Mental Health and Perceived Loneliness Among Widowed Older Adults: Exploring the Effects of Gender and Social Support

by

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Abstract

A mixed methods study was conducted to examine the association between poor mental health and loneliness among widowed older adults aged 65 and over, accounting for differential effects of gender and social support. The life course theory, social support and stress theory, and feminism/masculinity theories were used to frame this research. Data from the Canadian Community Health Survey (2008/09) was analyzed using a subsample of 4,163 widowed respondents. A hierarchical linear regression analysis was conducted to examine loneliness, mental health, and potential buffering of social support and gender interaction. These analyses were supplemented with qualitative interviews conducted with 20 widowed older adults to further explore experiences, challenges and coping strategies. Integrated findings reveal the mediating role of social support. Implications of the findings suggest the salience of resilience over the life course, mediating effects of social support, the gendered effects of widowhood, exploration of longitudinal studies and placing a greater focus on widowed older adults' ethnic backgrounds. Suggested interventions include the expansion of bereavement services and intergenerational programs.

Keywords: Perceived mental health; loneliness; gender; social support buffering; widowhood

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Chapter 1.

Introduction

Mental health challenges among older adults have generally remained a largely neglected area of research, up until recently. Globally, mental illnesses affect 15% of adults who are aged 60 and above (Cybulski, Cybulski, Krajewska-Kulak, & Cwalina, 2017). It is estimated that the number of older adults with major mental illnesses will increase from 7 million to more than 15 million older individuals by 2030 due to population aging (Sorkin, Murphy, Nguyen, & Biegler, 2016). Mental illnesses typically encompass mental disorders, personality disorders, schizophrenia, anxiety disorders, eating disorders and addictions (Wister, 2019). Depression has been found to be the second most frequent mental illness that affects older adults behind dementia (Cybulski et al., 2017). One of the consequences of mental health challenges such as depression in old age is that individuals often become socially isolated from their networks, and can develop feelings of loneliness. This experience is most pronounced for those who live alone and/or are unattached (Raina et al., 2018). While research has begun to examine these associations, research gaps remain with respect to vulnerable older adults such as those who are isolated. This thesis focuses on widowed older adults aged 65 and over, since they typically face significant adversities relative to their younger counterparts.

A positive association between loneliness and poor mental health among older adults has been evidenced in several studies (Cohen-Mansfield, Hazan, Lerman, & Shalom, 2016; Miyawaki, 2015). Widowed older adults, in particular, are more likely to experience loneliness if they have fewer social contacts, and in turn, may experience poorer mental health outcomes such as depression (Cohen-Mansfield et al., 2016; Paúl & Ribeiro, 2009). Previous literature further suggests that widowers are more depressed than widows (Lee, & DeMaris, 2007; Lee, Demaris, Bavin, & Sullivan, 2001; Perrig-chiello, Spahni, Höpflinger, & Carr, 2016; Sasson & Umberson, 2014). Widowed men may be more depressed than widowed women since married men have been noted to be less depressed than married women (Lee et al., 2001). This finding can largely be attributed to the emotional support married men receive from their partners which they tend to lose when they become widowed (Lee et al., 2001). As a result of feeling depressed, widowed men may experience higher levels of loneliness, particularly because they are likely to experience a reduction in social contacts in widowhood

(Dahlberg, Andersson, McKee, & Lennartsson, 2015).

While much of the literature is still uncertain about the direction of the association between depression and loneliness, some recent findings suggest a positive association between poor mental health outcomes and loneliness in several cross-sectional studies conducted on vulnerable older adults (De Koning, Stathi, & Richards, 2017; Djukanović, Sorjonen, & Peterson, 2015; Hawkley & Cacioppo, 2010). Taking these findings into consideration, this thesis will explore the association between poor mental health and loneliness among widowed older adults, with the inclusion of gender and social support as potential mediators. The research examines this association specifically among widowed older adults since this group is found to be particularly at risk of both poor mental health and loneliness (Cohen-Mansfield et al., 2016; Hughes & Waite, 2009).

Moreover, it has been found that when older adults become widowed, their social support networks become weakened and they are at greater risk of becoming depressed and socially isolated (Dahlberg et al., 2015). Thus, this thesis will also examine whether social support acts as a possible mediator between poor mental health and loneliness. An inverse association between social support and loneliness and poor mental health outcomes among the elderly has been supported by previous literature (Schnittger, Wherton, Prendergast, & Lawlor, 2011; Sonnenberg et al., 2013). Hence, it has been clearly established that social support has an overall positive impact on the subjective well-being of older adults, particularly among individuals who are ‘at risk of social isolation, and the perception of social isolation, termed *loneliness* (Hawkley & Cacioppo, 2010). Notably, widowed older adults are one group of individuals who may live alone and are at risk of being lonely, particularly widowers. However, limited research has explored how social support can mediate the association between mental health and loneliness among widowed older adults and whether there are gendered patterns (Frode Thuen, Marit Hegg Reime, & Kari Skrautvoll, 1997; Liu, Gou, & Zuo, 2016). This thesis aims to fill this gap in knowledge.

Chapter 2

Literature Review

Theoretical Frameworks

A synthesis of three theoretical approaches was used to provide a rationale for examining the association between mental health and loneliness among older widowed adults and guide the principal hypotheses of this research. These theoretical frameworks are: the Life Course Perspective, the Social Support, Stress and Buffering Theory and Social Feminist and Masculinity theories. These perspectives are first described, followed by a discussion of how they are synthesized and used to frame this thesis.

Life Course Perspective

The life course perspective is a major theoretical framework that is widely used in the gerontology literature as it is particularly relevant to the study of aging and older adults. This theoretical framework, developed by Glen Elder, contends that a person's life experiences are shaped by time, process, meaning and context throughout the life course (Bengtson & Allen, 2009; Chappell, McDonald, & Stones, 2008; Mitchell, 2003; Mitchell, 2018). In particular, a general principle of this theory is that events and conditions that occur early in life have an impact on later life events and transitions (Dahlberg, Andersson, & Lennartsson, 2018; Elder, Johnson, & Crosnoe, 2003). Major life transitions such as widowhood can therefore, have an impact in later years. The life course perspective is centred on various transitions and trajectories that shape an individual's life (Chappell et al., 2008). There are four principal tenets of the theory as summarized by Chappell et al., 2008:

1) It is always important to consider the impact of the timing of transitions. Individuals may be affected by major life transitions differently according to the time at which the events occurred in their lifetime (Elder et al., 2003). The timing of widowhood would be relevant in this context. For instance, an older adult whose husband has passed away at the age of 90 due to a long-term health issue may be better adjusted to widowhood than someone whose

husband has passed away suddenly at the age of 60 without any prior known health issues.

2) Geographical and historical factors mold an individual's life course. An individual's life course is largely shaped by historical context and place (Elder et al., 2003). Social and historical events can determine the opportunities and challenges different cohorts face (Elder et al., 2003; Chappell et al., 2008). For example, it can be assumed that older women who became recently widowed face less economic challenges than their mothers when they became widowed, considering the differences in historical and social context. While social and historical differences between cohorts exist, geographical variations within cohorts can also occur as well (Chappell et al., 2008). An example of this tenet would be that older widowed adults who live in large cities such as Metro Vancouver, have relatively adequate access to various amenities and health care services in comparison to their counterparts who live in rural northern British Columbia.

3) There are linked or interdependent lives which are formed through a social network (Elder et al., 2003; Chappell et al., 2008). The concept of linked lives refers to the actions or choices of individuals, which have a profound impact on the lives of others around them. Often, transitions in an individual's life will also result in similar transitions for others (Elder et al., 2003). For instance, when a woman becomes widowed at an advanced age in the 70s or 80s, this transition will not as much have a significant impact on herself and her adult children than if she loses her spouse in her 30s or 40s. Similarly, older adults aged 65 and over who become widowed are more likely to receive more social support from their adult children, than if they were widowed in middle age or as a young adult, when their own children were young themselves. Receiving support from adult children as a widowed older adult would therefore benefit the older adult and their children. The adult children would be in a much better position to provide different types of support to their older parent than if they were very young.

4) The final tenet of the life course perspective is the Principle of Agency: "individuals construct their own life course through the choices and actions they take within the opportunities and constraints of history and social circumstance" (Elder et al., 2003, p. 11). According to this principle, individuals can make wise or unwise decisions or choose how to act (the principle of human agency) (Chappell et al., 2008). In addition, individuals are not limited to act or make their own choices by the circumstances brought on by historical and social structural constraints (Elder et al., 2003; Chappell et al., 2008). The principle of 'planfulness' and 'planful competence' is important to consider under this tenet of the life course theory. The principle of 'planful competence' can result when individuals carefully plan their actions and make certain wise choices early on which they can potentially benefit from in the future (Elder et al., 2003; Chappell et al., 2008). However, planful competence is largely contingent upon the historical and social context (Elder et al., 2003; Chappell et al., 2008). Hence, a certain amount of planful competence is more likely to help recent widows financially cope after the loss of their spouse than if they were widowed several decades ago, due to historical and social structural changes.

Convoys of Support & Social Support

Like transitions and trajectories, social engagement and support often span over an entire life course. The convoy model, developed by Antonucci and Kahn illustrates how relationships evolve over a life course (Antonucci, 2001; Kahn & Antonucci, 1980; Dahlberg et al., 2018). A convoy is a network comprised of individuals who support and are supported by the primary individual (Dahlberg et al., 2018). Certain characteristics that qualify individuals as members of the network are their gender, age, type of relationship as well as the geographical proximity to the primary individual and frequency of contact (Antonucci, Ajrouch, & Birditt, 2014). Throughout the life course, members who comprise these convoys can be removed and others can be added as a result of experiencing transitions such as widowhood (Dahlberg, 2018). It can however be challenging to replace those in the convoy who are closest to the individual (Dahlberg et al., 2018). In this context, the social support provided by members of a convoy play an important role in mediating negative feelings that arise from difficult transitions in the life course such as loneliness and grief resulting from widowhood. Social support provided

particularly by close relationships have been found to buffer against feelings of loneliness in later life and these relationships are acknowledged as the primary providers of support (Dahlberg et al., 2018). The level of support provided by close relationships during difficult life transitions therefore, has a major impact on the social relationships that one sustains in late life, which can help to ameliorate adverse events such as widowhood (Antonucci, 2001; Dahlberg et al., 2018; Kahn & Antonucci, 1980).

Social Support, Stress and Buffering Theory

The social support, stress and buffering theory adapted from the cognitive stress theory, examines how social support may buffer the adverse effects of psychological stressful events such as widowhood (Cohen, & McKay, 1984; Stroebe, Stroebe, Abakoumkin, & Schut, 1996). This theory posits that individuals with weaker social support systems generally fare worse in the face of psychological stress than those with stronger social support systems in place (Cohen, & McKay, 1984).

Widowhood has been identified as a major stressful life event that requires considerable coping (Stroebe et al., 1996). Strong social support systems can significantly help widowed individuals cope with the stresses of bereavement. This theoretical framework is instrumental in understanding how the quality and type of social support received may possibly buffer the association between poor mental health and loneliness among widowed older adults.

Social support has been categorized into two primary categories of support in the literature. Psychological support has been identified as a type of support in which informational support is provided, whereas non-psychological support has been identified as an exchange of material or tangible sources (Cohen, & McKay, 1984). These two categories of social support are further categorized into appraisal and emotional support, comprising the psychological form of support, and tangible support, comprising non-psychological support (Cohen, & McKay, 1984). Appraisal support is largely based on Lazarus's model of stress, wherein stress occurs as a result of an individual's appraisal of a stressor as either threatening or minor and likewise their ability to cope with the stressor (Cohen, & McKay, 1984; Lazarus, 1966). Emotional support on the other hand, refers to the provision of support resulting in feelings of connectedness and positive affect (Chappell et al., 2008). It is postulated that the provision of emotional support may help individuals cope with the emotional loss that can result from a stressor (Cohen, & McKay, 1984). Tangible support is identified as a type of support which

involves the provision of aid or resources to those in need of it (Chappell et al., 2008). It is important to note that the recipient may perceive receiving a material aid as appropriate or inappropriate, depending on their perception of seeking help and feelings of indebtedness that ensue after receiving this support (Cohen, & McKay, 1984). Furthermore, the support one receives may often come from the same individual who may also provide all of these types of support to the individual in need (Chappell et al., 2008). These varying types of social support described here thus, can all play an important role in buffering the association between poor mental health and loneliness among widowed older adults.

Feminist Theory and Masculinity Theory

Feminist Theory

A feminist theoretical approach can further help to gain a better understanding of the gendered effects of widowhood in later life. Simply put, the feminist theory is a “wide ranging system of ideas about the world from a woman-centred perspective" (Lengermann & Niebrugge-Brantley 1990, p. 317; emphasis in original, as cited in Calasanti & Zajicek, 1993, p. 119). Moreover, this broader theory asserts that gender is a socially constructed phenomenon whereby the notions of femininity and masculinity are produced and constantly altered (Calasanti & Zajicek, 1993; Chafetz, 1988). As a theoretical framework that champions the sole perspectives of women, the feminist theory primarily focuses on women and their experiences (Calasanti & Zajicek, 1993). It also explores how gender as a social construct is shaped by structural factors of class, race, ethnicity, economics, nationality and history, and consequently plays a major role in producing systemic inequalities that affect women (Calasanti & Zajicek, 1993; Enns & Sinacore, 2005).

While various feminist theories exist with their own postulations, the social feminist theory is perhaps the theory closest and most adequate to examining widowhood in late life, as it focuses on the interactions of gender, class, race and ethnicity in shaping the widowhood experience that affect women and men (Blieszner, 1993; Calasanti & Zajicek, 1993). The social feminist theory was the first theory to formally acknowledge the intersections of sexism, racism and classism in society (Enns & Sinacore, 2005). Moreover, this theory was one of the earliest feminist theories to connect the notions of privilege and oppression to multiple identities of race, sex and class (Enns & Sinacore, 2005). These findings highlight the necessity of exploring the

intersections of age, race/ethnicity, class and sexual orientation, that largely shape the widowhood experiences of women.

Masculinity Theory

It is suggested that exploring the daily realities of women can also lead to valuable insights into the lived realities of men (Calasanti & Zajicek, 1993). Much of the research on widowhood nevertheless has disregarded the realities of widowers (Blieszner, 1993; Martin-Matthews, 2011). The literature on widowhood has predominantly focused on the experiences and needs of widowed women, leaving out men. This omission ignores discourse on how older men are affected in the process and the type of support, if any, they receive to cope with their experiences. In the same vein as the social feminist theory, the masculinity theory explores how widowhood impacts men differently than women in late life. Indeed, Raewyn Connell's theory of masculinity acknowledges the role that men play in shaping and reshaping varying forms of masculinities (Connell & Messerschmidt, 2005; Wedgwood, 2009). The more dominant or hegemonic forms of masculinity place an emphasis on strength, power and emotional self-control, which can purportedly challenge the psychological and emotional effects of bereavement that impact men (Bennett et al., 2003). With this concept in mind, widowed men may incur even greater emotional or psychological losses in widowhood as they try to emotionally cope with their loss without losing their sense of masculinity in the process (Bennett et al., 2003). Moreover, the new roles widowed men assume after the loss of their spouse such as house management, may further threaten their perceived notions of masculinity (Bennett, Hughes, & Smith, 2003; Blieszner, 1993). The hegemonic conception of masculinity is thus challenged in old age as men are expected to lose their self-reliance, strength and control as they become older (Bennett, 2007). The inability to adequately cope with the loss of their spouse can result in mental health challenges such as depression among widowed older men.

