations Regarding Aging-38 Subscales					
Functional Independence	-.29*[a]	-.05	-.17	-.30	-.28*[b]
Cognitive Function	-.10	-.15	-.02	.03	-.06
Sleep	-.32*[a]	.15	-.25	-.18	-.31*
General Health	-.33*[a]	-.20	-.20	-.16	-.29*
Urinary Incontinence	-.30*[c]	-.35*[c]	-.13	-.19	-.29
Mental Health	-.55**[a]	-.19	-.17	-.39**[a]	-.42**
Pain	-.09	-.09	-.14	-.04	-.13
Fatigue	-.28*[a]	-.27*[a]	-.09	-.23	-.26
Appearance	-.32*[a]	-.00	.04	-.20	-.15
Sexual Function	-.30*	-.13	-.14	-.24	-.27

Total	-.44**[d]	-.23	-.19	-.29*[d]	-.37**[b]

Note. [a]$n = 55$. [b]$n=49$. [c]$n = 54$. [d]$n = 53$.

* $p < 0.05$ two-tailed. ** $p < 0.01$ two-tailed.

women (see Tables 11 & 12). There were, likewise, no significant correlations for either men or women between scores on the BSRI F subscale and the ERA-38.

Instrumentality, Expressivity, and Self-Reported Health Functioning

In contrast with the third hypothesis, men showed no correlation between scores on the BSRI M and BSRI F subscales and the SWLS, WI, and the RAND SF-36 (see Table 10). Although no *a priori* hypotheses were made about the possible correlation between scores on the BSRI M subscale and the measure of comorbid health conditions, a modest negative correlation existed in the data from the male sample, (r = -.34, p< .05) such that higher scores on the BSRI M subscale were associated with fewer comorbid health conditions. No such relationship was present in the female data.

In partial support of the third hypothesis, women's scores showed a different pattern of response, such that moderate positive correlations existed between scores on the BSRI M subscale and scores on the SWLS (See Table 11). Specifically, higher scores on the BSRI M were associated with higher scores on the SWLS. Scores on the BSRI M subscale were not significantly correlated with either the WI or the RAND SF-36. Women's scores on the BSRI F subscale showed significant modest correlations with scores on the SWLS and moderate negative correlations with scores on the WI (see Table 11).

Regression Analyses Predicting Self-Reported Health Functioning

Data were first inspected to check that the assumptions of the technique were upheld. The size of the sample (at least ten participants per theoretical predictor variable) was sufficient to uphold the assumptions of normality and homoscedasticity.

Intercorrelations among variables were checked; no variables were intercorrelated more than .5. Thus, it may be concluded that the assumption of multicollinearity was upheld.

In this study, personality traits, financial status, chronic health conditions and self-perceptions of aging were used as theoretical predictors of three theoretical outcome variables: self-reported physical health, life satisfaction, and general wellness. It was predicted that instrumentality and expectations regarding aging would add predictive value to measures of health functioning over and above economic status, chronic health conditions, and gender. To investigate this hypothesis, two hierarchical regression analyses were performed for each gender and for each of the health outcome measures (the SWLS, WI, and RAND SF-36). Because the three health measures were not highly correlated, they were analyzed in three separate multiple regression analyses. To control for participants' comorbid health conditions and economic status, scores on the C-K Index and participants ratings of their economic status were entered at the first step of each model, thus examining how much of the variance in health outcomes was explained by these factors. Participants' scores on the ERA-38 and the BSRI M subscale were then entered at the second step of each model to examine how much variance in health outcomes could be explained by expectations regarding aging and instrumentality when controlling for comorbid health conditions and economic status. Results of these analyses are presented in Table 17 (for men) and Table 18 (for women).

Results indicated that, when controlling for comorbid health conditions and economic status in the male sample, scores on the BSRI M subscale and the ERA-38 accounted for no unique variance in scores on the SWLS, WI, and RAND SF-36. Rather, the measures of co-morbid health conditions and economic status accounted for 18% of

Table 17

Results of Hierarchical Regression Analysis Examining Instrumentality and Expectations Regarding Aging as Predictors of Health Outcomes in a Sample of Community-Dwelling Males

	R	R^2	ΔR^2	*F*	*df*	*B*	*n*
Satisfaction with Life Scale							
Step1: C-K Index	.42	.18	.18*	4.47	2,42	-.29*	42
& Economic status						-.21	
Step2: BSRI M	.52	.27	.09	3.78	4,40	.11	41
& ERA-38						.29*	
Wellness Index							
Step1: C-K Index	.35	.16	.16	3.01	2, 42	.23	41
& Economic status						.18	
Step2: BSRI M	.49	.24	.11	3.15	4,40	-.08	
& ERA-38						-.33*	40
RAND-36 Short Form Health Survey							
Step1: C-K Index	.51	.26	.26*	7.41	2,42	-.46*	42

& Economic status						-.14	
Step2: BSRI M	.55	.31	.04	4.39	4,40	.04	42
& ERA-38						.21	

Note. B represents beta for each variable in final model with all four variables entered; C-K Index, the Katz adaptation of the Charlson Chronic Health Conditions Index; BSRI M, Bem Sex Role Inventory Masculinity subscale; ERA-38, Expectations Regarding Aging-38 Scale

* $p < 0.05$ two-tailed.

Table 18

Results of Hierarchical Regression Analysis Examining Instrumentality and Expectations Regarding Aging as Predictors of Health Outcomes in a Sample of Community-Dwelling Females

	R	R^2	ΔR^2	*F*	*df*	*B*	*n*
Satisfaction with Life Scale							
Step1: C-K Index	.14	.02	.02	.48	2,51	-.10	53
& Economic Status						.07	
Step2: BSRI M	.50	.25	.24*	4.16	4,49	.30*	50
& ERA-38						.41*	
Wellness Index							
Step1: C-K Index	.19	.04	.03	1.02	2,51	.10	49
& Economic Status						.00	
Step2: BSRI M	.22	.19	.16*	2.95	4,49	-.21*	49
& ERA-38						-.34*	
RAND-36 Short Form Health Survey							
Step1: C-K Index	.40	.13	.13*	3.76	2,51	-.33*	53

& Economic Status						.08	
Step2: BSRI M	.47	.22	.09	3.47	4,49	.19	50
& ERA-38						.27	

Note. B represents beta for each variable in final model with all four variables entered; C-K Index, the Katz adaptation of the Charlson Chronic Health Conditions Index; BSRI M, Bem Sex Role Inventory Masculinity subscale; ERA-38, Expectations Regarding Aging-38 Scale.

* $p < 0.05$ two-tailed.

the variance in SWLS scores and 26% of the variance in scores on the RAND SF-36. Examination of these models indicates that lower levels of comorbid health conditions and higher economic status predicted higher scores on the SWLS and the RAND SF-36. Neither comorbid health conditions nor economic status predicted men's scores on the WI.

In the female sample, results indicated that when controlling for comorbid health conditions and economic status, scores on the BSRI M subscale and the ERA-38 accounted for 24% of the variance on the SWLS and 16% of the variance on the WI, but for no unique variance on the RAND SF-36. Instead, the measures of co-morbid health conditions and economic status accounted for 13% of the variance in scores on the RAND SF-36. Examination of these models indicates that lower levels of comorbid health conditions predicted lower scores on the RAND SF-36, and that higher scores on the BSRI M subscale and the ERA-38 predicted higher score on the SWLS and the WI. Neither scores on the BSRI M subscale nor the ERA-38 contributed significantly to the model for the RAND SF-36.

Living Arrangements and Health Functioning.

For each of the three measures of health functioning, independent sample t-tests were run to compare the scores of adults who reported that they lived alone or with someone else. Contradicting the fifth hypothesis, there were no significant differences between men and women who lived alone or with someone else on either the RAND SF-36, SWLS, or WI.

Economic Status and Health Functioning

Likewise, for each of the three measures of health functioning, independent sample t-tests were run to compare adults according to their economic status. Contradicting the sixth hypothesis, there were no significant differences between men and women who reported they were either 'comfortably able to afford the necessities' or 'able to afford the necessities with careful budgeting' on either the RAND SF-36, SWLS, or the WI.