In summary, the life course perspective, social feminist, masculinity and the social support, stress and buffering theory are theoretical frameworks that provide conceptual insight into how widowed adults cope with the various effects of widowhood in late life. The experiences of widowhood are assumed to differ among women and men due to gendered norms in socialization, which largely dictate how women and men cope with bereavement, and the social support systems that are consequently impacted. These frameworks acknowledge the mental health impacts of widowhood that by large

affect women and men in the process. Furthermore, they clearly articulate how convoys of support and other similar strong social support systems in place, can be instrumental in alleviating the adverse effects of bereavement that impact older women and men.

Literature on Mental Health, Loneliness and Widowhood

Mental Health and Loneliness

Loneliness is a fluid, subjective state that varies across individuals and therefore should not be mistaken with the objective state of social isolation (Adams, Sanders, & Auth, 2004; Liu et al., 2016). In this section, we cover research on both loneliness and social isolation, since there are both similar and unique findings across studies. However, a focus is placed on loneliness in this thesis due to our interest in its subjective state, the availability of measures (see Methods), and feasibility issues. Data from the Canadian Community Health Survey (2008/09) published by Statistics Canada (as cited by the National Seniors Council, 2017) show the current prevalence of social isolation to be 16% among older adults. Various predictors have been linked to a higher prevalence of loneliness including being female, living in a nursing home, minimal competence, reduced quality interaction with social networks and low socioeconomic status (Losada et al., 2012; Pinquart & Sorensen, 2001). Loneliness affects many adults' health and well-being. Loneliness has been linked to poor mental and physical health outcomes (Cohen-Mansfield et al., 2016) such as depression in later life (Adams et al., 2004). Golden et al. (2009), have found that older adults had a 61% risk of depression, but this figure rose to 82% among those who experienced loneliness, even after factors such as social network, age and physical disability were adjusted for. A positive association between loneliness and poor mental health among older adults has also been documented by other studies (Adams et al., 2004; Golden, Conroy, Bruce, Denihan, Greene, Kirby, 2009; Liu et al., 2016). The linkage between poor mental health and loneliness has not been fully explored. In consideration of the various mental health challenges and rise of social isolation and loneliness that affect many older adults, this thesis attempts to explore this association. Given the gap in knowledge pertaining to older adults affected by poor mental health outcomes and social isolation and loneliness, we focus on widowed older adults.

It is interesting to note that some literature has demonstrated an association between depression and loneliness in late life and not the reverse (Djukanović et al.,

2015). However, the bidirectional correlation between loneliness and depression among older adults has been explored to a somewhat greater extent (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006; Zebhauser et al., 2014). This occurrence may be partly due to loneliness being viewed as a common predictor of depressive symptoms in late life. Higher rates of loneliness and depression can be found among older adults over time, since older adults are more likely to become institutionalized and widowed in late life (Cohen-Mansfield et al., 2013). Poor mental health outcomes such as depression are likely aggravated by any characteristics of loneliness that individuals experience in late life. What is not clear is the gendered nature of the association between mental health and loneliness, and the mediating effects of social support, which become more complex when widowed older adults are considered.

Loneliness appears to be strongly gendered. Although women enjoy greater participation in social activities and have larger social networks than men, research has shown that they experience greater levels of perceived loneliness at all ages (Dahlberg et al., 2015; Park, Jang, Lee, Haley, & Chiriboga, 2013; Raina et al., 2018; Tilvis et al., 2012). Moreover, it has been found that loneliness increases with age among women but not men (Raina et al., 2018). Recent statistics reveal that 23.10% of women in the 45-64 age group reported feeling lonely, which increased to 24.71% of women in the 65-74 age group and 30.83% among those in the 75 and over age category (Raina et al., 2018). The percentages of loneliness of men across age cohorts on the other hand, are for the most part linear, with 20.44% of men reporting feeling lonely among those aged 45-64, and 17.91% and 19.41% of men reporting feeling lonely in the 65-74 and 75 and above age categories respectively (Raina et al., 2018). The higher prevalence of perceived loneliness among older women has been linked to life course events impacting women and men differently (Brittain et al., 2017, Dahlberg et al., 2015)

Djukanovic et al. (2015) found that while older women reported higher levels of loneliness, a higher prevalence of depressive symptoms was found among men in the age cohort 65-80 years. Higher levels of depression among older men have been documented across many studies (Capiocco et al., 2006; Zebhauser et al., 2014). Interestingly, while older women report greater levels of loneliness than older men, this gendered pattern reverses when non-coupled marital status is taken into consideration (Wister, Menec, & Mugford, 2018). Specifically, recent statistics illustrate that widowed adults, particularly widowed older men, report significantly higher rates of loneliness (Wister, Menec, & Mugford, 2018). The percentage of feeling lonely at least some of the

time is reported by 39.63% of widowed women aged 45-64, 42.20% of those aged 65-74 and lastly, 42.21% of women aged 75 and above (Wister, Menec, & Mugford, 2018). Among widowed men, these percentages are slightly higher, with 56.34% of men aged 45-64, 59.23% of those aged 65-74 and 50.16% of men aged 75 and over reporting feeling lonely (Wister, Menec, & Mugford, 2018). These findings reveal that widowed men on the whole experience higher levels of loneliness than widowed women in late life. It is hypothesized in this thesis that social support will play an instrumental role in reducing the levels of loneliness and possibly poor mental health outcomes among widowed men.

Mediating Effects of Social Support

It is evident from the literature that social support is more dependent on whether the support is accessible rather than the source of the support or how much of it is available (Utz, Swenson, Caserta, & Lund, 2014). Adams et al. (2004) reported how smaller network sizes were found to be associated with loneliness, whereas lower engagement in church and social activities were found to be linked to depression among a sample of older adults. Previous literature on loneliness among older adults has highlighted how the frequency of maintaining contact with close relationships rather than the number of contacts per se determines loneliness among older adults (Adams et al., 2004; Mullins, & Dugan, 1990). Older adults who have lower levels of contact with close relationships and hence have a lower appraisal of such contacts, more often report higher levels of perceived loneliness (Adams et al., 2004; Mullins, & Dugan, 1990). The quality of social networks, consequently, is an instrumental factor in buffering the negative effects of loneliness among widowed older adults. It has been found that the feelings of loneliness may be not at all be entirely dependent on social support after the death of a spouse (Utz et al., 2014). An individual's level of loneliness may be influenced by factors other than the quality of social support received such as having a confidant to share one's feelings with and befriending someone who also is widowed (Utz et al., 2014). These findings reveal that the social support one receives in widowhood can vary considerably and may involve the interplay of different types of support (such as affection and tangible support) to effectively mediate the association between poor mental health outcomes and loneliness among widowed older adults.

Mental Health and Widowhood

Globally, mental health conditions have been estimated to affect 15% of adults of age 60 and over (Conner, McKinnon, Roker, Ward, & Brown, 2018; WHO, 2019). Major depression affects 20-25% of older adults aged 65 and over (Bettina, 2017; National Institutes of Health 2009; Kockaya & Werteimer 2010). Sjöberg et al., (2017), have reported the prevalence of any depression as 4.2% under the ICD-10 classification of mental and behavioural disorders; diagnostic criteria for research, 9.3% under the Diagnostic and Statistical Manual of Mental Disorders, 4th edition of text revision and 5th edition; 10.6% under the Montgomery-Asberg Depression Rating Scale (MADRS); 9.2% under the Geriatric Depression Scale (short term); and 9.1% under self-report. Moreover, a positive correlation between depression and loneliness in late life has been supported (Victor & Yang, 2012).

As several studies suggest, the subjective well-being and mental health of older adults are negatively affected when they experience the loss of their partner (Burns, Browning, & Kendig, 2015). Widowhood is linked to poor mental health outcomes such as loneliness, elevated rates of depression and psychosocial stress (Bettina, 2017; Burns et al., 2015; Sasson & Umberson, 2014; van den Berg, Lindeboom, & Portrait, 2011). Since the 1970s, the average age of widowhood has increased from 65 to 72 (Bennett & Soulsby, 2012; Hirst & Corden, 2010). As of 2017, there are 1,500,175 widows in Canada, while the number of widowers stands at 386,359 (Statistics Canada, 2017). Although this statistic was not specific to adults age 65 and over, it is still unequivocal that the rates of widowhood are significantly higher among women, particularly in late life. Major life events affect women and men differently, with spousal bereavement being no different. It is therefore, critical to consider the various impacts of widowhood among women and men.

Gendered Effects of Widowhood

Widowhood affects women and men differently. Studies on widowhood have generally found that financial difficulties act as a major cause of distress among widows, whereas for widowers, emotional vulnerability has been commonly associated with low levels of adjustment in widowhood (Koren, 2016; Lee, & DeMaris, 2007; Perrig-chiello et al., 2016). Widowhood is a life transition that has been commonly associated with women, owing to the fact that widowhood impacts women earlier in their life course than men (Martin-Matthews, 2011).

While it is commonly understood that widows have larger social networks and may appear to be more advantaged in their emotional and social ties with family and friends than widowers, recent findings suggest that there is much variability of the widowhood experience within gender in late life (Martin-Matthews, 2011). Some findings indicate that gender differences with respect to depressive symptoms are minimal (Bennett & Soulsby, 2012; Zhang & Li, 2011). Van den Hoonaard, (1999, 2001, 2010), had primarily documented older women and men's experiences of widowhood in her work. She particularly noted that older men's chronicles of widowhood were reflective of issues of masculinity such as concerns of sexuality and ability to adequately master household tasks (Martin-Matthews, 2011; Van den Hoonaard, 2010). These issues were noted to vary by cohorts of older men (Martin-Matthews, 2011; Van den Hoonaard, 2010). In light of this finding, it is possible that the narratives of widowhood by future cohorts may very well shift with the current landscape of gender roles and norms.

Moreover, the different roles that older women and men assume after the death of their partners has important implications for adjustment to widowhood. Widows and widowers often have to take on the roles and responsibilities of their deceased partners in order to sustain themselves (Sasson & Umberson, 2014). It has been found that women generally exhibit higher self-sufficiency skills in widowhood (Blieszner, 1993). The new responsibilities that widows assume of their deceased partners such as decision making, can provide them an with opportunity to develop greater independence (Blieszner, 1993). While widows may reap some psychological benefits of assuming the roles of their deceased partners, widowers conversely, may perceive that the assumed tasks they perform such as housework, are of lesser value and importance in comparison to the tasks they normally perform (Bennett, 2007; Blieszner, 1993). Consequently, the social construction of gender norms and roles can significantly affect both women and men as they adapt to widowhood (Blieszner, 1993). The construction of gender roles will particularly be important to consider when examining the specific cohort effects of widowhood among widowed women and men.

Hypotheses

As previously stated, this research explored the effect of mental health on loneliness among widowed older adults, who were identified as those 65 years of age and above. The role of social support as a potential buffer between mental health and loneliness among widowed older adults was also examined in the current study. In

addition, potential interaction effects between gender and mental health on loneliness was assessed. Four principal hypotheses have guided the research study.

Mental Health and Loneliness

It was hypothesized that there would be a positive association between poor mental health and loneliness among widowed older adults. For purposes of consistency in this study, mental health was operationalized as poor mental health, with specific dimensions denoting its measurement.

Mental Health and Gender

It was hypothesized that older widowed men would experience greater levels of poor mental health than widowed women.

Gender and Mental Health Interaction

It was hypothesized that there would be an interaction between gender and mental health on loneliness. Thus, it is anticipated that widowed men with greater levels of poor mental health would experience higher levels of loneliness than their female counterparts.

Social Support as a Mediator

Finally, it was hypothesized that social support would mediate the association between poor mental health and loneliness among the widowed.

Chapter 3

Methodology

This chapter will describe the research design used for the study, followed by a discussion of the quantitative data and analyses and the qualitative data and analyses.

Research Design

A mixed methods study design was used to carry out the research. A quantitative secondary analysis of data from the 2008-2009 Canadian Community Health Survey (CCHS) was conducted. This analysis was followed by a qualitative interview study of 20 widowed older male and female participants living in Vancouver, B.C. to gather more subjective data on their experiences.

Employing a mixed methods design in which both quantitative and qualitative elements of a research are applied helps in further establishing the validity of the study (Schoonenboom & Johnson, 2017). This process is also known as 'triangulation' in which both qualitative and quantitative research methods are combined in a study to corroborate the results of the research (Bryman, 2006). The primary advantage of using this specific research design is that the combination of applying both elements of research can be valuable in understanding the underlying factors and context that arise from the research findings that may not have been possible by solely applying one method of research otherwise (Lopez-Fernandez & Molina-Azorin, 2011). Additionally, the combination of both research methods in a study can provide the researcher a more complete or comprehensive understanding of the research area of enquiry (Bryman, 2006). In the context of this study, the findings that will emerge from the qualitative data will enhance the comprehensive understanding of the temporal aspect of widowhood, as participants are likely to give a range of responses about their adjustment following the loss of their spouse, as well as potentially prior to the event if the time horizon of bereavement is anticipated. Furthermore, qualitative interviews with research participants may also reveal the role of social support in their adjustment to widowhood from a life course perspective, and how it buffers poor mental health outcomes and feelings of loneliness in their lives, which would likely be difficult to uncover using cross-sectional quantitative data. While the research study follows a mixed methods design, the qualitative findings supplemented the quantitative study. The application of both

quantitative and qualitative methods were essential to test the hypotheses of the study and to fulfill the overarching purpose of the research, which is to examine the association between mental health outcomes and loneliness among widowed older adults.

Quantitative Data

The quantitative data for this study was drawn from the Canadian Community Health Survey-Healthy Aging (CCHS-HA) 2008-2009 survey and analyzed using IBM SPSS Statistics Version 25 data analysis software. The Canadian Community Health Survey was established collectively by Health Canada, the Canadian Institute for Health Information (CIHI) and Statistics Canada in 1991 (Statistics Canada, 2017). The CCHS-HA is a cross-sectional survey conducted across Canada to better understand the health of Canadians aged 45 and over by exploring health determinants such as physical activity, healthy aging, health care service utilization and retirement transitions (Statistics Canada, 2008). It was specifically developed to examine health and aging research questions, and is used in this thesis for this reason. Data for this survey were collected between December 2008 to November 2009 from a total of 30, 865 respondents conducted via computer assisted personal and telephone interviewing software (Statistics Canada, 2008). Those excluded from participating in the CCHS-HA survey include individuals living on reservations, members of the Canadian Forces and individuals living in collective dwellings and institutions (Statistics Canada, 2008). The data for the CCHS-HA is available through the use of public use microdata files (PUMF), released in 2011 (Statistics Canada, 2019). These files are available for use at post-secondary institutions which are a part of the Data Liberation Initiative (DLI), of which Simon Fraser University is a participating institution (Statistics Canada, 2019).