Chronic Health Conditions and Health Functioning

Consistent with the seventh hypothesis, men's levels of chronic health conditions were moderately negatively correlated with scores on the RAND SF-36 and the SWLS, but not significantly correlated with scores on the WI (Table 19). Women's levels of chronic health conditions were modestly negatively correlated with scores on the RAND SF-36, but not significantly correlated with scores on the WI or the SWLS (Table 20).

Auxiliary Analyses

The median split method (Bem, 1974; Lenney, 1991) was used to classify participants according to their scores on the BSRI M and F subscales as highly instrumental but low expressive (instrumental), highly expressive but low instrumental (expressive), highly instrumental and expressive (androgynous), or low on both (undifferentiated). Three one-way Welch's variance-weighted ANOVAS were run for each gender to compare means of instrumental, expressive, androgynous and undifferentiated participants on each of the three measures of health functioning (the outcome variables).

Table 19

Correlations Between Measures of Chronic Health Conditions and Health Functioning in a Male Sample

	C-K Index	Satisfaction with life Scale	Wellness Index	RAND-36 Short Form Health Survey
CK Index	1[a]			
Satisfaction with Life Scale	-.36*[a]	1[a]		
Wellness Index	-.29[c]	-.46**[c]	1[c]	
RAND-36 Short Form Health Survey	-.49**[b]	.43**[b]	-.38**[c]	1[b]

Note. C-K Index, the Katz adaptation of the Charlson Chronic Health Conditions Index. [a] $n = 45$. [b] $n=44$. . [C] $n = 42$.

* $p < 0.05$ two-tailed. ** $p < 0.01$ two-tailed.

Table 20

Correlations Between Measures of Chronic Health Conditions and Health Functioning in a Female Sample

	C-K Index	Satisfaction with life Scale	Wellness Index	RAND-36 Short Form Health Survey
CK Index	1[c]			
Satisfaction with Life Scale	-.12[b]	1[a]		
Wellness Index	-.29[c]	-.61**[b]	1[b]	
RAND-36 Short Form Health Survey	-.34*[a]	.36**[b]	-.26[d]	1[a]

Note. C-K Index represents the Katz adaptation of the Charlson Chronic Health Conditions Index.[a] $n = 54$. [b]n=50. [c]n=55. [d]n=53.

* $p < 0.05$ two-tailed. ** $p < 0.01$ two-tailed.

For men there were no significant main effects of BSRI classification on any of the theoretical outcome variables (WI, SWLS, and RAND SF-36). For women, the test of the main effect of BSRI classification was statistically significant on the WI, $F(3,54) = 4.34$, $p<.01$. A Tukey's HSD post-test indicated that, as predicted by the androgyny model, participants who rated themselves as androgynous obtained lower scores on the WI (reflecting a greater sense of wellness) than participants who rated themselves undifferentiated (see Table 21). There were no significant main effects of BSRI classification on women's scores on the SWLS and the RAND SF-36.

Given the hypothesis that instrumentality would correlate with expectations regarding aging, exploratory Welch's variance-weighted ANOVAs were also run to compare means of instrumental, expressive, androgynous and undifferentiated participants on the measure of aging expectations, the ERA-38. Neither men nor women showed any significant main effects of BSRI classification on ERA-38 scores.

Table 21

Wellness Index Scores for Females According to Bem Sex Role Inventory Classification

Classification	Mean	*SD*	*N*
Instrumental	113.00	6.58	7
Expressive	95.21	18.80	14
Androgynous	92.53_a	20.75	13
Undifferentiated	111.71_b	19.89	21

Note. Means with different subscripts differ significantly at $p < .05$ by the Tukey Honestly Significant Difference test.

CHAPTER FOUR

Discussion

The purpose of the current research was to gain a better understanding of the relationship among instrumental and expressive personality traits, expectations regarding aging, and health functioning within a sample of community-dwelling older adults. Past research has suggested that both positive expectations regarding aging and higher levels of instrumentality are associated with better health (Levy, 2003; Whitley, 1983). Overall, the hypotheses put forward in this study were partially supported.

As predicted, more favourable expectations of aging were associated with better health functioning. Favourable expectations of aging showed modest relationships with measures of health functioning in three domains: life satisfaction, general well being, and self-reported physical health. Specifically, it was found that more favourable expectations regarding aging were associated with higher self-reported levels of health. However, the prediction that expectations of aging would be positively correlated with instrumental personality traits was not supported.

The results provide only inconsistent support for the hypothesis that higher levels of instrumental personality traits are associated with better health functioning. Specifically, results indicated that, for the women in the sample, higher levels of instrumentality were associated with more positive self-reports of life satisfaction than men. No significant relationships were found between instrumentality, general well being, and self-reported physical health among women, and no relationships were found between instrumentality and any measure of health function among men. Similarly, no relationships were found between expressivity and any measure of health function among

men. Among the women in the sample, however, high levels of expressivity were associated with more positive reports of life satisfaction and general well being.

No relationship was found between instrumental personality traits and expectations regarding aging for either men or women. Consequently, the hypothesis that predicted that more positive expectations regarding aging would be associated with higher levels of instrumental personality traits was not supported. No hypotheses were made about expressive personality traits and expectations of aging, and no relationships were found between expressive personality traits and expectations regarding aging.

For women only, and for only two of three measures of self-reported health functioning, instrumentality and expectations of aging contributed unique variance over and above comorbid health conditions and SES in the prediction of health functioning. The fourth hypothesis put forward in this study was that instrumental personality traits and expectations regarding aging would add predictive value to measures of health function over and above economic status and comorbid health conditions (both factors known to affect health functioning [Charlson et al, 1987; House et al., 1994; Smith, 2005]); this hypothesis was partially upheld. For the men in our sample, measures of comorbid health conditions and economic status were the sole significant contributors in the prediction of life satisfaction and self-reported physical health. Instrumentality and expectations of aging contributed no unique variance in the prediction of the three indicies of health functioning.

The expected contribution of instrumentality and expectations of aging to self-reported health function was found only for women, and for only two of the three measures of subjective health. Specifically, for women, both instrumentality and

expectations of aging contributed significantly to the prediction of life satisfaction and general well being beyond the contribution of economic status and comorbid health conditions. In fact, the latter two variables did not contribute significantly to the prediction of life satisfaction and general well being for women. Men showed no such contribution of instrumentality and expectations of aging to any of the three measures of health functioning.

Contrary to what was hypothesized, there were no relationships between economic status or living arrangements and health functioning for either men or women. However, there was a relationship between levels of chronic health conditions and health functioning. Specifically, as men's and women's levels of chronic health conditions increased, their self-reported physical health scores decreased, indicating reduced levels of physical health. For the men only, levels of chronic health conditions were also related negatively with life satisfaction; as levels of chronic health conditions increased, men's life satisfaction tended to decrease.

Auxiliary analyses explored the effect of androgyny on health functioning. Participants were classified as androgynous, instrumental, expressive, or undifferentiated, according to their score on the BSRI M and F subscales. No hypotheses were made about the effect of androgyny on health functioning, but such an effect was found for the women in the sample. Androgynous women reported levels of general well being that were significantly more positive than their undifferentiated peers (women who scored below the median on both instrumentality and expressivity). Men showed no effect of androgyny on any of the three measures of health functioning. Likewise, for neither men nor women was there an effect of androgyny on expectations regarding aging.

Limitations and Cautions

Potential limitations of this study occur as a result of the sample. Although not atypical of the type of older adults normally used in psychological research (consider, for example, the mean age and education level of the present sample as compared to published research: Connidis, 1989; Leventhal, Leventhal, Schaefer, & Easterling, 1993; Levy, 2003; Strain, 1991;White & Groves, 1997; Windle & Sinnott, 1985), our sample is not necessarily representative of the older adult population as a whole. The majority of the adults in our sample were fairly healthy – all were active and sufficiently competent to agree to volunteer for and participate in the study. The age range of our sample was large, which may limit the ability to apply the results to a particular subgroup of the aging population (i.e., the young-old vs. the old-old). Further, participants in the current study were all recruited from a single geographic region (Windsor and Essex County) and only data from English speaking adults of a European background were used. Although this type of sample is not unusual for work in the area of expectations of aging and self-stereotyping (see Levy, 2003, for a review), its homogeneity limits the ability to generalize the results to other older adult populations, such as those of different cultural or ethnic backgrounds. Expectations about growing older are known to vary across cultures (Chappell, 2003; Harwood et al., 2001; Levy & Langer, 1994; Middle East Centre, 2005; Pearson, 1992; Sobieszczyk et al., 2003).

A final problem resulting from the data collection technique in the current study is the possibility of order effects. All participants received the questionnaires presented in the same order, which may have had an effect on the results (i.e., earlier surveys may

have primed participants to respond in a particular way on later surveys). These limitations should be kept in mind when interpreting the results of the current study.

Expectations of Aging and Health Functioning

The present results are very similar to those of Sarkisian et al. (2002, 2005), who found that their measure of expectations of aging (ERA-38) was significantly correlated with the ability to perform daily living activities, scores on a measure of physical health, and number of comorbid health conditions. The results are also similar to those of Levy and her colleagues (Levy, 2003; Levy et al., 1999; Levy et al., 2000; Levy & Langer, 1994; Levy & Myers, 2004; Levy, Slade, & Kasl, 2002; Levy, Slade, Kunkel et al., 2002; Levy, Slade, May, & Caracciolo, 2006), who have found that expectations of aging are significantly related to health functioning and longevity, in the same direction as was found in the current study. Specifically, as discussed earlier, Levy and her colleagues have found that in older adults more positive expectations of aging are correlated with increased longevity (Levy, Slade, Kunkel et al., 2002), increased functional health (Levy, Slade, & Kasl, 2002), and an increased likelihood to accept invasive life-prolonging medical procedures (Levy et al., 1999).

Examination of the ERA-38 subscales showed notable correlations with subscales from the three measures of health functioning. For example, both men and women showed a correlation between expectations of functional independence in aging and a self-reported physical functioning subscale. This may reflect a potential relationship between a person's physical capabilities and their independence level. Specifically, it could be hypothesized that the more physically able a person is, the more likely he or she is to have the physical capability to live independently and perform daily living activities.

If older adults do not perceive themselves as functioning physically at a level that allows them to live independently, it is likely that they will not expect to function independently in the future. Likewise, if older adults perceive themselves as functioning physically at a high level, they also are likely to be independent and therefore expect themselves to be independent in the future. It may be that older people form their expectations regarding independence in aging based on their subjective experience of their physical functioning, relating their physical functioning level to their expected ability to live independently.

Expectations of mental health in aging were related to self-reported fatigue levels and physical limitations in men. This highlights the importance of how older men think about their cognitive abilities and their emotional and psychological well being; more positive expectations of mental health in aging were associated with lower levels of fatigue and physical limitations. Favourable expectations of mental health in aging were also related to higher self-reported levels of morale, social support, and life satisfaction in both men and women.

A more surprising subscale correlation was between expectations regarding fatigue in aging, and religiosity for men in the sample. Specifically, men with more positive expectations regarding fatigue (men who expected to be less tired and fatigued as they got older, in comparison with their peers) in aging rated themselves more highly on a subscale measure of religious activity, dedication, and belief. The reason behind this relationship is not immediately apparent. Another interesting result was that women, but not men, showed correlations between expectations of urinary incontinence in aging and other self-report health subscales, specifically physical functioning, morale, and instrumental activities of daily living. This suggests that urinary incontinence may be of

greater importance to women, which is congruent with data indicating that incontinence is more common in women (NIH, 2004) due to pregnancy, childbirth, menopause, and the structure of the female urinary tract (Carpenito, 2000; NIH, 2004).

Although psychological research has demonstrated how potent expectations of aging and aging self-stereotypes can be, there is a lack of research on the mechanism through which they are able to influence health functioning. One possible explanation is that of the self-fulfilling prophecy. In a self-fulfilling prophecy, the belief in the expected result of an idea or prediction is sufficiently powerful to affect or change people's actions and attitudes, therefore causing the expected result (see Schneider, 2004, for a review). For example, children raised in a culture rife with ageism and ageist-stereotypes, such as that of Eurocentric cultures, might transfer those cultural attitudes into specific and negative expectations about their own aging which, in turn, may have an effect on how older adults behave (e.g., choosing not to engage in preventive health behaviours when the expectation is that illness and disease are inevitable). In this manner, the individual's behaviour is significantly influenced by the negative outcomes expected by the individual.

Negative aging self-stereotypes also may affect health functioning by posing a stereotype threat (Steele, 1997; Wheeler & Petty, 2001). Stereotype threat is the premise that a person's social identity – how he or she is seen as a member of a group, or how he or she fits into society (defined as membership in categories, such as "old") – becomes significant when a person enters a situation that is similar to the traditional stereotypes for that person. In his research, Steele has found that, when a person's social identity is attached to a negative stereotypes that person will tend to negatively under-perform in a

manner consistent with the stereotype. People who are victims of stereotyping tend to behave in ways that are consistent with those stereotypes (Steele, 1997).

Specifically, stereotype-threat theory predicts that the activation of "negative self-stereotypes can lead to subsequent performance decrements on a task and that such decrements are mediated by overt, threat-like sensations experienced by the individual in whom the stereotype is activated" (Wheeler & Petty, 2001, p. 803). Thus, an older adult might perform worse on a task of memory for fear of being seen as senile. Levy's 1996 study, which used assimilative priming, shows similar results to what would be expected with stereotype threat. In this study, Levy randomly primed elderly participants with two words: *senility* and *wisdom* – those primed with *wisdom* performed better on a test of memory then their experimental counterparts.

Favourable stereotypes and positive expectations of aging can, conversely, lead to better health functioning and outcomes. The same mechanisms by which negative stereotypes influence behaviours can also be used as stereotype boosts, wherein positive stereotypes are used to improve performance. Comparably, participants in this study who had more positive aging expectations showed better health functioning levels than their peers with less favourable expectations. If these participants were followed over time, it is likely that a longitudinal effect of positive aging expectations would also be found, such that these participants would continue to show better health functioning.

Levy et al. (2006) recently demonstrated a similar effect in their study of positive aging stereotypes and recovery after myocardial infarction. Levy et al. (2006) found that after controlling for other variables such as age, education, gender, and race, positive aging self-stereotypes predicted physical recovery in older adults who had suffered an

acute heart attack. In this study, the authors postulated that positive aging stereotypes affected recovery through the positive expectations of aging with which they were associated (see Levy et al., 2006, for a discussion).

Instrumentality, Expressivity, and Expectations of Aging

Contrary to what was expected, no relationship was found between instrumental personality traits and positive expectations of aging. Similarly, no relationship was found between expressivity and expectations of aging for either men or women. The relationship between expectations of aging and instrumentality was postulated because both instrumentality and positive expectations of aging have been found to be related to better health (Antill & Cunningham, 1979; Bassoff & Glass, 1982; Hausdorff et al., 1999; Levy et al., 1999; Levy et al., 2000; Levy & Myers, 2004; Levy et al., 2006; Taylor & Hall, 1982; Whitley, 1983). These results may reflect a genuine absence of association between these variables, although another possibility is that the measures used in the present study were not sensitive enough to capture such a relationship. Men's and women's levels of both instrumentality and expressivity were fairly high: scores on the BSRI masculinity and femininity subscales exhibited small ranges. This might have limited the study's ability to discern such a relationship if one exists.

Instrumentality and Health Functioning

Instrumental traits have been shown to be related to health functioning in previous research (e.g., Bassoff & Glass, 1982; Marsh & Byrne, 1991; Orlofsky & O'Heron, 1987; Shifren & Bauserman, 1996; Whitley, 1983). In this study, a strong relationship between instrumentality and health functioning was not found, although the data from the women in the sample did exhibit a relationship between instrumentality and life satisfaction.

These results may be the result of participants' low range of scores on instrumentality, which reduced the variance necessary to find such a relationship. This might explain why no relationship was found between instrumentality and health for the men in the sample, given the more limited variance on men's scores on the BSRI M subscale. In this situation, it is possible that the effects of instrumentality were masked by the small range of responses BSRI M subscale – ideally, measures should be set up so that the majority of participants score in the mid-range of possible responses, where a measure may be most sensitive (McBurney, 2001). In the current study, both men and women's responses on the both the BSRI M and F subscales were in the upper range of possible scores.