For the current study, a sub-sample of 4,163 participants was selected, comprising of both females and males 65 years of age and above who reported being widowed. This sub-sample was also weighted and rescaled to provide a more representative sample to adjust for sampling errors based on age, sex and geographical region.

Measurement

The following section will describe the dependent variable, independent variables and lastly, the covariates used for this study.

Dependent Variable: *Loneliness*

Loneliness is the primary dependent variable that was assessed in this study using the Three-Item Loneliness Scale, which was utilized in the CCHS-HA survey. This scale is used to measure loneliness among older adults, with higher scores indicating a higher level of loneliness (Hughes, Waite, Cacioppo, & Hawkley, 2004).
The three items used to represent the loneliness construct are: “I feel left out,” “I feel isolated,” and “I lack companionship.”

Prior research shows that the correlation between the highly revised UCLA loneliness scale (R-UCLA) and the Three-Item Loneliness Scale is .82 (p<.001) (Hughes et al., 2008). It is also apparent that the Three-Item Loneliness Scale has good convergent and discriminant validity, since the patterns of correlations from two different studies conducted on the scale are correlated (Hughes et al., 2008). Moreover the Three-Item Scale can measure the items consistently; hence this demonstrates that the scale has adequate internal consistency (Hughes et al., 2008). Greater loneliness is marked by higher scores on the scale (Statistics Canada, 2010).

A total of 45.2% of respondents (n=1882) reported feeling the least lonely (level 3), whereas only 3.1% of participants (130) reported feeling the most lonely (level 9) in the sample. The reference category happened to be the level of least loneliness (level 3). Missing responses (198 not stated) are recoded to the mean category. The mode for loneliness is 3, which is evident given that most participants reported feeling the least lonely (hence the most frequently occurring value). The median is 4, denoting that the level of low loneliness, albeit not the least loneliness (level 3) is above and below where 50% of the responses for loneliness fall (Spss & Base, 2017). The statistical average or mean of loneliness is 4.2168 (SD= 1.54). Loneliness is not skewed (1.403) as the value of kurtosis (1.398) falls within the range of +/- 3, thus it was not necessary to normalize the distribution prior to recoding. These results are illustrated in Table 1.1.

Table 1 Dependent variable: Loneliness frequency and percentage

Variable	N	%
Loneliness		
3.00	1882	45.2
4.00	1005	24.1
5.00	484	11.6
6.00	409	9.8
7.00	179	4.3
8.00	73	1.8
9.00	130	3.1

Independent Variables: Perceived mental health, Age, Gender, Social Support

Perceived mental health

While depression was initially examined, perceived mental health was selected as the independent variable due to its robustness and predictability. The perceived mental health variable was measured using a Likert scale with the following categories: poor (the reference category), fair, good, very good and excellent (Statistics Canada, 2010). Higher scores equate to higher levels of perceived mental health (Statistics Canada, 2010). A total of 0.7% of respondents (n=28) reported experiencing poor mental health (negative perceived mental health), whereas, 28.4% of participants (n=1183) reported experiencing excellent mental health (positive perceived mental health) in the sample. Missing responses (n=135, 3.3%) are recoded to the median category. The median is 3, denoting that very good perceived mental health (level 3), is above and below where 50% of the responses for perceived mental health fall (Spss & Base, 2017). As the scale for perceived mental health is originally negatively worded (scaling from poor to excellent), it is reverse coded and recoded as an interval variable to test the hypotheses using Ordinary Least Squares Regression (OLS) analyses.

Age

In the publicly available CCHS sample, age is grouped into five-year age groups. We use these age groups for only those 65 and over, as this age category represents the population interest of our research study. There are no missing cases. Age is recoded as two interval variables: Age group 75-84, Age group 85plus, (with the reference category being age group 65-74) for the regression analyses in order to examine three age groups 65+.

Gender

Respondents were asked to report their gender. The majority of the sample reported being female, which also happened to be the reference category (81.6%, n=3397). There are no missing cases. This variable is included in the quantitative data instead of other categories (such as those identifying as LGBTQ + A) since the CCHS-HA data only includes binary data with respect to gender.

Buffer: Social Support

The social support variable used in this study includes the four subscales of the Medical Outcomes Study (MOS): affection, emotional or informational support, positive social interaction and tangible social support (Sherbourne, & Stewart, 1991), that is analyzed in the sample collectively. Five dimensions of social support were constructed: emotional support, the expression of feelings and positive affect, affection, the expression of warmth and love, positive social interaction, involving positive meaningful interaction with others, informational, the provision of information, advice and guidance, and lastly, tangible support, which involves offering material assistance, were initially covered under the 19 functional support items as part of the Medical Outcomes Study (Sherbourne, & Stewart, 1991). Four subscales of social support have been derived from these dimensions, as studies suggest that the scores of emotional and informational support can be combined (Sherbourne, & Stewart, 1991). Missing cases are recoded to the mean. Greater levels of social support are marked by higher scores on all of the four levels of support (Statistics Canada, 2010). Hence, a score of 12 (scale of 0-12) is indicative of the highest level of affection support, a score of 32 (scale of 0-32) indicates the highest level of emotional/informational support, the highest level of positive social interaction is marked by a score of 16 (scale of 0-16) and lastly, a score of 16 indicates the highest level of tangible social support (scale of 0-16).

The mean for affection support was 9.52 (SD= 2.88), denoting that a very high level of affection support (highest category = 12) is received on average by participants in our sample. The mean for emotional/informational support was 24.8049 (SD=7.41) indicating that a very high level of this type of support (highest category=32) is received on average by participants. Last but not least, the mean for positive social interaction and tangible social support were 12.0515 (SD=3.92) and 11.8252 (SD=3.98). Therefore, very high levels (albeit not the highest) of these types of support were received on average in our sample (highest category=16 for both types of support). None of the four social support variables are skewed as the kurtosis values (affection: 1.450, emotional/informational support: 1.166, positive social interaction: 0.594 and tangible social support: 0.402) falls within the ranges of +/- 3 (skewness is reported as -1.367, -1.219, -1.019 and -.985 respectively for the types of social support analyzed in our sample). The highest levels of support for all four types of support are the values below which 95% of the responses fall (Spss & Base, 2017), illustrated in Table 1.2.

Table 2 Independent variable frequencies and percentages

Variable	N	%
Perceived mental health		
Poor	28	.7
Fair	228	5.5
Good	1109	26.7
Very Good	1614	38.8
Excellent	1183	28.4
Age		
65 to 69	503	12.1
70 to 74	730	17.5
75 to 79	868	20.9
80 to 84	953	22.9
85 and older	1107	26.6
Gender		
Male	766	18.4
Female	3397	81.6
Affection Support: Mean SD	9.52	2.89
Positive Social Interaction Support: Mean SD	12.14	3.92
Emotional/Informational Support: Mean SD	24.80	7.41
Tangible Social Support: Mean SD	11.83	3.98

Covariates

The covariates in this study were selected based on the loneliness literature (De Koning, Stathi, & Richards, 2017; Hawkley & Cacioppo, 2010). Available measures include: cultural/racial origin, personal income, respondent highest education level, self-perceived health status, the health utilities index variable (comprised of 13 health variables) and lastly, the chronic conditions variables, presented below.

Cultural/racial origin

Cultural/racial origin is dichotomized in the CCHS-HA data set as White (reference category) and Non-White cultural backgrounds. The majority of respondents were of White cultural/racial background (90.4%, n=3763). All missing cases (1.3%, 52) are recoded to the modal category.

Personal Income

Personal income indicates the respondents' personal income (Statistics Canada, 2010). This variable was categorized into income ranges of less than $10,000 (reference category), $10,000-$19,999, $20,000-$29,999, $30,000-$30,999, $40,000-$49,999 and $50,000 or more. A personal income of $20,000-$29,999 was reported by most respondents (50.4%, n=2096), which also happened to be the modal and mean categories. An income of less than $10,000 (reference category) was reported by the least number of respondents (2.1%, n=87). Missing cases (1439, 34.6%) are recoded to the mean. Personal income is treated as an interval variable (income_recoded) in the regression analyses.

Education

Respondents were asked to report their education level ranging from less than secondary school education (reference category), secondary graduate, other post-secondary education and post-secondary graduate. The majority of respondents reported to have attained less than secondary school education (54.0%, n=2246), representing both the mode and median categories. The least number of respondents reported to have attained a form of other post-secondary education (3.8%, n=160). Missing cases (49, 1.2%) are recoded to the median. Highest level education is recoded as an interval variable (educ_recoded) in order to perform the regression analyses.

Self-perceived health status

Respondents were asked to rate their perceived health status ranging from poor (reference category), fair, good, very good and excellent. Most respondents rated their perceived health status as good (34.4%, n=1431), representing both the median and modal categories. The least number of respondents rated their perceived health status as poor (6.3%, n=263), which is the reference category. Missing cases (5, 0.1%) are recoded to the median. Self-perceived health status is recoded as an interval variable (health_recoded) in order to perform the regression analyses.

Health Utilities Index (HUI)

The Health Utilities Index variable provides an overall health utility score of the respondent based on eight attributes: vision, hearing, speech, ambulation, dexterity, emotion, cognition and pain (Statistics Canada, 2010). Scores range from 1.00 (perfect health) through 0.000 (health status equated to death) to -0.360 (health status equated to worse than death); hence higher scores suggest a better health index (Statistics Canada, 2010). The majority of respondents reported a high HUI of 0.97 (20.7%, n=860). The mean of the current subsample with a reported HUI is 0.7403 (standard deviation 0.2685). Missing cases are recoded to the mean (162, 3.9%).

Chronic conditions

Respondents were asked to provide the number of chronic conditions they have, ranging from 0 to 16. Most respondents reported having 2 chronic conditions (18%, n=748). The sample has a mean of 3.45 (SD= 2.36) chronic conditions. There are no missing cases.

Table 3 Covariate frequencies and percentages

Variable	N	%
Cultural/Racial Origin		
White	3763	90.4
Non-White	400	9.6
Personal Income		
Less than $10,000	87	2.1
$10,000-$19,999	1198	28.8
$20,000-$29,999	2096	50.4
$30,000-$30,999	341	8.2
$40,000-$49,999	158	3.8
$50,000 and over	282	6.8
Education		
Less than secondary school education	2246	54.0
Secondary school graduate	617	14.8
Other post-secondary education	160	3.8
Post-secondary graduate	1140	27.4
Self-perceived health status		
Poor	263	6.3
Fair	835	20.1
Good	1431	34.4
Very Good	1147	27.6
Excellent	486	11.7
Health Utilities Index (HUI) Mean SD	0.74	0.27
Chronic conditions Mean SD	3.45	2.36
None	311	7.5
At least two	748	18.0

Quantitative Analyses

This section describes the multivariate analyses used to test the hypotheses of this research. All analyses were performed using IBM SPSS Statistics Version 25 software. The multivariate analyses are described followed by a summary of the quantitative findings.

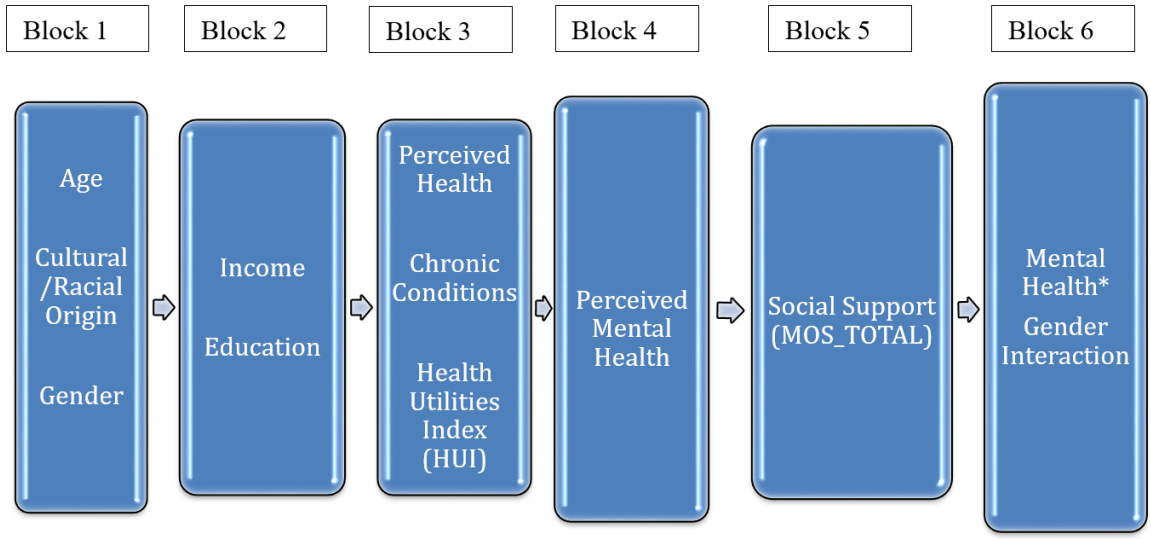
Regression Analyses

Linear regressions are performed to closely examine the linear relationships between the dependent and independent variables (Abu-Bader, 2011) and to assess the effect of various independent variables on the dependent variable (loneliness scale). These variables are hierarchically ordered and organized in sequential blocks based on research literature. R-squared (R^2) "represents the amount of variance (%) in the dependent variable explained by the independent variable" (Abu-Bader, 2011, p. 75). Adjusted R-Squared (R^2) adjusts the R-squared
estimate based on the number of independent variables that are entered in the regression analysis (Abu-Bader, 2011). The strength and direction of the associations in the regression analyses are determined by the beta coefficients, and their sign, shown in the analyses.

The multiplicative interaction term and separate sub analyses on gender are used to perform the regression analyses. The multiplicative interaction term is used to test whether or not the joint effect of gender and perceived mental health has an impact on loneliness above and beyond all main effects. Hence, the multiplicative interaction term that is used in the regression is mental health * gender interaction, as shown in Figure 1.1 below. The multiplicative interaction term is run separately on the last block to interpret all of the main effects before interpreting the interaction term. The separate sub analyses on gender will then be used to test for an interaction effect between gender and perceived mental health on loneliness. By producing separate regressions for males and females, the separate sub analyses on gender allows for a simplified and more sensitive examination of gender * mental health interactions by allowing us to compare coefficients of 20% change or greater to assess interactions. The gender variable and multiplicative interaction terms are both removed when running a separate sub analyses on gender, as the inclusion of these variables would hinder the sub analyses to run regressions on gender separately.