Another reason a relationship between instrumentality and health was not found could be that it is androgyny, as opposed to instrumental traits, that is most adaptive for older adults. Some research (e.g., Hyde, Krajnik, & Skuldt-Niederberger, 1991; Marsh & Byrne, 1991; Shifren & Bauserman, 1996; Stake, 2000) suggests that it is not instrumental personality traits, but rather a combination of both instrumentality and expressivity that is associated with better health. In the current study, although men and women did report different mean levels of instrumental and expressive personality traits, both genders tended to report high levels of both instrumentality and expressivity. Perhaps it is the presence of both high levels of instrumentality and expressivity that would be associated with more positive health functioning. In support of this notion, the auxiliary analyses run in this study showed modest support for Bem's (1974) androgyny approach. Specifically, women who reported high levels of both instrumentality and expressivity (androgyny) reported significantly greater levels of general well-being than their peers who reported low levels of both instrumentality and expressivity

(undifferentiated). It is also possible that specific subgroups of instrumental or expressive traits, such as those that are more socially desirable, are associated with better health (Heerboth & Ramanaiah, 1985; Woodhill & Samuels, 2003).

Still another possibility is that instrumentality might not be as related to the types of health problems faced by older adults as to the types faced by younger adults. Past research clearly establishes a link between instrumentality and health, but primarily in samples of young, college-aged adults. It is possible that the type of health issues salient to that demographic group (i.e., smoking cessation, condom use, stress management; Shifren & Bauserman, 1996; Stake, 2000) are not the same type of health issues salient for older adults (i.e., chronic illnesses; Quirouette & Pushkar, 1999). However, we cannot conclude that a relationship between instrumentality and health does not exist, only that little evidence was found for the relationship between the BSRI M subscale and self-reported measures of physical health, life satisfaction and well-being in the current study.

It is important to note that instrumentality did show a significant relationship with life satisfaction among the women in our sample, and that instrumentality together with expectations of aging contributed significantly to a prediction of life satisfaction and general wellness. Two non-exclusive reasons are postulated as to why this relationship was found in women but not in men. Perhaps instrumentality is especially related to overall mental health in women. Consistent with this hypothesis, Kleinman (2001) examined the relationships among instrumentality and mental health in a sample of 200 African American women who reported a history of abusive relationships. She found that high instrumentality protected against negative mental health outcomes for the women in her sample.

Another explanation is that the women in the sample may have provided more accurate reports of their health. Research in the area of gender differences in self-reported health among older adults suggests that women may provide more accurate reports of their physical health because they know more about health in general, and their own health specifically, than men (see Idler, 2003, for a discussion; Bath, 2003; Deeg & Kreigsman, 2003; Spiers, Jagger, Clarke, & Arthur, 2003). It follows that women consequently respond to self-reports of health more accurately than their male counterparts. This tendency towards more accurate self-reports may have led to increased sensitivity of the data of the women in the sample, providing support for the hypothesized relationships.

The results of the current study may also suggest the importance of high levels of both instrumentality and expressivity to self-reported health. Among the women in the sample, expressivity showed significant relationships with life satisfaction and general well being. This may provide further support for the notion that androgyny is healthiest. Interestingly, while higher levels of expressivity were related to higher ratings of general well being, instrumentality showed no relationship with general well being. It is also noteworthy that expressivity was not related to any of the three measures of self-reported health for the men in the sample. Bem (1974) and others (e.g., Baffi et al., 1991; Shifren & Bauserman, 1996; Stake, 2000) have contested the notion that high levels of both instrumentality and expressivity would be adaptive for both men and women, whereas in this sample, only women showed this pattern.

Living Arrangements, Economic Status, Chronic Health Conditions, and Health Functioning

Past research has demonstrated a link between living alone, economic status, chronic health conditions, and health functioning (Breeze et al., 2004; Charlson, et al., 1987; Choi & Wodarksi, 1996; de Jong Gierveld & van Tilburg, 1999; Gustavson & Lee, 2004; House, Lantz, & Herd, 2005; Lee & Shinkai, 2003; Leinonen et al., 2002; Prus, 2004; Rogers, 1996; Schneider et al., 2004; Smith, 2005; Steptoe et al., 2005). The current study provides no support for a relationship between living alone, economic status, and health, although some support is provided for the link between chronic health conditions and health. A mechanism that may underlie the relationship between living alone and health functioning is loneliness. No measure of loneliness was taken in the present study, and consequently no conclusions can be made about the relationship between living alone and loneliness in this sample. Given the strength of the relationship between economic status and health in previous research, it is, however, surprising that no such relationship was found in the present study. Although previously used in research with older adults (Perrault, 2001), it may be that the measure used to assess economic status was not sufficiently sensitive.

Implications

One of the more important implications of the current research is support for the notion that how adults think about aging is firmly related to their health. This is constructive for those adults who hold positive expectations of their own aging, but it is also problematic, given that the vast majority of aging stereotypes (which tend to be

reinforced over the lifespan, in turn affecting expectations of aging [Donlon et al., 2005]) are negative in Eurocentric culture.

Ageism and ageist stereotypes are further strengthened through lifestyle, environment, socio-political, and medical-care factors. For example, older adults in Eurocentric countries are vastly underrepresented in parliaments and leading political positions (Filipp, 2006; Palmore, 1999). Additionally, it has been estimated that only 1.5% of characters in the mass media are older adults (Zebrowitz & Montepare, 2000), and, in the health care system, older adults may be targeted by health promotion or disease-prevention programs less often than their younger peers (Filipp, 2006; Palmore, 1999). Healthcare providers may also show a reticence to treat older adults based solely on their age (Palmore, 1999).

The majority of research on reducing negative stereotypes focuses on three specific pathways: first, through contact with and exposure to the stereotyped group (the most popular and most successful method, if a few specific conditions are met [see Schneider, 2004]), secondly, through education about the target group and about stereotyping, and finally, through direct protest against the stereotypes (Corrigan & Penn, 1999). Unfortunately, for older adults who have negative ideas and expectations about aging, the exposure hypothesis is not likely to be effective; after all, most of their friends may also be older adults. However, education and protest may work to change negative stereotypes about older adults (and thus, about expectations regarding aging).

Research on reducing the stigma and stereotyping associated with mental illness, racism, and sexism may provide some guidance in this area. Corrigan et al. (2000) suggest that education programs that challenge negative stereotypes must be designed to

combat myths and facts specifically related to the target group (in this case, older adults). Expressed differently, anti-stigma efforts are most effective when they target specific negative stereotypes about the target group (Corrigan et al., 2000) by providing specific information (Penn & Martin, 1998). Corrigan and Penn (1999) recommend that the most effective format for education programs is a combination of formal instruction, discussion, and simulation. Education programs designed to combat negative stereotypes might be implemented through educational institutions, community groups (e.g., churches, synagogues, mosques), television, newspapers, other forms of mass media, and personal therapy (see Palmore, 1999, for a review). These programs should be aimed at all age groups, with a particular emphasis on children, adolescents, and young adults given that ageist attitudes are adopted at a very young age (Seefeldt et al., 1977). However, stereotypes in general (and ageism in particular) tend to be quite resistant to change given that not all stereotypes are inaccurate (Corrigan & Penn, 1999; Palmore, 1999; Schneider, 2004).

Donlon et al. (2005) conducted a specific intervention designed to reduce older adults' negative images of aging. In this study the authors designed a stereotype-awareness program administered through viewing and evaluating television programs. In the intervention, participants were required to keep track of the television shows they watched and the amount of time spent watching television over a period of two weeks. In the second week, participants in the intervention condition were also required to complete an additional page per day that asked them to evaluate how older adults were presented on the television programs they had watched that day, and to respond to a set of questions about the nature of the portrayal of older adults and their reaction to it. As expected, a

relationship was found between more negative aging stereotypes, expectations of aging, and the amount of time participants watched television *before* the intervention. Following the intervention, participants in the intervention group reported increased awareness of negative attitudes of aging presented in the media, and also expressed an intention to watch less television in the future. Donlon et al. (2005) conclude by suggesting that this increased awareness may be a means of helping older adults reduce their own negative expectations of aging and of helping them confront ageism. That a modest and short-term intervention would have such a noticeable effect suggests that more elaborate interventions may "have a halo effect beyond television" (Donlon et al., 2005, p. 317).