A total of six blocks are used in the hierarchical model to examine gender interactions. Age, gender and cultural/racial origin variables are selected as the variables for the first block. This is followed by income and education as the variables for the second block. Health variables (perceived health, chronic conditions and health utilities index) are selected as the variables for the third block. Perceived mental health is the only variable that is selected for the fourth block. All of the four social support subscales (affection, emotional or informational support, positive social interaction and tangible social support) are combined into one scale to allow for a more simplified examination of the regressions. This new variable MOS_Total is selected as the only variable for the fifth block. Finally, the last block consists of the multiplicative interaction term (mental health * gender interaction). The variables were organized in this sequence as previous literature suggests that age, cultural/racial origin and income and education generally precede health and perceived mental health (Jeon, Jang, Kim, & Cho, 2013; Siegel & Kuykendall, 1990; Umberson, Wortman, & Kessler, 1992). Since social support is being tested for its buffering (mediating) effect between perceived mental health and loneliness, it was added to the final block. The hierarchical model used to run the multiplicative interaction term is presented in Figure 1.1 below.

Figure 1: Hierarchical Modeling for Multiplicative Interaction Term



Results of Regression Analyses

OLS Hierarchical regression with multiplicative interaction

The first series of OLS Regressions on loneliness was conducted using a multiplicative interaction term. The main findings are presented below, followed by a table highlighting the findings for all six blocks.

Overall, the model explained 18.0% of the variance in loneliness among widowed older adults in the sample. Block 2 was the only model that was not statistically significant (p>.05).

Block 1

Inclusion of the age group, cultural/racial origin and gender variables in block 1 explained 0.3% (p<.01) of the variance in loneliness. Both age group variables were statistically significant, with a weak negative association with loneliness using Age group 65-74 as the reference category (Age group 75-84: b = -.039, p<.05; Age group 85 plus: b = -.049, p<.01), suggesting that widowed older adults in higher age groups have lower levels of loneliness. Last but not least, a weak inverse association was found for gender (using females as the reference category) and loneliness (b = -.039, p<.05). Culture was the only variable in block 1 found not to be statistically significant (p>.05).

Block 3

Inclusion of the perceived health, chronic conditions and health utilities index (HUI) variables in block 3 explained 7.3% variance in loneliness (p<.001). Both age group variables (using 65-74 as the reference category) maintained a weak negative association with loneliness (Age group 75-84: b = -.072, p<.001, Age group 85 plus: b = -.118, p<.001). Gender (using females as the reference category) was found to have a weak inverse association with loneliness (b = -.047, p<.01). Unlike in the previous model, education (reference category: less than secondary school education) was found to be statistically significant (b = .035, p<.05), with a positive weak association with loneliness; suggesting that higher education levels are associated with higher levels of loneliness. The variables perceived health (reference category: poor) and health utilities index (HUI) were both found to have an inverse weak association with loneliness (b =

-.098, p<.001; b = -.199, p<.001, respectively); indicating that widowed older adults with high levels of perceived health and a high health utilities index (HUI) are found to have lower levels of loneliness. Last but not least, the chronic conditions variable was found to have a positive weak association with loneliness (b = .037, p<.05); suggesting that a higher number of chronic conditions are associated with high levels of loneliness among widowed older adults. Culture and income were the only variables found not to be statistically significant in this block (p>.05).

Block 4

Inclusion of the mental health variable in block 4 explained 8.3% variance in loneliness (p<.001). Both age group variables (using Age group 65-74 as the reference category) maintained a negative weak association with loneliness (Age group 75-84: b = -.071, p<.001; Age group 85 plus: b = -.110, p<.001). Gender (using females as the reference category) also maintained an inverse weak association with loneliness (b = -.043, p<.01). Education (reference category: less than secondary school education) had a positive weak association with loneliness (b = .040, p<.05). The variables perceived health (reference category: poor) and health utilities index (HUI) were found to have an inverse weak association with loneliness in this model (b = -.080, p<.001; b = -.177, p<.001, respectively). The chronic conditions variable was found to be statistically significant in model 4, maintaining a positive weak association with loneliness (b = .040, p<.05). Last but not least, mental health (reference category: poor) was found to have an inverse weak association with loneliness (b = -.105, p<.001); suggesting that widowed older adults with higher levels of positive perceived mental health are found to have lower levels of loneliness. As found in the precious block, culture and income were the only variables found not to be statistically significant in block 4 (p>.05).

Block 5

Inclusion of the social support subscales in block 5 (affection, emotional & informational support, positive social interaction and tangible social support) explained 17.8% variance in loneliness (p<.001). As in the previous models, both age group variables (using Age group 65-74 as the reference category) maintained a negative weak association with loneliness (Age group 75-84: b = -.065, p<.001; Age group 85 plus: b = -.101, p<.001). The variables perceived health (reference category: poor) and health utilities index (HUI) were found to have an inverse weak association with

loneliness in this model (b = -.051, p<.01; b = -.144, p<.001, respectively). The chronic conditions variable maintained a positive weak association with loneliness (b = .048, p<.01). Mental health (reference category: poor) maintained an inverse weak association with loneliness in this model (b = -.075, p<.001). The social support subscales were found to have an inverse moderate association with loneliness (b = -.319, p<.001); suggesting that widowed older adults with high levels of social support have lower levels of loneliness. Culture, gender, income and education were not statistically significant in this block (p>.05).

Block 6

Inclusion of the mental health and gender interaction term in the final block explained 18.0% variance in loneliness (p<.01). The age group variables (using Age group 65-74 as the reference category) maintained a negative weak association with loneliness in the last model (Age group 75_84: B= -.064, p<.001; Age group 85 plus: B= -.101, p<.001). The model shows that gender (using females as the reference category) has maintained a positive moderate association with loneliness (B= .291, p<.01). Perceived health (reference category: poor) and health utilities index (HUI) maintained an inverse weak association with loneliness in the final model (B= -.053, p<.01; B= -.142, p<.001, respectively). The chronic conditions variable maintained a positive weak association with loneliness (B= .049, p<.01) again in this model. The social support subscales maintained an inverse moderate association with loneliness (B= -.320, p<.001). Last but not least, the mental health and gender interaction term was found to have an inverse moderate association with loneliness (B= -.340, p<.01). This finding indicates that widowed older women who report high levels of positive perceived mental health status experience lower levels of loneliness. Hence, the finding supports the hypothesis of a gender and mental health interaction, although taking into account older women in the interaction. Culture, income, education and mental health were not statistically significant in the final block (p>.05).

Buffering effect

In order to assess whether social support buffers or mediates the association between poor mental health and loneliness among widowed older adults, the differences in the beta coefficients between blocks 5 (where the social support subscales were added) and 6 (the final model) were taken into account using the formula (T2-T1/T2). A

buffering effect normally occurs if there is a 20% or greater percentage difference. In model 5 the beta coefficient for social support (MOS_Total) was *b* = -.319, whereas the beta coefficient for social support in model 6 was *b* = -.320. Thus, the percentage comparison resulting from this difference is .31%. Since this percentage comparison is less than 20%, this implies no buffering effect, and hence, this finding does not support the final hypothesis that social support will mediate the association between poor mental health and loneliness among the sample of widowed older adults. While it was clear that there was no buffering effect when conducting a linear regression using the gender and mental health interaction term, the occurrence of a buffering effect will be tested once again when conducting a linear regression using a separate sub analyses on gender, discussed below.

Table 4 Ordinary Least Squares Regression on Loneliness using Multiplicative Interaction term

Variables	B1	B2	B3	B4
Block 1				
Age				
75-84	-.039*	-.037*	-.072***	-.071***
85+	-.049**	-.047*	-.118***	-.110***
Cultural origin	.017n.s.	.020n.s.	.010n.s.	.005n.s.
Gender	-.039*	-.036*	-.047**	-.043**
Block 2				
Personal Income	-	.008n.s.	.017n.s.	.018n.s.
Education	-	.019n.s.	.035*	.040*
Block 3				
Self-perceived health	-	-	-.098***	-.080***
HUI	-	-	-.199***	-.177***
Chronic	-	-	.037*	.040*
Block 4				
Perceived mental health	-	-	-	-.105***

Variables	B5	B6
Block 1		
Age		
75-84	-.065***	-.064***
85+	-.101***	-.101***
Cultural origin	-.005n.s.	-.005n.s.
Gender	.000n.s.	.291**
Block 2		
Personal Income	.018n.s.	.017n.s.
Education	.027n.s.	.027n.s.
Block 3		
Self-perceived health	-.051**	-.053**
HUI	-.144***	-.142***
Chronic	.048**	.049**
Block 4		
Perceived mental health	-.075***	.093n.s.
Block 5		
Social Support (combined)	-.319***	-.320***
Block 6		
Interaction term	-	-.340**

Significance levels: *=p<0.05, **=p<0.01, ***=p<0.001, n.s.=not statistically significant

OLS Hierarchical Regression on Loneliness using Separate Sub Analyses:

The following series of OLS Regressions on loneliness was conducted using the separate sub analyses on gender. While a table is not shown for this set of analyses, the main findings however, are presented below showing the findings for men followed by women.

Males

Overall, the model explained 16.1% of the variance in loneliness among widowed older men in the sample. Education, perceived health, the health utilities index (HUI) and chronic conditions variables were all statistically significant in block 4. Education (reference category: less than secondary school education) was found to have a positive weak association with loneliness (b = .088, p<.05). The perceived health (reference category: poor) and the health utilities index (HUI) variables maintained an inverse weak association with loneliness (b = -.137, p<.01; b = -.179, p<.001, respectively). Last but not least, the chronic conditions variable maintained a positive weak association with loneliness (b = .082, p<.05) in block 4. Blocks 1, 2 and 4 were the only blocks that were not statistically significant (p>.05). All of the variables within blocks 1 and 2 (Age group 75-84 and 85 plus, culture, income and education) were all found to be not statistically significant (p>.05). In block 4, age group (75-84 and 85 plus), culture, income and mental health were variables that were not statistically significant (p>.05).

Block 3 (males)

Inclusion of the perceived health, chronic conditions and health utilities index (HUI) variables in block 3 explained 10.0% variance in loneliness (p<.001). Education (reference category: less than secondary school education) was found to have a positive weak association with loneliness (b = .086, p<.05); suggesting that higher education levels are associated with higher levels of loneliness among widowed older men. The variables perceived health (reference category: poor) and health utilities index (HUI) were both found to have an inverse weak association with loneliness (b = -.145, p<.001; b = - .183, p<.001, respectively); suggesting that widowed older men with high levels of perceived health and a high health utilities index (HUI) are found to have lower levels of loneliness. Last but not least, the chronic conditions variable was found to have a positive weak association with loneliness (b = .082, p<.05); suggesting that a greater number of chronic conditions are associated with high levels of loneliness among

widowed older men in block 3. Age group 75-84 and 85 plus, culture and income were the only variables found not to be statistically significant in this block (p>.05).

Final Block (males)

Inclusion of the social support subscales in block 5 (affection, emotional & informational support, positive social interaction and tangible social support) explained 16.1% variance in loneliness (p<.001). Education (reference category: less than secondary school education) was found to have a positive weak association with loneliness again in the final model (b = .075, p<.05). As reported for previous models, the variables perceived health (reference category: poor) and health utilities index (HUI) were found to have an inverse weak association with loneliness in this model (b = -.111, p<.01; b = -.164, p<.001, respectively). The chronic conditions variable maintained a positive weak association with loneliness as it did in the previous blocks (b= .094, p<.05). Lastly the social support subscales were found to have an inverse moderate association with loneliness (b = -.257, p<.001); suggesting that widowed older men with high levels of social support have lower levels of loneliness. Age group 75-84 and 85 plus, culture, income and mental health were the variables found not to be statistically significant in the final block (p>.05).

Females

Overall, the model explained 19.0% of the variance in loneliness among widowed older women in the sample. All of the variables within block 2 (age group 75-84, culture, income and education) were all found to be not statistically significant (p>.05), with the exception of the age group 85 plus variable, using 65-74 as the reference category (b = -.062, p<.01). Block 2 was the only block that was not statistically significant (p>.05).

Block 1 (females)

Inclusion of the age group and cultural/racial origin variables in the first block explained 0.3% variance in loneliness (p<.01). All of the variables within block 1 (age group 75-84 and culture) were not statistically significant (p>.05), with the exception of the age group 85 plus variable (using Age group 65-74 as the reference category) which maintained an inverse weak association with loneliness (b = -.066, p<.01). This finding suggests that widowed older women in higher age groups have lower levels of loneliness.

Block 3 (females)

Inclusion of the perceived health, chronic conditions and health utilities index (HUI) variables in block 3 explained 6.9% variance in loneliness (p<.001).

Both age group variables (using 65-74 as the reference category) maintained a negative weak association with loneliness (Age group 75-84: b = -.069, p<.01; Age group 85 plus: b = -.132, p<.001); suggesting that widowed older women in higher age groups have lower levels of loneliness. The variable perceived health (reference category: poor) was to found to have an inverse weak association with loneliness (b = -.085, p<.001), while the health utilities index (HUI) variable maintained an inverse moderate association with loneliness (b = -.201, p<.001) in block 3; indicating that widowed older women with high levels of perceived health and a high health utilities index (HUI) are found to have lower levels of loneliness. Culture, income, education and chronic conditions were the only variables found not to be statistically significant in this block (p>.05).

Block 4 (females)

Inclusion of the mental health variable in block 4 explained 8.2% variance in loneliness (p<.001). Both age group variables (using 65-74 as the reference category) maintained a negative weak association with loneliness (Age group 75-84: b = -.065, p<.01; Age group 85 plus: b = -.122, p<.001). Income (reference category: less than $10,000) was found to have a positive weak association with loneliness (b = .034, p<.05); suggesting higher levels of income are associated with higher levels of loneliness among widowed older women. The variables perceived health (reference category: poor) and health utilities index (HUI) were found to have an inverse weak association with loneliness in this block (b = -.067, p<.001; b = -.174, p<.001, respectively). Last but not least, mental health (reference category: poor) was found to have an inverse weak association with loneliness (b = -.122, p<.001); suggesting that widowed older women with higher levels of positive perceived mental health are found to have lower levels of loneliness. This finding is consistent with the findings from the first linear regression using the multiplicative interaction term. Culture, education and chronic conditions were the only variables found not to be statistically significant in this model (p>.05).

Final Block (females)

Inclusion of the social support subscales in block 5 (affection, emotional & informational support, positive social interaction and tangible social support) explained 19.0% variance in loneliness (p<.001). As in the previous block, both age group variables (using 65-74 as the reference category) maintained a negative weak association with loneliness in the final block (Age group 75-84: b = -.062, p<.01; Age group 85 plus: b = -.117, p<.001). The variables perceived health (reference category: poor) and health utilities index (HUI) again maintained an inverse weak association with loneliness in this block (b = -.039, p<.05; b = -.134, p<.001, respectively). The chronic conditions variable was found to have a positive weak association with loneliness (b = .041, p<.05); suggesting that a greater number of chronic conditions are associated with high levels of loneliness among widowed older women. As with block 4, mental health (reference category: poor) was found to have an inverse weak association with loneliness (b = -.096, p<.001). Last but not least, the social support subscales were found to have an inverse moderate association with loneliness (b = -.336, p<.001); suggesting that widowed older women with high levels of social support have lower levels of loneliness. Culture, income and education were the only variables found not to be statistically significant in this block (p>.05).

Buffering effect

A buffering or mediating effect of social support was tested again in this linear regression using the separate sub analyses on gender by assessing the percentage differences in the beta coefficients between men and women in the final block (block 5: where the social support subscales were added). Again these differences were assessed using the formula (T2-T1/T2). In block 5 the beta coefficient for social support (MOS_Total) among men was b = -.257, whereas the beta coefficient for social support among women in block 5 was b = -.336. Thus, the percentage comparison resulting from this difference is 23.5%. Since this percentage comparison is more than 20%, this implies a buffering effect, and hence, this finding supports the final hypothesis that social support mediates the association between poor mental health and loneliness among the sample of widowed older men and women.

Summary of Quantitative Findings

The regression analyses reveal inverse weak relationships between perceived mental health and loneliness that are maintained throughout the hierarchical modeling using the multiplicative interaction term and the separate sub analyses for women. A gender interaction effect was supported in the analyses. An inverse moderate association between the interaction term (gender * mental health) and loneliness suggested that widowed older women who reported high levels of positive perceived mental health status experienced lower levels of loneliness. Furthermore, inverse weak to negligible associations between gender and loneliness is demonstrated by the regression findings; however yet again, a stronger association between the variables is required to support an association between gender and loneliness in the sample. A buffering effect did not occur in the regression using a multiplicative interaction term, as the percentage comparison resulting from the differences in the beta coefficients was less than 20%; implying no buffering effect. However, a buffering effect did occur when the separate sub analyses on gender was used to run a regression. The percentage comparison resulting from the differences in the beta coefficients in the separate sub analyses was more than 20%, implying a buffering effect. Hence, this finding supports the final hypothesis that social support mediates the association between poor mental health and loneliness among the sample of both widowed older men and women.

The qualitative data will attempt to further examine whether social support will buffer the effects of poor mental health and loneliness among widowed older adults. In addition, it will further explore the association between gender, poor mental health outcomes and loneliness, particularly examining whether or not widowed women who report high perceived mental health levels experience lower levels of loneliness in comparison to widowed men, as described in the following section on qualitative data.

Qualitative Data

This phase of the research serves to contextualize the experiences of widowed older adults by exploring the subjectivities of their experiences, specifically how and why they are affected by bereavement. Recruitment strategies, data collection, data analysis, major thematic categories as well as a summary of the qualitative findings are detailed.

Recruitment Strategies

For this supplementary study, the primary researcher initially contacted various bereavement counseling centres and support groups to recruit participants. However, all but one of the bereavement centers declined assisting with recruitment for this study due to the early stages of grief that some of their clientele were experiencing and the timelines for recruitment. The one bereavement center that consented assumed a passive role in recruiting participants from their centre by allowing the primary researcher to leave information about the study for their clientele. Only 1 volunteer from the Delta Hospice showed interest in taking part in this study and was recruited. Afterwards, mass emails and recruitment flyers were disseminated to retiree associations (from which several participants were recruited), seniors centres and private supportive housing providers and other agencies or organizations that primarily serve older adults. In the end, 20 participants were recruited through purposive sampling and snowball sampling methods.

The emails and study flyers that were distributed to various agencies and associations advertised the purpose of the study and the criteria to participate. These included: older adults between the ages of 65 to 85 who are widowed, the study requiring participants to be interviewed, the length of the interview, the voluntariness and confidentiality guaranteed as a participant. An offer of a five-dollar gift card to Tim Horton's for participating was also communicated. It was also stated that the study received ethics approval prior to recruiting participants. Participation in the study was determined by the participant's signed consent to participate in the study, which occurred after the primary researcher read aloud the consent form in its entirety to the participants prior to the interviews. After receiving the participant's signed consent, the primary researcher provided a five-dollar gift card to the participants and then proceeded with the interview. Participant's personal information was securely stored in a separate file on the primary researcher's password protected personal computer and shared with only members of the supervisory committee for research purposes. Any personal

information identifying a participant has been excluded in this report to protect the anonymity of the participants.

Data Collection

Data were collected via face to face interviewing from 20 individuals who identified as widowed older adults between 65 to 85 years of age principally in public settings and in some cases, the homes of the participants. The average length of widowhood self-reported by participants in the study was between 1 to 22 years. While the length of widowhood for this study was initially set to 2 to 7 years, this criterion was later removed in order to allow more flexibility in recruiting participants. Interviews generally lasted between 60 to 90 minutes and were audio recorded by the interviewer. Short notes were recorded by the interviewer to accompany the audio recording. An interview guide was developed by the primary researcher prior to interviewing participants (see Appendix E) and was also submitted to the SFU Office of Research Ethics for review. These questions were intended to serve as a guide to direct the flow of the interviews and hence, not all of the questions were strictly followed during the interviews and in the same sequence that is outlined in the guide. The guide consists of a total of 10 questions including several probing questions regarding the participant's living arrangement prior to widowhood, widowhood experience and adjustment, social support and the role of bereavement centers or counseling services in helping them cope (if the participant has or ever had accessed bereavement counseling after the loss of their spouse). Contextual and sociodemographic questions were also included in the beginning of the guide to capture these particular aspects of the participants experiences as well. These questions were formulated based on the key findings that emerged in the literature review and the quantitative analyses related to the roles of social support, mental health, loneliness and gender among widowed older adults.

Data Analysis

Interviews were transcribed from the audio recordings and imported into the NVivo 12 data analysis software to generate unique themes that emerge from the data. The contextual, constructed, complex and subjective nature of participants widowhood experiences, aligned with the principles of interpretive description, was acknowledged when analyzing the data (Thorne, Kirkham, & O'Flynn-Magee, 2004; Thorne, Kirkham, & MacDonald-Emes, 1997). Interview transcripts and notes were reviewed and compared

and the entire data was annotated prior to coding, to enhance the rigor and trustworthiness of the findings.

Coding, also known as the process of indexing or tagging important pieces of data, is performed to make better sense of the data in relation to the research hypotheses (Elliott, 2018). Various portions of the interview data were assigned codes and organized into thematic categories. Major thematic categories as well as sub-themes were identified. There were also thematic categories that fell outside of the primary research questions, but deemed relevant, and hence discussed in the summary. Detailed descriptions of the major thematic categories arising from the interview data are described below.

Major Thematic Categories

The following section will describe the major themes and subthemes that emerged from the interview data. While one overarching theme (Widowhood adjustment) emerged from the data, several subthemes from that theme also surfaced. The theme and subthemes are presented below.

Widowhood Adjustment

Processes of widowhood adjustment represent the largest overarching theme that emerged from the findings. This theme contains various subthemes regarding major changes and challenges participants noticed in their day to day life after the loss of their spouse, and strategies they used to cope or adjust to these challenges, including the support of family and friends and the role of bereavement services in helping them cope. The major subthemes of this category are discussed below in order of importance.

Changes noticed after loss of spouse

Mental health challenges

Mental health challenges emerged as the most prominent challenge and noticeable change participants faced after the loss of their spouse. Depression was one of the mental health challenges that participants experienced after the loss of their spouse. Some participants reflected on the challenges of battling depression after the loss of their spouse and how the support of their social connections have helped them cope:

> That actually pulls me out of a little bit of the depression that I was, because the one thing on there is depression, and that kind of pulled me out of that because of the amount of people (F, 75).

Along with depression, suicide ideation was another major challenge faced by participants when they became widowed. In some cases, participants felt suicidal after the loss of their spouse in spite of having adequate financial and social resources to sustain themselves. As noted by one participant:

> And then my friends, I had good colleagues at work who were – I think they set up, when I was sick the second time, they set up a network, but they did this after Peter died too, they made sure that I had social engagements. One of my closest friend's husband died the same time, so we used to spend a lot of evenings together weeping. And so Janice was – her son is my son Adrian's best friend, so the two boys and Janice and I kind of supported each other during that time. So I felt very, very lucky, because although I was a widow when I had financial resources, and two, I had a very supportive family and group of friends. But even so I felt suicidal, so and why I'm not entirely sure. I think I recognized that I was going to have to reinvent myself and I wasn't sure I was up to it (F, 71).

Others felt suicidal, however decided against taking their own lives upon reflecting on the impact it would have on their families (n=2). Self-reported post-traumatic stress disorder was another major challenge that was identified by one participant after the loss of her spouse:

> Right. And I was thinking, I've been reading a lot lately about the post-traumatic stress and certainly I think my daughter suffered a certain amount of post-traumatic stress after her father died, and I probably did too. But I don't – and fortunately she was at the time – I think she was at that time doing her certificate at one of the colleges in counseling and she worked as a counselor for children to witness abuse for many years. And during that time she had a clinical consult monthly, so she got a fair amount of advice, and she got advice on how to deal with me as well because I remember, she told me, I was worried about you and I spoke to my counselor and she said that blah, blah. So I think that there was some of that going on in our family (F, 71).

Many participants (n=13) reported feeling lonely or isolated after the loss of their spouse. The majority of participants reported feeling lonely at the time while feeling depressed. As reflected by one participant, the sense of loneliness became more apparent to her when she would reminisce the day to day moments spent with her spouse:

> Yeah, same time. And they told my kids to be with her all the time. And…yeah, but I couldn’t believe that he is no more in the house. It was our feeling that he is coming from—because when he used to go shopping or anywhere, I come from somewhere or I’m home or I know he goes somewhere and only three four hours he stay he used to come home, watch TV, come home and then every time I

> used to move my blind and wait every ten four minutes I in the house I go do something and I again come and see he's coming, he's coming all the time. So…yeah and he used to come and sit down outside on the terrace. So that those things me I was missing a lot about him and I couldn't sleep at night that I because every time I used to come from somewhere he used to come with me, open the door for me and he go smoke and ask me to go inside at night like when I come from somewhere. And those things made me very sick remembering all the time, telling to his sisters all the time. They used to come and sit with me, spend night with me (F, 67).

Several participants (n=4) expressed that they had missed the presence of their spouse in their lives and often equated the loss of their spouse to losing a companion. A sense of emptiness or void in regards to the loss of their spouse was also described by participants (n=2). In connection to a sense of loneliness and emptiness, some participants (n=2) also expressed that they felt "bereft…[since they] have this level of intimacy with somebody for so many years" (F, 78). Three participants (n=3) referred to the loss of their spouse as one half of themselves as remaining and the other half as gone.

Interestingly, a range or fluctuation of emotions was noted by a few participants as a mental health challenge they faced (n=3). One participant described experiencing many of the emotions she had learned about through a counseling service that she had accessed after the loss of her spouse:

> It gives you a list of all the possible things that you're going to go through, and unfortunately I didn't go quick enough to it, so I experienced most of the list before I even started the Grief Share. So they said, well, you went through the anger, you went through the anguish, you went through that – I don't know why I did this, I don't know what happened, and everything that goes along with a sudden death. So that's exactly what happened with me, and I went through everything on that list. I said, oh, I've gone through that. Have you gone through the anger? Oh my goodness, yes, that was the longest one (F, 75).

It is interesting to note that even among the participants who felt a range of emotions after the loss of their spouse, loneliness was a recurring emotion they experienced.

The inability to convey feelings to others was also expressed as a challenge (n=3), with participants reflecting on how they were unable to express how they felt to others after the loss of their spouse, with whom they would normally share their feelings with.

Two participants (n=2) commented on experiencing complicated emotions such as remorse after the loss of their spouse. One participant for instance expressed feeling remorseful for not spending enough time with her spouse in his final days:

> Yeah, I felt enormous guilt over the fact that I probably should have in his last few months, I probably should have quit work and stayed home. But I asked him, if he wanted me to, and he said, no, you were just going to stare at me all the time, I don't really want you to do that. But he also, I think he taught, he was teaching in the liberal studies program and he was teaching classes to seniors, in the seniors program. He was still teaching probably six weeks before he died. So I would say to people he's the healthiest dying person I know, and he was dying. And I wished afterwards I, you know, I spent a lot of time thinking why was I ever late for dinner, why didn't I stay home, you know, all of those kinds of things that you think. And finally somebody said to me, torturing yourself that way is not helpful, doesn't change the past, it's not helping you, certainly not helping anybody around you. So remorse is a very destructive emotion and I think it's hard for people not to have remorse but something. And certainly for me, it was, did I spend enough time, was I there when I should have been... (F, 71).

In addition to the challenges previously noted, feelings of general grief over the loss of a spouse was expressed quite frequently by participants (n=8). Grief over the loss of a spouse was recognized as a recurring challenge that many participants faced even during the interviews when they reminisced about important memories of their spouse. Most women expressed feeling depressed and lonely after the loss of their spouse in the interviews, however since there were more female participants to begin with (n=17), more male participants would be needed to allow us to correctly infer these gender differences with respect to coping with bereavement.

Physical health challenges

After mental health challenges, physical health was noted as a major challenge that participants underwent after the loss of their spouse (n=11). Several physical health ailments were mentioned throughout the interviews. Interestingly, changes in one's appetite was a major challenge participants faced after the loss of their spouse. Some participants commented on losing their appetite or having a lack of preferred food choices available to them after the loss of their spouse (n=5). A loss of appetite was sometimes attributed to not being accustomed to making meals which happened to be a responsibility of one's deceased spouse (n=1). Difficulties in sleeping and drinking excessive alcohol were other challenges expressed by only one participant. Another

participant (n=1) described not having experienced any physical health challenges after the loss of her spouse.

Although physical health ailments were expressed as a challenge that participants encountered after the loss of their spouse, in some contexts it was described as a diversion from focusing on one's widowed status as reflected by one participant:

> But then I broke my arm, walking to work, I tripped down the sidewalk and broke my arm. And then shortly after that I discovered I had a lump on my neck which turned out to be neck cancer. So essentially two years after my husband died, physically my system broke down and there are a variety of theories about why. The dengue fever was possibly an attack on my immune system that might have made me vulnerable to cancer, so I had – it turns out that my cancer was HPV 16 related and I had no idea that I had the HPV 16 virus, which I had probably since I was 20; and until my immune system collapsed, it wasn't a problem. So I had a major health collapse which took my mind off the fact that I was a widow (F, 71).

Changes in relationships

Some participants noted changes in their relationships with family and/or friends after the loss of their spouse. Some participants (n=2) reflected on feeling excluded or forgotten by their circle of friends when they became widowed. One participant however, expressed being included by her friends even after the loss of their spouse. In connection with being included or excluded by their network of friends, some participants (n=2) also revealed feeling like an outsider by their acquaintances due to their widowed status. One particular participant reflected on the overall difficulties of maintaining her friendships as a result of the development of age-related cognitive issues she is noticing in her friends:

> I did have a very, very good friend in church when I was in my…Christian fellowship, and she is three years older than me, so she's just about 80 and her mind is not just 100% anymore. So we tell her something, she forgets, and then she's phoning me…I thought you were going to be here on such and such a day. She forgets…Yeah, so I've left that go by the wayside now, it's just too frustrating to try to set something up with someone if they can't remember (F, 75).