There is much to know about ageism and how to combat it. We do not know what makes ageism so pervasive, what determines its expression or even all the functions that it serves. Based on the research of Snider and Meine (1994), Filipp (2006) identified knowledge (epistemic) and ego-protective (defensive) functions of ageism. Filipp reported that ego-protective functions are especially salient for ageist stereotypes. Older adults may be seen as reminders of the "transience of youth" (Filipp, 2006, p.29). As an example, negative stereotypes about older adults (and not necessarily the aging process itself) may be a way to deny the self-threatening aspects of old age. Keeping this in mind, interventions should be designed specifically to address the ego-protective functions of stereotyping, including the ageist stereotypes that may result from the fact that older adults may serve as reminders of our mortality.

A Model of Health Functioning

Present results suggest that the predictor variables examined in this study speak to a model where personality traits and expectations regarding aging are not related to each

other, but are both related to the health functioning of older adults. While it may be that other variables have an influence on health functioning, the degree of their influence was not investigated in the current study. There are a number of health determinants (such as child development and genetic endowment) and patterns of health functioning (such as activity and sleep patterns [see Carpenito, 2000, for a discussion]) that were not investigated in this study.

The results illustrate that expectations of aging have an independent influence on health functioning apart from instrumentality, and expressivity. These results also suggest that expectations of aging have a more pervasive effect on health functioning than these other variables.

Results suggest a separate model for men and women. For the men there was no evidence that instrumentality, expressivity, or any combination of the two affected health functioning. For the women, there was an effect of instrumentality, expressivity, and androgyny, although the effect remained independent of aging expectations. It is important to note that our results do not allow us to conclude whether expectations of aging or instrumental and expressive personality traits have a stronger effect on health functioning in women.

Future Directions

Based on the findings of the current study, several directions for future research are suggested. It is recommended that the relationship between personality traits and health in older adults be investigated further. While it may be appropriate to continue to examine whether a relationship exists between instrumentality and expressivity (using a more sensitive measure of those constructs) and health in older adults, it would also be

worthwhile to further investigate other personality traits such as neuroticism and conscientiousness (two groups of personality traits that have been found to be related to the health of older adults (Roberts, Walton, & Bogg, 2005; Shifren & Bauserman, 1996; Smith & Spiro, 2002) as well as the link between androgyny and health in an older adult population. It would also be worthwhile to continue to investigate support for the androgyny model as it applies to the health of older adults.

It is also recommended that the relationship between aging stereotypes and expectations of aging and health be investigated among different groups of older adults, such as older adults of diverse national backgrounds, sexual orientation, those with specific health conditions (similar to Levy & Langer's 1994 study of deaf American and Chinese adults), or those living in different community settings such as nursing homes and assisted living facilities. Of particular interest are older adults from cultures where age-stereotypes tend to be more positive, such as Asian cultures. Homosexual older adults in North America also are of special interest, since research suggests that these individuals have even more negative expectations of aging than their heterosexual counterparts due to their increased fear of negative evaluation by others and the importance of their own physical attractiveness (Bergling, 2004; Schope, 2005). Another area of investigation may be examination of the history of older adults with negative expectations of aging contrasted with those with more positive expectations.

Exposure to members of a target group can be an effective way to combat stereotyped attitudes (Schneider, 2004); however, older adults who hold negative views about aging are already exposed to the target group through themselves and their older friends. Future research should examine the exposure of older adults with negative ideas

and expectations about aging to older adults from different cultures and societies, and specifically those with more positive aging stereotypes. It may be that such exposure would help reduce negative ideas and expectations about aging in the same way that exposure to members of a stereotyped group can help reduce stereotyped attitudes about that group.

It is apparent that there is a relationship between aging stereotypes and expectations about aging, and a person's quality of health. It is therefore important that there be a focus on the effects of aging stereotypes and on educating older adults about ageism in efforts to create successful interventions designed to improve health. Future research is needed to examine whether interventions specifically designed to alter people's expectations about aging will have an impact on their own health and aging, and to understand how personality throughout the lifespan affects expectations of aging and health functioning in late adulthood.

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APPENDIX 1. CONSENT AND DEBRIEFING FORMS

UNIVERSITY OF WINDSOR

CONSENT TO PARTICIPATE IN RESEARCH

Investigating Relationships among Instrumental and Expressive Traits, Health, and Expectations of Aging in a Community Sample of Older Adults

You are asked to participate in a research study conducted by Ms. Reagan Gale and Dr. Anne Baird, from the Psychology Department at the University of Windsor. This letter provides you with the information that will allow you to make an informed decision about your participation in a study investigating personality, health, and expectations regarding aging in older adults. This study will last approximately 6 months and will involve a total of 100 adults over the age of 65.

If you have any questions or concerns about the research, please feel free to contact Reagan Gale at (519) 258-5275 or Dr. Anne Baird at (519) 253-3000, ext. 2234.

PURPOSE OF THE STUDY

The purpose of this study is to investigate how personality traits may influence how older adults' think about their own aging and their health.

PROCEDURES

If you volunteer to participate in this study, we will ask you to do the following things:

You will be asked to complete about one hour of pencil-and-paper questionnaires. You can take as long as you need to complete the questionnaires, including breaks. Testing will take place in a location that is convenient for you.

You will be asked to respond to questions about your general health, your personality, and your expectations regarding your own aging. These pencil-and paper surveys will likely take between 45 minutes to one hour to complete and will require you read at approximately a grade 8 reading level.

You are free to ask questions about the study or the questionnaires at any time.

POTENTIAL RISKS AND DISCOMFORTS

Some questions are of a mildly personal nature, which may be embarrassing for a few individuals. You have the right not to respond to questions and still remain in the study.

The investigator may withdraw you from this research if circumstances arise which warrant doing so.

Participation in this study realizes no costs to you. You do not waive any legal rights by signing this consent form.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

This study will help us understand how certain personality traits may be associated with better health and more positive expectations about aging. You may benefit from contributing to research that is expected to benefit society.

PAYMENT FOR PARTICIPATION

Each person who participates will be entered into a lottery for one of four 50$ CDN gift certificates.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. This data may be used in subsequent studies. You will *never be mentioned by name* in any report of the results. Collected data will be kept in a locked filing cabinet in a secure location.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. Your participation is completely voluntary. You are free to stop the experimental procedure and withdraw from the study at any time without consequences of any kind. You may also withdraw your consent at any time. If you would like to withdraw from the study, discontinue the task and indicate that you no longer wish to participate. **You may refuse to answer any questions you don't want to answer and still remain in the study.**

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

Results of this study will be available from the principal investigator when the study is completed. If the results of the study are published, your name will not be used and no information that discloses your identity will be released or published. You can find out the general results of this study on or before September, 2006, by visiting the Research Ethics Board website at 'http:www.unwindsor.ca/reb'. Click on "Study Results" on the menu that appears on the left side of the screen at that address.

SUBSEQUENT USE OF DATA

This data will be used in subsequent studies.

RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. If you have questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; telephone: 519-253-3000, ext. 3916; e-mail: lbunn@uwindsor.ca.

This letter is yours to keep.

UNIVERSITY OF
WINDSOR

Investigating Relationships among Instrumental and Expressive Traits, Health, and Expectations of Aging in a Community Sample of Older Adults

SIGNATURE OF RESEARCH SUBJECT/LEGAL REPRESENTATIVE

I understand the information provided for the study, "Investigating Relationships among Instrumental and Expressive Traits, Health, and Expectations of Aging in a Community Sample of Older Adults", as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of the above letter.

_____
Name of Participant

_____ _____
Signature of Participant Date

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

_____ _____
Signature of Investigator Date

UNIVERSITY OF WINDSOR

Debriefing Form

Investigating Relationships among Instrumental and Expressive Traits, Health, and Expectations of Aging in a Community Sample of Older Adults

This study investigates the relationship between *personality traits*, *health* and *expectations regarding aging*. Some studies have found that instrumental traits (stereotypically masculine traits) rather than expressive traits (stereotypically feminine traits) are associated with better health (Whitley, 1983). Other studies have found that positive expectations about aging are also associated with better health (Levy, 2003: Levy & Myers, 2002). This study seeks to investigate whether there might be a relationship between such instrumental traits and expectations regarding aging.

One possible hypothesis is that high levels of both instrumental and expressive personality traits will be associated with positive expectations about aging. Our hypothesis is that instrumental personality traits, as opposed to expressive traits, will be associated with positive expectations about aging and better health, regardless of whether one is male or female. Of interest is whether expectations about aging, personality traits, and health, are found to be related to each other.

Results of this study will be available online by September 2006. You can find the results by visiting www.athena.uwindsor.ca/reb and following the links to the study results page.