A change in family dynamics after the passing away of a spouse was revealed by several participants as well. One participant reflected on the change in the family dynamics she noticed with her son and daughter-in-law after the loss of her spouse:

> And my son and my daughter-in-law lived close by, but the daughter-in-law and I never connected. She somehow kept feeling inferior and withdrawn, angry with

> me, I never knew what I was doing wrong. And when my son's dad passed away, he also withdrew instead of coming close. I think that's because of the situation, he was more with her family, so it was basically that you know on top of it that we couldn't bridge that. And that was another blow, it's like I lost another family member, not just my husband, but now I really lost my son, because he and his wife, you know, and he basically felt, yeah, leave and cleave… I believe that originally that was really hard (F, 82).

Relatable to this theme, the theme of family members having their own lives became apparent after participants (n=2) expressed how the relationships with their families slowed down as they were busy with their own commitments.

It is worthy to note here that while several of these comments expressed a negative sentiment, there were a few positive sentiments that expressed a rather positive or neutral sentiment regarding the change in participants' relationships after the loss of their spouse. One participant for example, mentioned how his circle of friends or social connections increased after the loss of his spouse. A few others (n=3) expressed not experiencing any change in their relationships after the loss of their spouse.

Adjusting or coping well with bereavement

Some participants (n=12) expressed that they have adjusted quite well to the loss of their spouse and had not experienced many of the challenges of bereavement shared by others, as demonstrated by one participant:

> I don't – I've been in a study for seniors and was declared a super senior, and their questions of course were, do you feel hatred. No, I answered…Do you feel like suicide, and the answers were all no. And are you ever depressed or – no. So somehow I'm, you know, I might as well, but I don't want to show off the certificate, but being super senior, they gave me a certificate, yeah. So this study, from UBC, they look at people over 90. You have to be a nonagenarian which is over 90, and they have all these questions about your psyche, etc. And it was nothing negative, yeah, I've lost my wife and I was quite sick before she died, seriously maybe because of pressure, but I overcame it (M, 91).

It appears that some participants (n=7) have adjusted well to the loss of their spouse when they voiced not feeling a need to access bereavement counseling services. Overall, participants who appeared to be well-adjusted, reported feeling less lonely or isolated than their counterparts.

Strategies of coping or adjusting to the loss of a spouse

Social support

Unsurprisingly, social support emerged as the most frequently mentioned strategy that has helped participants cope with the loss of their spouse. All participants spoke of how maintaining contact with various friends and family have been instrumental in helping them cope with widowhood (n=20). The importance of maintaining contact particularly with grandchildren was expressed by several participants (n=8). Some had reflected on how their grandchildren became a "saving grace" (F, 68) for them after the loss of their spouse and "gave [them] a reason to have to get up" (F, 77). The emotional and tangible support provided by family and friends was also mentioned frequently by participants after the loss of their spouse (n=20). In the words of one participant:

> I had wonderful support for my three children and their spouses, wonderful care and support. In the last year or so…they came to our apartment here in North Delta every Sunday for lunch…so which they catered. I had to do nothing because they wanted to spend time with their mother. That's just an illustration of the kind of support I had. Also, for the 10 days she was in the hospice, my three children were given time off work, all three of them were told to take as much time as they needed…no count against the leave, no account against the sick leave....And then after she died, the support from them continued, so that did make my life easier. I know of instances where children are angry and they won't talk to the surviving spouse, there's bitterness and all kinds of present stuff, but there's none of that with my family (M, 71).

The support provided to participants after the loss of their spouse did not only come from family and friends. In some cases, "neighbours" (F, 71) would provide support to participants. One participant mentioned how his spouse had supported him by being "physically…and morally there" (M, 69$^{1/2}$) when he had faced major physical health challenges. Four participants (n=4) also reflected on how they provided tangible and emotional support to their family and friends prior to and after the loss of their spouse. From what participants revealed, it was evident that emotional support was the most common form of support provided to and by participants after the loss of their spouse.

Accessing bereavement counseling

During the interviews, many participants had commented on how accessing bereavement centers/counseling services helped them cope with the loss of their spouse (n=10). Two participants (n=2) had mentioned accessing bereavement counseling

services at a hospice, while many others had mentioned accessing these services through a local support group in their communities, such as a church (n=8). The bereavement counseling services involved a series of programs or workshops to which participants would register and designed as a structured session for individuals who had suffered through a loss. Five participants (n=5) commented on how a variety of topics on grief would be covered in the sessions, as reflected by one participant:

> Well, they actually had a worksheet and the issues that we went through because they say like, you have the grief, and then you have the…works or everything and it ends with anger. But I never got the anger part, I don't know how you ever blame somebody for leaving you, because everybody is going to leave at some point. And it's interesting because my daughter-in-law, who lost my son, her husband, we discussed that too, because of course now I had another widow in my own family, even though a young widow, so we discussed these stages. And of course she is very intellectual too, so she was very aware (F, 78).

The services were typically referred to as group sessions in which "a couple of people would talk on subjects, topics," (F, 88) however in other cases, the services were described as a "one-on-one" (M, $69^{1/2}$) session in which the participant received individualized support from counselors and "different religious people" (M, $69^{1/2}$). Other participants received referrals from other sources to access bereavement services such as friends (n=1), the church (n=2), fortune-tellers (n=1), and from those residing in the same living quarters as the participants (n=1). One participant had received resources such as books from the bereavement services (n=1).

The majority of participants who accessed bereavement services to help them cope, voiced that they were satisfied with the support they received from the counseling service (n=4) and recommended others to seek timely help from these services (n=9).

The satisfaction of receiving support from the counseling service was also conveyed in how participants discussed the role of bereavement services in helping them adjust to widowhood. One participant for example, has noted how bereavement services has helped in "guiding [him] across" (M, $69^{1/2}$) on challenges he faced upon becoming widowed such as contemplating suicide. The bereavement services some participants have accessed have also helped in increasing their sense of resilience, noting that the service has helped them discover that they "can come through the other side and actually be stronger" (F, 61). Others have noted how the bereavement services has helped them bolster their faith as one participant described:

> No, it was different ones that were useful, some of them weren't for me, but like I said, everybody's different. They just kept me in touch with my faith, and they keep remembering that God is helping, is in charge and is helping us through it and he has ways of helping us, and so on. I found I could and Jesus is – it depends on you, if you have faith, it's a very basic thing for me (F, 88).

One participant has noted how being surrounded by others with similar experiences of grief in the counseling sessions was instrumentally helpful for her in her coping process. In this connection, participants expressed that the counseling sessions were helpful in allowing them to develop connections with others (n=2). The support provided by the counseling services was not just limited to participants who were grieving the loss of their spouse, but also to those who were anticipating the loss of their spouse. In one participant's case, the counseling group arranged for respite for her ailing husband so she would be able to take some time for herself:

> And even though when he was in the late stages that he couldn't, and I was the only one that take care of him, they sent me a nurse for staying with him for three hours so I can go out, I was leaving somebody with him at home because we cannot leave him in bed because he may fall down or something, he was so weak. That was the support that I received and I felt that three hours so I can go and have a break one time, I went to the movies okay, and the support of family but I have to be there and the last stage was preparing for that was coming. I was prepared (F, 76).

The bereavement services therefore acknowledge the importance of providing self-care support for grieving family members and caregivers both prior to and after the loss of their spouse.

While bereavement services were spoken about in a positive light by most participants, one participant voiced dissatisfaction regarding accessing counseling services (n=1), noting that the counseling group session she attended "weren't telling [her] something [she] didn't already know," (F, 68) and she reflected that she was "not that great at seeking advice from others" (F, 68) since she was used to giving others advice. A few individuals who did not seek help from bereavement services, attributed uncertainty and a lack of awareness as reasons for not accessing these services (n=3). However, it was noted that participants who had a lack of awareness of counseling services, expressed they would have accessed these services had they known about them (n=1). Participants reflections thus demonstrate the positive impact bereavement counseling has had even among those who had never accessed these services in the first place.

Interests/hobbies

Participants often mentioned that their involvement in a variety of interests and hobbies helped them cope or adjust to the loss of their spouse. Several individuals mentioned volunteering or helping/supporting others really helped them cope (n=7). The types of volunteering that participants engaged in included: volunteering at the church (n=3) and "at the hospice working with the hospice residents and their families" (M, 71) along with involvement with the community (n=5). Some participants who had been active volunteers all their lives have commented that they are slowing down their volunteering activities due to age and becoming pre-occupied with other commitments (n=2). Building connections with friends or interacting with others was an interest that several participants expressed (n=7), with one participant reflecting on her personal connections:

> Connections that you want interest to maintain…I have information that I know particularly to whom I read some news, some articles about certain things or exhibitions, I pass that to people that I know that they are selected. The other thing that's important for me to do is to remember the birthdays of my dear friends, and I used to send – my personal interest was to take pictures and make a card, personal card, but now emails – for example in Mexico it takes like three weeks to arrive or whatever it is. So I rather now send a message by emails knowing there is a birthday to acknowledge that we could be still connected to acknowledge this connection. For me, it is an important thing. So I have a calendar of whose birth are for the important people that is close to me…I have the information that comes to the internet in topics that are select and make me connected…(F, 76).

In relation to interacting with others, an interest in visiting family was also expressed (n=1). Involvement in activities related to faith appeared to be a strong interest to some participants, who expressed having an interest in visiting places of worship (n=5) and participating in classes offered at church (n=1). Other activities or interests to help cope with bereavement were discussed such as contributing to research (n=1), driving (n=1), listening to music (n=2), being involved with the church choir (n=1), reading (n=1), shopping (n=1), participating in physical activities (n=4), swimming (n=1), traveling (n=5) and watching television (n=1). These findings reveal that engagement in hobbies and activities had played an instrumental role in helping participants adjust to the loss of their spouse.

Personal philosophies

Throughout the interviews, participants made mention of personal philosophies they closely adhered to and that had also significantly helped in their coping process. Several participants for instance have expressed how their personal faith or spiritual beliefs helped them cope with the loss of their spouse (n=5). One participant reflected on how her faith had given her comfort in knowing that she is not alone after she lost her spouse:

> We had a big house, everything, I never felt that I am lonely or nothing, I was, you know what, Lord Krishna is my Lord, and I always think He's with me. I really think He is with me. And Hanumanji is another one (F, 79).

Another reflected on how her faith had helped her cope with the difficult relationship she shared with her son and daughter-in-law after the loss of her spouse:

> … And it helped me like especially with, like I said, with this difficult relationship with my son and daughter-in-law, it was very difficult because I wasn't allowed to have a relationship with the grandsons, only her side of the family. And how to when there is that kind of a fracture in your family, what do you do with that? And after you are hurt and angry and you keep praying… And coming to a place of peace, so that was a huge journey. I had peace, because of my husband's passing, I knew we had the five years of doing that together, and so my grief as far as my husband goes, was mostly, you know, I let him be and I was at peace, the fact that he is in heaven. And I think we did most of our grieving along the way. But then, a bigger grief was having to let go of the relationship that I imagined I would have with my son and daughter-in-law. That became even a bigger issue for me. But they are yet, you know, you have to accommodate to what they want to allow and what they don't allow, and I had to realize, they are on their own journey. But, instead of getting bitter and angry and retaliate and on and on, when I realize something like that coming up in my heart, I always had God's word, He says vengeance is mine. And I honestly pray for her, pray for my family, and we see each other for birthdays like we get together for birthdays, we are getting together with my daughter, it's her birthday this coming week. So even if it is somewhat strange, but at least I see them, right? (F, 82).

Participants conveyed the role of other philosophies in helping them cope with the loss of their spouse. One participant had expressed how her philosophy on acceptance has helped her cope with the loss of her spouse highlighting the important role of faith again:

> And I know a lot of women, I'm not comparing myself to them, but I'm telling myself that I was okay, I was right beside him, he was holding my hand when he took the last breath. And then and I called my son, he was here in Vancouver, I said your dad is gone, so I want you to be strong enough, but your sister, because has exams tomorrow, and I said, don't even tell her, I will tell her. She was a little weak, because she didn't expect it and we didn't tell her that he's in

> the hospital and all that, because it was her exams going on. So my son, he's very strong too, very strong…She is strong too, but that day we didn't mention to her, it runs in the family I tell you the truth. We accept the life as it is.
> I accepted it, that whatever God has planned in your life, accept it, you can't change it, nobody can change it. So that acceptance is the biggest thing in your life. Even he went, I accepted that he's gone, I can't do anything, I can cry, I can tell people, I can make them worried about it, I can do a lot of things, I can make their relatives feel bad that I don't have money or he didn't do this, no, it's nobody's fault (F, 79).

The same participant expressed that she was "very contented with [her] life…" (F, 79) after the loss of her spouse and expressed how her views on having a positive outlook has helped her cope with major challenges she faced both prior to and after the loss of her spouse:

> A positive attitude can change your life… So that's what my philosophy of life is, and that's what's keeping me alive…Before that too I was a very strong person…First thing, believe in God. Second thing, you be positive. You make life the better, not the worse. You have to change your attitude, your life, your philosophy of life. Philosophy is the best thing. You are born in this place to give happiness to other people, not to make their life hell, you can write that line. You're born to give happiness to other people (F, 79).

These commentaries illustrate the significant impact personal philosophies have had in shaping how participants coped with the challenges of losing their spouse. Interestingly, the philosophies discussed by participants intersected quite a bit, such as faith and positive attitude.

Summary of Qualitative Findings

The findings from the qualitative analyses highlight the unique subjectivities and complexities in participants' experiences on widowhood. While a few participants expressed how they have adjusted or coped well after the loss of their spouse, the vast majority conveyed how they have in the past or are still currently experiencing difficulties in being able to adjust after losing their spouse. Commonly cited reasons included: mental health and physical health challenges as well as changes in relationships with family and friends. In addition, a variety of unique strategies for coping with widowhood have been described by participants, such as the social support of family and friends, accessing bereavement counseling, engagement in various interests and hobbies, and adhering to philosophies that include faith or spirituality, acceptance, contentment and positivity. Other themes that were not included, as they were outside the scope of the research, were smaller themes related to important events and memories, insights, the

nature of the spouse's loss, safety and security, challenges of dealing with a spouse's illness, coping with a spouse's loss using avoidance, the use of physical activity, alternative strategies to cope with bereavement, independence and personality types in helping one cope and lastly, indifference to others opinions.

It was evident from participant accounts that while many commented on feeling isolated after the loss of their spouse, this was ameliorated by the availability and growth of ones' social support networks such as family, friends and other networks. This observation coincides with the findings from the quantitative analyses, supporting the final hypothesis of this research that social support would buffer the association between poor mental health and loneliness.

Poor mental health outcomes and loneliness were concurrently associated in many participants' cases, making it difficult to ascertain whether the onset of poor mental health occurred prior to or after experiencing loneliness. Furthermore, due to the unequal gender representation in the sample (the majority being female participants) and the subjectivity and complexity of each participants experiences, the associations between poor mental health, loneliness as well as gender, cannot be inferred. Hence, the qualitative findings do not support the first, second and third hypotheses of this study as thus far established. The quantitative and qualitative findings have shown areas where results from both studies have converged as well as areas where results have diverged. This is described in detail in the following section on the triangulation of findings.

Triangulation of Findings

Table 5 Triangulation of Findings

Areas of Convergence	Areas of Divergence
Social support buffering association between mental health and loneliness	Association between mental health and loneliness
	Association between mental health and gender
	Gender interaction effect

The findings from the quantitative and qualitative studies have been triangulated as illustrated in Table 1.6 above, with the areas of convergence and divergence highlighted. Social support's role in buffering the association between poor mental health and loneliness emerged as the only prominent finding in both the quantitative and qualitative studies.

Interestingly, the results from the quantitative and qualitative studies diverged in three major areas as shown in the table. The results from the quantitative study support an association between positive perceived mental health and low levels of loneliness, however do not support the hypothesis of the association between poor mental health and loneliness. The qualitative findings show that poor mental health and loneliness were reported concurrently by participants for the most part, and hence the association between perceived mental health and loneliness cannot be inferred in the qualitative study; resulting in divergence.

The association between mental health and gender resulted in the second area of divergence for both the quantitative and qualitative studies. The quantitative findings revealed that among widowed women, there were inverse weak relationships between perceived mental health and loneliness. The qualitative findings cannot confirm a mental health and gender association on the other hand, as there was a limited sample of male participants in the study.

Lastly, a gender and mental health interaction emerged as another area of divergence for both studies. The quantitative analyses did support a gender interaction effect. The findings suggested that high levels of positive perceived health and subsequently, lower levels of loneliness was found among widowed older women. Taking into consideration the small sample of older widowed men that were interviewed, it would not be possible to infer any associations in regards to gender in the qualitative study, however. These areas are elaborated further in the next section on discussion.

Chapter 4

Discussion

This research study closely examined the association between poor mental health and loneliness among widowed older women and men, taking into account differences in gender and social support. Four hypotheses were developed and tested using a quantitative and qualitative mixed methods approach. The rationale for exploring the association between poor mental health and loneliness can be drawn to the scarcity of literature exploring the association between poor mental health and loneliness (De Koning, Stathi, & Richards, 2017). Furthermore, the role of social support as a mediator between loneliness and poor mental health has been studied previously (Liu et al., 2016). However, literature exploring the mediating effect of social support on poor mental health and loneliness is yet to surface. This serves the study's rationale to further explore social support's role in mediating the association between poor mental health and loneliness. This chapter will describe the integrated findings from the quantitative and qualitative studies, followed by theoretical and empirical implications of the research, limitations, areas of exploration for future work and suggested interventions. Finally, the summary will reiterate the major findings and implications from the study.

Integrated Findings

Overall Summary

Both quantitative and qualitative findings reveal that social support buffers or mediates the association between poor mental health outcomes and loneliness in the sample of widowed older adults, supporting the final hypothesis of this research. While a buffering effect did not occur when the OLS regressions were conducted using a multiplicative interaction term, it did materialize when separate sub analyses on gender were conducted. The qualitative analyses revealed that social support of family and friends had significantly ameliorated negative outcomes of widowhood that participants faced such as social isolation and poor mental health challenges. The other hypotheses were either not fully supported or partially supported by both quantitative and qualitative findings, and are discussed below.

Mental Health and Loneliness

It was hypothesized that there would be a positive association between poor mental health and loneliness among widowed older adults in the study. The quantitative findings revealed inverse weak relationships between perceived mental health and loneliness when the OLS was conducted using the multiplicative interaction term and the separate sub analyses for women. This finding suggests that widowed older adults with higher levels of positive perceived mental health are found to have lower levels of loneliness. Hence, the quantitative analyses support an association between positive perceived mental health and low levels of loneliness, however, do not support the hypothesis of there being an association between poor mental health and loneliness. In the interviews, since poor mental health and loneliness were reported concurrently by participants, the association between poor mental health and loneliness cannot be inferred in the qualitative analyses. Taking these findings into consideration, our first hypothesis is partially supported at least by the quantitative analyses.

Mental Health and Gender

It was also hypothesized that older widowed men will experience greater levels of poor mental health than widowed women in the study sample. The quantitative findings revealed inverse weak relationships between perceived mental health and loneliness that was pronounced among the sample of women; again partially supporting this hypothesis. The qualitative findings on the other hand, cannot confirm this hypothesis since there were only three widowed older male participants.

Gender and Mental Health Interaction

It was next hypothesized that there will be a gender and mental health interaction on loneliness, such that widowed men with greater levels of poor mental health will experience higher levels of loneliness than their female counterparts. A gender interaction effect was supported by the quantitative analyses. An inverse moderate association between the interaction term (mental health and gender) and loneliness was found among widowed older women; suggesting that widowed older women who report high levels of positive perceived mental health status experience lower levels of loneliness, compared to their gender counterparts. It is not possible to similarly infer an interaction effect in the qualitative analyses, owing in large part to the unequal gender representation of participants (majority of the participants being women). However, it

appears from the findings that the majority of female participants commented on maintaining a positive mental health and generally low levels of loneliness, largely as a result of engaging in various coping strategies. In light of this observation, more male participants would be needed to infer any gender interaction effects in the qualitative study.

Social Support as a Buffer

Finally, it was hypothesized that social support would buffer the association between poor mental health and loneliness among the widowed. This final hypothesis was supported by both the quantitative and qualitative analyses. In the quantitative findings, a buffering effect was not found when the OLS was conducted using a multiplicative interaction term, however a buffering effect was found in the separate sub analyses on gender when the percentage comparisons resulting from the differences in the beta coefficients amounted to a percentage greater than 20% (our arbitrary criterion), implying a buffering effect. In the qualitative analyses, participants narratives revealed the importance of social support in significantly reducing poor mental health outcomes, loneliness and other similar challenges faced after losing a spouse. Although the number of women participants outnumbered men, making it difficult to draw conclusions about the association between gender and social support, it was nevertheless evident that social support played a significant role in helping both female and male participants cope after the loss of their spouse.

Study Implications

This study provides highly novel mixed-methods data and presents some important conceptual ideas and implications for the theoretical and empirical literature. These implications specific to the life course perspective, mediating effects of social support, and the gendered effects of widowhood are discussed below.

Life Course Perspective

In line with the life course perspective which posits that events and situations early in life have an impact on later life events (Dahlberg et al., 2018; Elder et al., 2003), the circumstances and transitions dealt with earlier in life can shape how older adults cope with adverse life events such as widowhood in later life. Participants' narratives on their widowhood experiences shed further light on the impact of one's life course in coping with the loss of their spouse. For instance, it was noted that participants who expressed having endured challenging transitions in early life, such as facing financial challenges or becoming married at an early age, conveyed that they were better adjusted to adverse events associated with widowhood in late life. In connection with this point, participants who conveyed having strong personalities from an early age, such as in the case of two female participants, expressed having coped with the loss of their spouse quite well in comparison to their widowed counterparts. The transitions and personalities that participants had built up over the life course, therefore, had often determined how they coped with a significant adverse event such as widowhood.

In some instances, it was noted that participants who reported facing an expected loss of their spouse, expressed feeling better adjusted to their spouse's loss in contrast to participants who reported facing an unexpected or sudden loss of their spouse. The latter group of participants noted that they were still facing major challenges in adjusting to the loss of their spouse as the nature of their spouse's loss left them feeling quite unprepared and uncertain as to how they should cope with the loss of their spouse. Therefore, the nature and timing of a spouse's loss appears to have a strong impact on how one copes with bereavement. All in all, these findings demonstrate that one's life course is instrumental in understanding their resiliency to adverse life events such as widowhood particularly in late life (Wister et al., 2016).

Mediating Effects of Social Support

The role of social support as a mediating factor in reducing mental health problems and depression among widowed older adults, and thus the effect of mental health/depression on loneliness, has been well documented (Dahlberg et al., 2015; Jeon et al., 2013; Litwin & Shiovitz-Ezra, 2011; Park, Jang, Lee, Haley, & Chiriboga, 2013; Poulin, Deng, Ingersoll, Witt, & Swain, 2012; Utz et al., 2014; Victor & Yang, 2012; Zebhauser et al., 2014; Zhang & Li, 2011). Widowed older adults in particular may benefit from their social support networks, such as their families and friends, since the loss of a spouse can pose a serious crisis resulting in depression, and even truncate their social network (Bisconti, Bergeman, & Boker, 2006; Panagiotopoulos, Walker, & Luszcz, 2013). This finding is supported by Jeon et al., 2013, and Litwin & Shiovitz-Ezra, 2011, who found that the quality of relationships between widowed adults and their adult children mediated the negative effects of depression.

The findings from this current study have overwhelmingly demonstrated how one's social support networks significantly ameliorates negative outcomes of widowhood such as mental health and depression, loneliness and even suicidal ideation, as in the case of the majority of widowed older adult participants. Although the qualitative study was unable to specifically focus on the associations between one's gender and the social support received in widowhood, it would be worthwhile to examine these possible associations with a more equal gender representation in future studies.

Gendered Effects of Widowhood

The findings from this study only lend modest support to gender differences in widowhood, owing in large part to the unequal gender representation of participants in the study. However, it nevertheless sheds some light on how some of the specific challenges of widowhood may have affected older women. The most striking challenge discussed by participants in this regard was assuming or adopting the roles of deceased partners. This challenge is often echoed in both feminist and masculinity discourses (Bennett, Hughes, & Smith, 2003; Blieszner, 1993). Several participants mentioned the difficulties in having to adjust to roles and responsibilities their spouses would normally assume such as managing finances and administration, particularly among the female participants:

> Yeah. It definitely hit me hard. I think for me, the – I became easily overwhelmed with all the administration, like my husband was the administrator. He did all the

> finances, he did all the relationship things with our mission board, he paid all the bills, and the home, running the home in terms of keeping track of the bills and the electronics. And yeah that never was my interest. My interest was people (F, 82).

Furthermore, challenges in assuming the roles of a deceased partner had become more apparent when there appeared to be a gendered division of roles and responsibilities such as was in the case of this female participant:

> Like I don't know, like it's kind of an old-fashioned thing how like you're the little woman and kind of thing like [my husband] wouldn't accept me to do anything. I mean, I never did any, it was really a disadvantage, I had never done anything around the house because he did it all. Well, then you don't know how to do it really truly, at that age you don't really want to learn how to do anything, so of course when my son passed away then I had to pay people to kind of look after my yard and do all this stuff…(F, 78).

These findings reveal that widowed older adults, particularly women who were used to not assuming the roles and responsibilities of their spouse in their marriage, faced greater hurdles in having to adjust or adapt to their deceased partner's responsibilities after the loss of their spouse. While this challenge did not resonate with any of the male participants, there was already very few male participants in the study to begin with. More widowed male participants would be needed in the study to allow us to correctly infer these gender differences with respect to widowhood.

Limitations

There are several shortcomings in the literature that must be addressed on this topic. First and foremost, the CCHS-HA data is a cross sectional data, and therefore we can only determine issues of causation and temporality. In addition, this data was collected in 2008-2009. It was used due to the depth of information specific to older adults. We do not expect that the associations examined in this thesis would have changed substantially between those dates and today. Moreover, since this is an older CCHS survey, it does not include older adults from the LGBTQ + A population. Hence, the data set assumes gender as a binary without taking into consideration individuals who identify as members of the LGBTQ + A community. Taking this factor into consideration, participants were not required to mention their sexual orientation in the interviews and were told that they can mention their sexual orientation only if they were

comfortable doing so. Therefore, sexual orientation was not taken into consideration in either the quantitative or qualitative analyses.

Moreover, while a gender interaction effect was observed in the quantitative findings, this interaction cannot be inferred in the qualitative findings. The lack of representation of men in the qualitative sample limits our ability to conclusively infer a strong association between gender and mental health in the qualitative findings. Also, since the experiences shared by participants are highly subjective, complex and constructed, if we closely follow the principles of interpretive description, we need to acknowledge the subjective and constructed experiences of participants in research (Thorne, Kirkham, & MacDonald-Emes, 1997).

Future Research

The research findings on poor mental health outcomes and loneliness among widowed older women and men has shed some light on several areas of exploration for future research. The qualitative findings have highlighted the important role of faith or spirituality in helping many participants cope with the loss of their spouse. Participants have expressed the important role of faith in their lives through philosophies they closely adhere to, vising places of worship, and in seeking help through counseling support. This observation can be supported with findings from earlier research on the role of spirituality in fostering resilience in helping older adults positively cope with the loss of their spouse (Michael, Crowther, Schmid, & Allen, 2003; Damianakis & Marziali, 2012). While some studies have explored the possible benefits of spiritual practices in helping older widowed adults adjust to the loss of their spouse, it would be beneficial to further examine whether specific spiritual practices yield more positive adjustment for widowed older adults as well as examine gender differences in regards to engagement in spiritual practices to cope with the loss of a spouse. As the current study did not focus on the role of spiritual practices in helping one cope with the loss of a spouse and consisted of mainly female participants, it was not entirely possible to take these gender differences into account.

Variations on the widowhood experience among women and men is another area of gerontological research that's gradually emerging and can be further explored to determine how different cohorts of men and women cope to widowhood. In a study by Bennett, 2007, it was revealed that some widowed men were able to openly express their emotions of the impact of bereavement when being interviewed, whereas others preferred not to express their feelings publicly (Bennett, 2007). Similarly, Bennett et al., 2005, discovered that widowers expressed feeling depressed when they were interviewed for prolonged durations on their emotional responses following the loss of their spouse. The male participants in these studies were classified into two categories: those who are able to express grief publicly following the loss of their spouse, and those who perceived grief as an emotion to be expressed only in private domains; thereby confirming to the ideals of hegemonic masculinity by not expressing their emotions publicly (Bennett, 2007). These findings demonstrate that the experiences of widowhood are quite variable across groups of older men. Since research on widowhood in late life is gradually beginning to explore the variation of bereavement experiences among women and men, this emerging research has increased the complexity of the

relationship between gender and widowhood (Martin-Matthews, 2011). It is quite possible that the narratives of widowhood described by widows and widowers of future cohorts may shift with the current landscape of social norms and values espoused by young and middle-aged adults. Hence, this calls for greater exploration on how different cohorts of women and men adapt and cope to widowhood, also termed as resiliency (Wister et al., 2018).

In consideration of the limitations already discussed in this study, perhaps it would be worthwhile to explore more longitudinal data that interview participants over a period of time to assess any variations in participants' responses. Data such as the Canadian Longitudinal Study on Aging (CLSA), can be used to explore the direction and changes in levels of perceived mental health and loneliness, given that our findings were not definitive.

Finally, this study did not focus on widowed older adults of different ethnicities and cultures, yet it may be useful to explore how one's cultural or ethnic background helps in shaping how they cope with bereavement and the types of support, if any, they receive to help them cope. It is also noteworthy to mention that several participants of different ethnic backgrounds in this study appeared to express feeling stigmatized when discussing mental health challenges. This was also articulated when asked about whether they accessed bereavement services to help them cope with the loss of their spouse. It may therefore be useful for future studies to focus more on one's cultural or ethnic background in shaping their beliefs and perceptions in regard to coping with bereavement and receiving support to cope with their loss.