Primary Investigator
Ms. Reagan Gale
gale4@uwindsor.ca

Supervisor
Dr. Anne Baird
abaird@uwindsor.ca

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APPENDIX 2: EXPECTATIONS REGARDING AGING SURVEY (ERA–38)

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Please circle the correct response.

1. **When I get older I expect I will be able to do everything I want to do.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

2. **I expect that as I get older I will become more forgetful.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

3. **I expect that as I get older it will become more difficult to do my daily activities.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

4. **I expect that as I get older I will spend more time alone.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

5. **I expect that as I get older I will spend less time with family and friends.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

6. **I expect that as I get older I will have more aches and pains.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

7. **I expect that as I get older I will not be able to work as well as I do now.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

8. **I expect that as I get older I will get tired more quickly.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

9. **I expect that as I get older I will enjoy my life.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

10. **I expect that as I get older I will become more dependent on others.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

11. **I expect that I will always be able to take care of myself.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

12. **I expect that as I get older I will become less attractive.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

13. **I expect that as I get older I will become lonelier.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

14. **I expect that as I get older my quality of life will decrease.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

15. **I expect that when I get older I will get depressed.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

16. **I expect that as I get older my sexual desire will decrease.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

17. **I expect that as I get older my body's ability to have sex will decrease.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

18. **When I get older I expect I will have more trouble sleeping.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

19. **When people grow older, one thing or another is going to go wrong with their body.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

20. **Part of aging is different parts of you are breaking down.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

21. **When people get older, they need to lower their expectations of how healthy they can be.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

22. **It's an accepted part of aging to have trouble remembering names.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

23. **Forgetfulness is a natural occurrence just from growing old.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

24. **It is impossible to escape the mental slowness that happens with aging.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

25. **There isn't any way to escape the physical deterioration of aging.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

26. **Age slows people down.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

27. **The human body is like a car: when it gets old, it gets worn out.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

28. **Having more aches and pains is an accepted part of aging.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

29. **Decreased energy in older people is just part of nature taking its course.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

30. **Every year that people age, their energy levels go down a little more.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

31. **Needing to use adult diapers is just an expected part of getting old.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

32. **Being lonely is just something that happens when people get old.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

33. **Becoming more lonely is a natural part of the aging process.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

34. **Old age is a time to enjoy life.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

35. **Quality of life declines as people age.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

36. **As people get older they worry more.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

37. **It's normal to be depressed when you are old.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

38. **It's a normal part of aging that older people have trouble sleeping.**

Definitely True	Somewhat True	Somewhat False	Definitely False
1	2	3	4

From: "Michelle Norris" <mnorris@geron.org>
Date: August 14, 2006 5:03:14 PM EDT
To: <gale4@uwindsor.ca>
Cc: "Patricia Walker" <pwalker@geron.org>, <CSarkisian@mednet.ucla.edu>
Subject: RE: Permission to include ERA-38 in MA Thesis

Dear Ms. Gale,

I have received your request for permission to reproduce the ERA-38 from the following:

Sarkisian, C.A., Hays, R.D., Berry, S., & Mangione, C. M. (2002). Development, reliability, and validity of the expectations regarding aging (ERA-38) survey. *The Gerontologist, 42*:534-542.

Permission is hereby granted to reproduce this instrument in your thesis. All reproductions must clearly indicate the journal title, volume number, page number(s), and date of publication, in addition to the following statement: **"Copyright © The Gerontological Society of America. Reproduced by permission of the publisher."**

Please feel free to contact me at mnorris@geron.org or (202) 842 1275 x112, if you have any questions or comments.

Sincerely,
Michelle

Michelle Norris
Permissions Editor
Gerontological Society of America
1030 15th Street, NW - Suite 250
Washington, DC 20005
(202) 842 1275 x112

From: Sarkisian, Catherine [mailto:CSarkisian@mednet.ucla.edu]
Sent: Wednesday, August 09, 2006 5:52 PM
To: The Gerontologist
Subject: FW: Permission to include ERA-38 in MA Thesis

Dear Dr. Noelker,

My instrument, the ERA-38, was published in TG in 2002. Here is the citation: Sarkisian CA, Hays RD, Berry S, Mangione CM. Development, Reliability, and Validity of the Expectations Regarding Aging (ERA-38) Survey. The Gerontologist

2002;42:534-542.

A grad student who used the instrument wrote to me wanting my permission to publish it as part of her Masters Thesis (see below). I believe GSA owns the copyright? I am assuming you/they wouldn't mind if it was published with her thesis as long as the proper citation is included but I want to clarify before I respond to her. Thank you very much.

For your reference I am attaching a pdf of the paper.

Regards,

Catherine A. Sarkisian MD, MSPH
Assistant Professor
UCLA Divison of Geriatrics
10945 Le Conte Ave. #2339
Los Angeles, CA 90095-1687

tel: (310)825-8253
fax: (310)794-2199

-----Original Message-----
From: Gale R [mailto:gale4@uwindsor.ca]
Sent: Wednesday, August 09, 2006 1:44 PM
To: Sarkisian, Catherine
Subject: Permission to include ERA-38 in MA Thesis

Hello Dr. Sarkisian,

I hope this email finds you well!

Last autumn you granted me permission to use the ERA-38 in my MA thesis research investigating the relationships between personality traits, health functioning, and aging expectations in older adults. I have now defended my thesis and am preparing to submit it to the department of Graduate Studies at the University of Windsor. Before I submit the thesis, I need to find out whether it would be proper to include the ERA-38 in the published thesis.

The Grad Studies department at the University of Windsor has asked that I send you the attached letter. If you are willing to let the ERA-38 Scale be published as a part of my thesis, please sign it electronically and include the text in an email back to this email address. Your email will be printed and included with the published thesis.

If you would prefer the Scale not be published as part of the thesis, I would very

much appreciate a short email letting me know.

Thanking you in advance for your reply,

I remain,

Respectfully Yours,

Reagan Gale

Miss Reagan G ale, B.A. (Hons.), MA

Applied Social Psychology

The University of Windsor

401 Sunset Ave., Windsor, ON.
(519) 258-5275

APPENDIX 4: THE SATISFACTION WITH LIFE SCALE (SWLS)

Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by circling the corresponding number. Please be open and honest in your responding.

1. In most ways my life is close to ideal.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

2. The conditions of my life are excellent.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

3. I am satisfied with my life.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

4. So far I have gotten the important things I want in life.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

5. If I could live my life over, I would change almost nothing.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

From: "Wright, Jerry" <Jerry.Wright@hhs.co.santa-clara.ca.us>
Date: August 9, 2006 5:25:24 PM EDT
To: "'Gale R'" <gale4@uwindsor.ca>
Subject: RE: Permission to Include SWLS in MA Thesis

Hello Miss Gale,

I am responsible for coordinating the Center for Outcome Measurement in Brain Injury (COMBI) website. I received your letter requesting copyright release for the SWLS.

My understanding of the SWLS is that it is currently in the public domain. We do not hold any copyright privileges to this instrument. The TBI Model Systems Database does not hold copyright privileges to this instrument. I am afraid that I cannot sign your document (because it states that I do own the copyright). You already have permission from the scale author to use the instrument. I would imagine that for a scale in the public domain, that should suffice.

If I can be of further assistance, please let me know.

Regards,

Jerry Wright
Rehabilitation Research Center
Santa Clara Valley Medical Center
(408) 793-6430
Fax (408) 793-6434

-----Original Message-----
From: Gale R [mailto:gale4@uwindsor.ca]
Sent: Wednesday, August 09, 2006 1:36 PM
To: combi@tbi-sci.org
Subject: Permission to Include SWLS in MA Thesis

Hello,

Last autumn Ed Diener granted me permission to use the Satisfaction with Life Scale in my MA thesis research investigating the relationships between personality traits, health functioning, and aging self-stereotypes. I have now defended my thesis and am preparing to submit it to the faculty of Graduate Studies at the University of Windsor. Before I submit the thesis, I need to find out whether it would be proper to include the Scale in the published thesis.

Dr. Diener advised that I needed to email you to discussion publishing the Scale. The Grad Studies department at the University of Windsor has asked that I s! end you the attached letter. If you (or your organization) are willing to let the Scale be published as a part of my thesis, please sign it electronically and include the text in an email back to this email address. Your email will be printed and included with the published thesis.

If you would prefer the Scale not be published as part of the thesis, I would

very much appreciate a short email letting me know.

Thanking you in advance for your reply,

I remain,

Respectfully Yours,

Reagan Gale

Miss Reagan Gale, B.A. (Hons.), MA< /b>

Applied Social Psychology

The University of Windsor

401 Sunset Ave., Windsor, ON.

(519) 258-5275

APPENDIX 6: THE WELLNESS INDEX

Below are a number of statements with which you may agree or disagree. Using the 1-5 scale below, indicate your agreement with each item by circling the corresponding number. Please be open and honest in your responding.

I am seldom lonely.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

Every day is the same to me.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am weak and useless.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

There are certain things that I love to do.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I keep myself in good appearance.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I often feel unhappy because of the actions of others towards me.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am old and feel it.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I like doing new and interesting things.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am happy.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

It makes sense to plan ahead for next week.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I could be much happier than I am.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I generally am alert enough to know what is happening around me.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I get fun out of life.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

Most people are by nature selfish.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am a real burden.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I look forward to the events of each day.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I feel I am an important person.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

Sometimes I think there is no purpose in going on.

1	2	3	4	5
Strongly Agree agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I generally have little to do each day.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

To some people, I am an important person.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of doing my own shopping.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of preparing my own meals.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of doing my own housework.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of taking medication without assistance.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of managing my money.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of eating unassisted.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of dressing and undressing myself.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of grooming myself.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of securing transportation or transporting myself.

1	2	3	4	5
Strongly	Agree	Neither	Disagree	Strongly

Agree Agree nor disagree Disagree

I am capable of walking without assistance.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of getting in and out of bed without assistance.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am capable of bathing myself without assistance.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I have no problems regarding toileting.

1	2	3	4	5
Strongly	Agree	Neither	Disagree	Strongly

Agree		Agree nor disagree		Disagree

I lead an active prayer life.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I read the Bible (Koran, Torah, etc.) regularly.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I often read devotional and other religious writings.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I have a satisfying meditation life.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I lead a religious life (Christian, Muslim, Jewish, Hindu, Buddhist, etc.).

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I strongly feel my need of God.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I often concentrate my attention on God.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I often concentrate my attention on the doing of God's will.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I often participate in religious or spiritual activities.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I am willing to endure ridicule for my beliefs and values.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I intentionally strive to have the right relationships with others.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I feel lonely.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I see people as often as I like.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I have someone who would help me if I became sick or disabled.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I have as many social activities as I like.

1	2	3	4	5

Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

My social activities are pleasurable.

1 Strongly Agree	2 Agree	3 Neither Agree nor disagree	4 Disagree	5 Strongly Disagree

I like people.

1 Strongly Agree	2 Agree	3 Neither Agree nor disagree	4 Disagree	5 Strongly Disagree

People like me.

1 Strongly Agree	2 Agree	3 Neither Agree nor disagree	4 Disagree	5 Strongly Disagree

I have the opportunity to develop new friendships.

1	2	3	4	5

Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I have someone with whom I can express my true feelings.

1 Strongly Agree	2 Agree	3 Neither Agree nor disagree	4 Disagree	5 Strongly Disagree

I can get advice if I need it.

1 Strongly Agree	2 Agree	3 Neither Agree nor disagree	4 Disagree	5 Strongly Disagree

I have someone who asks my advice.

1 Strongly Agree	2 Agree	3 Neither Agree nor disagree	4 Disagree	5 Strongly Disagree

I have someone in whom I can trust and confide.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

I have someone who can trust and confide in me.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree

From: Lee Slivinske <lrslivinske@ysu.edu>
Date: August 10, 2006 10:53:32 AM EDT
To: Gale R <gale4@uwindsor.ca>
Subject: Re: Permission to include Wellness Index in MA Thesis

Dear Reagan,
You have my permission to publish the Wellness Index in whole or part in your thesis. I have electronically signed the permission letter and attached it to this e-mail.
Good luck,
Lee R. Slivinske

Gale R wrote:

Name: file.htm
Type: text/html
Encoding: 8bit

Name: Wellness Index Copyright Permission Letter.doc
Type: application/msword
Encoding: base64
Wellness Index Copyright Permission Letter[1].doc "

Enclosure:
PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

Lee R. Slivinske
Dr. Lee R. Slivinske
Bitonte College of Health and Human Services
Youngstown State University
Department of Social Work
One University Plaza
Youngstown, OH 44555

Date: August 10, 2006

COPYRIGHT PERMISSION LETTER

August 8, 2006

Miss Reagan Gale
#601-373 Detroit St.
Windsor, ON, Canada
N9C 4B4
(519) 258-5275
gale4@uwindsor.ca

Dear Dr. Slivinske:

I am completing a master's dissertation at the University of Windsor entitled "Investigating Relationships among Instrumental and Expressive Traits, Health, and Expectations of Aging in a Community Sample of Older Adults". I would like your permission to reprint in my thesis excerpts from the following: Slivinske, L.R., Fitch, V.L., & Morawski, D.P. (1996). The wellness index: Developing an instrument to assess elders' well-being. Journal of Gerontological Social Work, 23, 185-204.

The excerpts to be reproduced are the entire Morale, ADL-IADL, Religiosity, and Social Resources subscales (57 items).

The requested permission covers future revisions and editions of my dissertation and to the prospective publication of my dissertation by UMI. These rights will in no way limit republication of the material(s) in any other form by you or others authorized by you. Your electronic signature will verify that you own the copyright to the above material(s).

If this meets with your approval, please sign this letter below and return it to me in an electronic mail. Thank you very much for your attention to this matter.

Sincerely,

Reagan Gale

APPENDIX 8: CHARLSON COMORBIDITY INDEX

Assigned Weights for Diseases	Conditions
1	Myocardial Infarct
	Congestive Heart Failure
	Peripheral Vascular Disease
	Cerebrovascular Disease
	Dementia
	Chronic Obstructive Pulmonary Disease
	Connective Tissue Disease
	Ulcer Disease
	Mild Liver Disease
	Diabetes
2	Hemiplegia
	Moderate or Severe Renal Disease
	Diabetes with End Organ Damage
	Any Tumor
	Leukemia
	Lymphoma
3	Moderate or Severe Liver Disease
6	Metastatic Solid Tumor
	AIDS

Assigned weights for each condition that a person has. The total equals the score.

From: "Janey C. Peterson" <jcpeters@med.cornell.edu>
Date: August 10, 2006 12:11:58 PM EDT
To: Gale R <gale4@uwindsor.ca>
Subject: Charlson Copyright Permission Letter

Charlson Copyright Permission Letter2.doc

COPYRIGHT PERMISSION LETTER

August 8, 2006

Miss Reagan Gale
#601-373 Detroit St.
Windsor, ON, Canada
N9C 4B4
(519) 258-5275
gale4@uwindsor.ca

Dear Dr. Charlson:

I am completing a master's dissertation at the University of Windsor entitled "Investigating Relationships among Instrumental and Expressive Traits, Health, and Expectations of Aging in a Community Sample of Older Adults". I would like your permission to reprint in my thesis excerpts from the following: Charlson, M.E., Pompei, P., Ales, K.L., & Mackenzie, C.R. (1987). A new method of classifying prognostic comorbidity in longitudinal studies: Developpment and validation. *Journal of Chronic Diseases, 40*,373-383.

The excerpt to be reproduced is the entire Comorbidity Index.

The requested permission covers future revisions and editions of my dissertation and to the prospective publication of my dissertation by UMI. These rights will in no way limit republication of the material(s) in any other form by you or others authorized by you. Your electronic signature will verify that you or your company own the copyright to the above material(s).

If this meets with your approval, please sign this letter below and return it to me in an electronic mail. Thank you very much for your attention to this matter.

Sincerely,

Reagan Gale

Enclosure:
PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

_____Dr. Mary Charlson_____
Dr. Mary E. Charlson
Weill Medical College of Cornell University
425 East 61st Street
New York, NY 10021

Date: _____August 10, 2006_____

APPENDIX 10 : KATZ ADAPTAION OF THE CHARLSON COMORBIDITY INDEX

Please circle the correct response.

1. Have you ever had a heart attack?
a. Yes
b. No

2. Have you ever been treated for heart failure? (You may have been short of breath and the doctor may have told you that you had fluid in your lungs or that your heart was not pumping well.)
a. Yes
b. No

3. Have you had an operation to unclog or bypass the arteries in your legs?
a. Yes
b. No

4. Have you had a stroke, cerebrovascular accident, blood clot or bleeding the brain, or transient ischemic attack (TIA)?
a. Yes
b. No

4a. Do you have difficulty moving an arm or leg as a result of the stroke or cerebrovascular action?
a. Yes
b. No

5. Do you have asthma?
a. Yes
b. No

If yes, do you take medicines for your asthma?
i. No
ii. Yes, only with flare-ups on my asthma
iii. Yes, I take medicines regularly, even when I'm not having a flare-up.

6. Do you have emphysema, chronic bronchitis, or chronic obstructive lung disease?
a. Yes
b. No

If yes, do you take medicines for your lung disease?
a. Yes
b. No

7. Do you have stomach ulcers, or peptic ulcer disease?
a. Yes
b. No

If yes, has this condition been diagnosed by endoscopy (where a doctor looks into your stomach through a scope) or an upper GI or barium swallow study (where you swallow chalky dye and then xrays are taken)?
a. Yes

b. No

8. Do you have diabetes (high blood sugar)?

i. No
ii. Yes, treated by modifying my diet
iii. Yes, treated by medications taken by mouth
iv. Yes, treated by insulin injections

8a. Has the diabetes caused you any of the following problems?

i. Problems with your kidneys?
    a. Yes
    b. No

ii. Problems with your eyes, treated by an ophthalmologist
    a. Yes
    b. No

9. Have you ever had the following problems with your kidneys?

a. Poor kidney function (blood tests show high creatinine)
    a. Yes
    b. No

b. Have used hemodialysis or peritoneal dialysis
    a. Yes
    b. No

c. Have recently received kidney transplantation
    a. Yes
    b. No

10. Do you have rheumatoid arthritis?
a. Yes
b. No

If yes, do you take medications for it regularly?
a. Yes
b. No

Do you have:
i. Lupus (systematic lupus erythematosus)
    a. Yes
    b. No

ii. Polymalgia rheumatica
    a. Yes
    b. No

11. Do you have any of the following conditions?
i. Alzheimer's Disease, or another form of dementia
    a. Yes
    b. No

ii. Cirrhosis, or serious liver damage
    a. Yes
    b. No

ii. Leukemia or polycythemia vera
    a. Yes
    b. No

iv. Lymphoma
    a. Yes
    b. No

v. Cancer, other than skin cancer, leukemia, or lymphoma?
    a. Yes
    b. No

If yes, has the cancer spread, or metastasized to other parts of the body?
    a. Yes
    b. No

vi. AIDS (acquired immunodeficiency syndrome)
    a. Yes
    b. No

From: "Katz, Jeffrey Neil, M.D." <JNKATZ@PARTNERS.ORG>
Date: September 24, 2006 12:26:53 PM EDT
To: "Reagan Gale" <gale4@uwindsor.ca>
Subject: RE: Copyright Permission Letter

Good luck, Reagan. Here is the signed letter.
Best, Jeff.

Jeffrey N. Katz, MD, MS
Associate Professor of Medicine and Orthopaedic Surgery
Chief, Section of Clinical Sciences
Division of Rheumatology, Immunology and Allergy
Brigham and Women's Hospital
75 Francis Street
Boston, MA 02115
phone 617-732-5356; fax 617-732-5505
jnkatz@partners.org

From: Reagan Gale [mailto:gale4@uwindsor.ca]
Sent: Thu 9/21/2006 9:21 AM
To: Katz, Jeffrey Neil, M.D.
Subject: Copyright Permission Letter

Hello Dr. Katz,

I hope this email finds you well!

Last autumn I began work on my MA thesis research investigating the relationships between personality traits, health functioning, and aging expectations in older adults, and received permission to include the Charlson Comorbidity Index in my thesis. I have now defended my thesis and am preparing to submit it to the department of Graduate Studies at the University of Windsor. Before I submit the thesis, i need to find out whether it would be proper to include your adaptation of the Index in the published thesis.

The Grad Studies department at the University of Windsor has asked that I send you the attached letter. If you are willing to let the questionnaire adaptation of the Charlson Comorbidity Index be published as a part of my thesis, please sign it electronically and include the text in an email back to this email address. Your email will be printed and included with the published thesis, along with the email permission from Dr. Charlson.

If you would prefer the Questionnaire not be published as part of the thesis, I would very much appreciate a short email letting me know.

Thanking you in advance for your reply,

I remain,

Respectfully Yours,

Reagan Gale

BRIGHAM AND WOMEN'S HOSPITAL

HARVARD MEDICAL SCHOOL

Chief, Section of Clinical Sciences
Division of Rheumatology, Immunology and Allergy
Department of Medicine
75 Francis Street
Boston, Massachusetts 02115

E-mail: jnkatz@partners.org

Tel: 617 732-5356, Fax: 617 732-5505

Jeffrey N. Katz, M.D., MS
Director, Robert Brigham Arthritis
And Musculoskeletal Disease Clinical Research Center

Associate Professor of Medicine and Orthopaedic Surgery
Harvard Medical School

Associate Professor of Environmental Health and
Health Policy and Management
Harvard School of Public Health

COPYRIGHT PERMISSION LETTER

September 21, 2006

Miss Reagan Gale
#601-373 Detroit St.
Windsor, ON, Canada
N9C 4B4
(519) 258-5275
gale4@uwindsor.ca

Dear Dr. Katz:

I am completing a master's dissertation at the University of Windsor entitled "Investigating Relationships among Instrumental and Expressive Traits, Health, and Expectations of Aging in a Community Sample of Older Adults". I would like your permission to reprint in my thesis excerpts from the following: Katz, J.N., Chang, L.C., Sangha, O., Fossel, A.H., & Bates, D.W. (1996). Can comorbidity be measured by questionnaire rather than medical record review? *Medical Care, 34*, 73-84.

The excerpt to be reproduced is the entire questionnaire version of the Charlson Comorbidity Index. I have already received written permission from Dr. Charlson to include the original index.

The requested permission covers future revisions and editions of my dissertation and to the prospective publication of my dissertation by UMI. These rights will in no way limit republication of the material(s) in any other form by you or others authorized by you. Your electronic signature will verify that you or your company owns the copyright to the above material(s).

If this meets with your approval, please sign this letter below and return it to me in an electronic mail. Thank you very much for your attention to this matter.

Sincerely,

Reagan Gale

closure:
PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

Department of Environmental Health
Brigham & Women's Hospital
75 Francis Street
Boston, MA 02115
Phone: 617-732-5356

Date: ____September 24, 2006_____

APPENDIX 12 : DEMOGRAPHICS QUESTIONNAIRE

Demographic Questions

1. Please indicate your sex: _____.

2. What is your age? _____.

3. Please indicate the country in which you were born: _____.

   a. If you were not born in Canada or the United States of America, please indicate when you came to Canada or the United States: _____.

4. Please indicate the first language you learned to speak:

   _____.

   a. If not English, when did you learn English? _____.

5. Please indicate if you are currently

   A) married

   B) separated/divorced

   C) widowed

   D) single

6. With whom do you live? Please check one:

   A) Alone

   B) Children

   C) Companion or friend

   D) Husband, wife, or partner

   E) Another relative (e.g., grandchild, niece, or nephew)

   F) Other: _____

7. Please indicate your years of formal education: _____.

8. Which of the following best describes your financial status? Please check one:

A) Comfortably able to afford all necessities (food, clothing, and transportation)

B) Able to afford necessities with careful budgeting

C) Barely able to afford the basic needs

D) Unable to afford the necessities

If you would like to be entered in the draw **for one of four gift certificates for 50.00$**, please provide the following information. This page will be stored separately from the questionnaires to insure the confidentiality of the responses you have provided.

Your Name: _____

Phone Number: _____

Please consider **providing the names and telephone numbers of two or more people** you think might be interested in participating in this study. They will be contacted by phone.

Name	**Telephone Number**

VITA AUCTORIS

Reagan Meade Gale was born in 1981 in Elliot Lake, Ontario. Upon receipt of her OSSD from Kingston Collegiate and Vocational Institute in 2000, she continued her education at the University of Western Ontario. In 2004 she obtained her B.A. (Honours) in Psychology. Currently, Reagan is working toward her doctorate in Psychology.