Interventions

While interventions for widowed older adults was not actively addressed in the study, interviews with participants revealed the increasing use of accessing bereavement counseling services to cope with the loss of their spouse. Many participants expressed accessing bereavement services at least once after the loss of their spouse to help them cope. While outside of the scope of the current study, it would nevertheless be worthwhile for future studies to look into expanding bereavement services for widowed older adults by perhaps offering a variety of services in different settings to accommodate the needs and interests of widowed older adults.

Furthermore, it might be worthwhile expanding intergenerational programs for widowed older adults to combat challenges that they face, such as loneliness and social isolation. The mental health benefits of intergenerational programming for older adults, particularly a reduction in loneliness, have been cited in recent literature (Murayama, et al.,2015; Weng, 2019). Many widowed older adult participants in this study have expressed how their connections with their grandchildren have significantly helped them cope with the loss of their spouse and provided them with meaning and satisfaction. From these findings, it can be anticipated that widowed older adults would potentially derive satisfaction from participating and engaging with younger generations in these programs, and likely experience a reduction in social isolation and loneliness. Intergenerational programs can therefore, enhance older adults' resiliency to widowhood by providing them meaningful connections.

Summary

To summarize, this research has captured the importance of social support in buffering the negative effects of poor mental health and loneliness among widowed older adults. In addition, the study has appropriately captured the nuances regarding the associations between mental health, loneliness and gender in our sample, in spite of several shortcomings in the literature. These nuances are further addressed on the implications of the study specific to the life course perspective, mediating effects of social support, and the gendered effects of widowhood. The study has raised several areas of future exploration. These entail spirituality in helping widowed older adults adjust to the loss of a spouse, variations of the widowhood experience among women

and men, exploration of longitudinal studies to better assess the directionality of mental health and loneliness and determine variations of participants' responses over time, and lastly, focusing on the ethnic backgrounds of widowed older adults in understanding resilience and coping strategies. Finally, the expansion of interventions, such as bereavement services and intergenerational programs for widowed older adults, is recommended.

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Appendix A: Codebook

Nodes

Name	Description	Files	References
'Home' symbolic of spouse's memories	Referring to the home as symbolic of the memories of one's spouse	1	1
Ambitions	Referring to participants' ambitions regarding marriage and career decisions of one's spouse	1	1
Appreciation for spouse	Referring to expressing gratitude or appreciation for one's spouse	1	2
Being indifferent to others opinions	Referring to indifference to others' opinions regarding matters such as decision making and the choice of activities one engages in as an older adult	3	16
Challenges of dealing with spouse's illness	Referring to challenges participants experienced as they were caregiving for their spouse when they were ill	2	5
Challenges associated with dementia	Referring to various challenges participants expressed regarding their spouse's dementia diagnosis	2	5
Challenges of caregiving	Referring to various challenges associated with caregiving for a spouse with dementia	2	4
Fear of dementia	Participants expressing a fear of developing dementia	2	2
Loss of identity	Participants referring to the loss of identity of their spouse due to dementia	1	7
Connections	Participants referring to their spouse being connected to nature and their motherland	0	0
Connecting with nature	Participants referring to their spouse and family's connectedness with the nature prior to and after the loss of their spouse	1	3
Connecting with the motherland	Participants referring to their spouse's connectedness with their motherland prior to and after the	1	1

Name	Description	Files	References
	loss of their spouse		
Continuous Learning	Participants referring to the role of continuous learning or education in their lives	1	9
Demographics	Referring to the various demographical aspects of participants such as the participants' age, ethnicities, education levels, length of stay in Canada and their current household status	20	81
Duration of widowhood	Referring to participants' duration of widowhood	20	22
Length of marriage	Referring to participants' length of marriage	19	23
Living Arrangement	Referring to participants' living arrangement prior to and after the loss of their spouse	20	82
Attraction of neighborhood	Participants referring to the attraction of the neighborhood as a decided factor for their living arrangement	1	3
Important events and memories	Participants referring to important events and memories both prior to and after the loss of their spouse	2	3
Engagement in activities prior to loss of spouse	Participants reminiscing their engagement in activities prior to the loss of their spouse	1	2
Memories of family	Participants sharing memories of their family	14	50
Loss of family members	Participants sharing memories of the loss of their family members	3	5
Memories of settling to a new country	Participants sharing memories of settling to Canada with their spouse and families	7	22
Memories of spouse	Participants sharing numerous memories of their spouse prior to widowhood	17	55
Happy married life	Participants sharing of having a happily married life with their spouse prior to widowhood	8	9

Name	Description	Files	References
Memories of meeting spouse	Participants sharing memories of meeting their spouse	19	56
Traveling with spouse	Participants sharing memories of traveling with their spouse	9	25
Memories of work	Participants sharing memories of their occupation	11	45
Insights	Participants sharing their insights on a variety of topics	0	0
Advice	Participants sharing their insights on giving advice to others	2	7
Aging	Participants sharing their insights on aging-particularly the stereotypes and realities of aging and older adults	3	30
Being involved or engaged	Participants sharing their insights on older adults being involved or engaged in activities	1	2
Children	Participants sharing their insights on handling children	1	5
Differences in experiences of grief	Participants sharing their insights on the differences in coping with grief	2	2
Effect of spouse's health	Participants sharing their insights on the effect of the spouse’s health on a couple	1	1
Employment	Participants sharing their insights on employment	1	7
Expectations of widows in different cultures	Participants sharing their insights on the expectations of widows in different cultures	1	1
Gender differences in widowhood	Participants sharing their insights on the differences in how women and men cope with widowhood	1	4
Gender roles and norms	Participants sharing their insights on gender roles and norms as a result of cultural and generational differences	2	3
Giving up transitions	Participants sharing their insights on renouncing life transitions from becoming married to having children and then becoming empty nests	1	1

Name	Description	Files	References
Loneliness	Participants sharing their insights on loneliness among older adults and ways of combatting loneliness	2	2
Peaceful environment	Participants sharing their insights on the positive impact on having a peaceful environment	1	9
Positivity	Participants sharing their insights on having a generally positive outlook	1	2
Remarriage	Participants sharing their insights on remarriage either through personal experience or from their observations	3	4
Social connections	Participants sharing their insights on building and maintaining social connections	1	1
Stigma of depression	Participants sharing their insights on the stigma of depression	1	1
Survival	Participants sharing their insights on surviving against all odds	1	1
Taking control of one's life	Participants sharing their personal experiences on taking control of their life in regards to gender expectations	1	1
Uncertainty of what lies ahead	Participants sharing their insights and personal experiences on the uncertainties of life becoming more apparent after the loss of their spouse	2	11
Preparing for end of life	Participants sharing their insights and personal experiences on preparing for the remaining years of their life	1	4
Worrying	Participants sharing their insights and personal experiences on worrying	1	4
You have to go through it to experience it	Participants referring to their own insights and personal experiences of going through circumstances such as widowhood in order to experience them	3	5
Younger generation	Participants sharing their insights and personal experiences on the	1	4

Name	Description	Files	References
	younger generation		
Nature of spouse's loss	Participants making various references to the nature of their spouse's loss	9	47
Anticipatory bereavement	Participants making references to anticipating the loss of their spouse	3	3
Alleviating grief associated with loss of spouse	Participants making references to anticipating the loss of their spouse helping to alleviate grief associated with the loss of their spouse	3	7
Appreciation regarding care of spouse	Participants making references to expressing appreciation regarding the care of their spouse prior to their loss	1	2
Conveying feelings to spouse	Participants suggesting that anticipating the loss of their spouse allows them to convey feelings to their spouse	1	1
Feeling relieved of time given with spouse	Participants suggesting feeling relieved of the time given with their spouse prior to their loss	1	2
Positive environment of hospice	Participants referring to the impact of the positive environment of the hospice prior to and after the loss of their spouse	1	1
Preparing for loss of spouse	Participants referring to preparing themselves and their families for the passing away of their spouse	1	3
Spouse's disability hindering normalcy of marriage	Participants referring to the spouse's illness/disability possibly causing a hindrance in being able "to do all the things that a normal married couple could do" prior to their loss	1	1
Uncertainty of spouse's life expectancy	Participants referring to feeling uncertain of their spouse's life expectancy in the course of their prolonged illness	1	1
Unprepared for inevitability of spouse's loss	Participants referring to feeling unprepared for the inevitability of their spouse's loss in spite of knowing that the end is coming	1	3

Name	Description	Files	References
Viewing spouse's illness positively	Participants referring to viewing their spouse's illness in a positive light	1	1
Suddenness of loss of spouse	Participants referring to the sudden loss of their spouse and feeling shocked at the sudden loss	5	9
Easier adjustment	Participants referring to being able to adjust better with the sudden loss of their spouse	1	1
Personality types	Participants referring to their personality types which they have maintained after the loss of their spouse	3	5
Mistrusting others	Participants referring to mistrusting others particularly in regards to pursuing relationships, as a result of personal circumstances	1	5
Personality types helping to cope with bereavement	Participants referring to their personality types in helping to cope with bereavement	5	13
Safety or security	Participants making various references to feeling or a lack of feeling safe or secure in regards to living alone as an older adult	5	25
Widowhood adjustment	Participants making references to their adjustment to widowhood, including major challenges or changes they noticed and strategies they use to cope with widowhood	0	0
Adjusting or coping well with bereavement	Participants making references to adjusting or coping well with bereavement	12	40
Changes noticed after loss of spouse	Participants making references to the various changes they noticed after the loss of their spouse	0	0
Assuming or adopting roles of deceased partners	Participants referring to assuming or adopting the roles of their deceased partners as a challenge they experienced after the loss of their spouse	6	11
Change of identity	Participants referring to a change or loss of identity after the loss of	2	2

Name	Description	Files	References
	their spouse		
Changes in behaviour	Participants referring to extreme changes in their behavior after the loss of their spouse	1	1
Changes in relationships	Participants referring to changes in their relationships with family and/or friends after the loss of their spouse	0	0
Being excluded by friends	Participants referring to being excluded or forgotten by friends after the loss of their spouse	2	3
Being included by friends	Participants referring to being included by their circle of friends even after the loss of their spouse	1	3
Challenges in maintaining friendships	Participants referring to experiencing challenges in maintaining their friendships due to aging and the development of illnesses	1	1
Change in family dynamics	Participants referring to a change in their family dynamics after the loss of their spouse	3	8
Family having their own lives	Participants referring to their family members having their own lives after the loss of their spouse	2	4
Feeling like an outsider	Participants referring to feeling like an outsider by their acquaintances due to their widowed status	2	2
Gaining more friends	Participants referring to gaining more friends or social connections after the passing away of their spouse	1	1
No change in relationships	Participants making references to experiencing no change in their relationships after the loss of their spouse	3	3
Concern about survival	Participants referring to feeling concerned or afraid about their survival after the loss of their spouse	1	2
Difficulties in performing routinal tasks	Participants referring to experiencing difficulties in performing routinal day to day	3	5

Name	Description	Files	References
	tasks after the loss of their spouse		
Feeling overwhelmed	Participants referring to feeling overwhelmed with the loss of their spouse coupled with other emotional challenges	2	3
Financial management	Participants referring to challenges in managing finances after the loss of their spouse	4	7
Impact on children	Participants referring to the negative impact of their spouse's loss on their children	1	4
Lack of desire to engage in activities	Participants referring to the lack desire to engage in activities and celebrate festivities after the loss of their spouse	1	3
Loss of purpose	Participants referring to experiencing a loss of purpose after the loss of their spouse	1	1
Mental health challenges	Participants making references to various mental health challenges experienced after the loss of their spouse	0	0
Depression	Participants making references to experiencing depression after the loss of their spouse	2	7
Suicidal tendencies	Participants making references to experiencing suicidal tendencies after the loss of their spouse	2	3
Experiencing many emotions	Participants making references to experiencing many emotions, or having experienced everything that bereaved individuals go through	1	4
Feeling bereft	Participants referring to feeling bereft after the loss of their spouse	2	2
Feelings of loneliness or isolation	Participants referring to experiencing feelings of loneliness or isolation after the loss of their spouse	13	32
Feelings of remorse	Participants referring to feeling remorseful after the loss of their spouse, particularly in regards to the amount of time spent with their spouse prior to their loss	2	2

Name	Description	Files	References
Fluctuation of feelings	Participants referring to experiencing a fluctuation of feelings after the loss of their spouse	2	2
General grief	Participants referring to experiencing feelings of grief after the loss of their spouse	8	15
Inability to convey feelings to others	Participants referring to being unable to convey their feelings to others after the loss of their spouse	3	4
Losing a companion	Participants referring to the loss of their spouse as losing a companion	4	6
Missing presence of spouse	Participants referring to missing the presence of their spouse after the loss of their spouse	4	10
One half is there	Participants referring to the loss of their spouse as half of themselves that are remaining and the other half is gone	3	4
Post-traumatic stress disorder	Participants referring to experiencing post-traumatic stress disorder after the loss of their spouse	1	1
Sense of emptiness	Participants referring to feelings a sense of emptiness after the loss of their spouse	2	3
Minimal social life	Participants referring to experiencing a decline in social life after the loss of their spouse	1	3
More leisure time	Participants referring to having more leisure time after the loss of their spouse	1	1
Overall difficult transition	Referring to experiencing an overall difficult transition after the loss of their spouse	1	1
Difficulties adjusting to special occasions	Participants referring to experiencing difficulties adjusting to special occasions and holidays after the loss of their spouse	1	1
Physical health challenges	Participants referring to experiencing physical health challenges after the loss of their spouse	11	37

Name	Description	Files	References
Acting as diversion from widowhood	Participants suggesting that their physical health challenges diverted them from thinking majorly about their widowed status	1	1
Changes in appetite	Participants suggesting changes in their appetite occurring after the loss of their spouse, particularly having minimal appetite and a lack of availability of preferred food choices	5	6
Difficulties sleeping	Participants suggesting challenges in sleeping after the loss of their spouse	1	2
Drinking	Participants suggesting drinking excessive alcohol after the loss of their spouse	1	1
No physical health changes	Participants suggesting no changes occurring in their physical health	1	1
Strategies of coping or adjusting to loss of spouse	Participants making references to various strategies that they have used and are using to cope with the loss of their spouse	0	0
Accessing bereavement counseling to help cope	Participants referring to accessing bereavement counseling via a hospice or other service (e.g. Grief Share offered by the church) to help with coping	10	16
Counseling topics discussed	Participants referring to different topics discussed in their counseling program or service such as surviving without the presence of one's spouse	5	9
Duration & frequency of accessing service	Participants referring to the duration and frequency of accessing counseling services after the loss of their spouse	7	12
Format of counseling service	Participants referring to the format of the counseling services they accessed	7	17
Lack of awareness of bereavement counseling	Participants suggesting their lack of awareness of bereavement counseling services after the loss of their spouse	2	3

Name	Description	Files	References
Providers of counseling services	Participants referring to the providers of the counseling services they accessed after the loss of their spouse	1	4
Recommending bereavement counseling	Participants suggesting they recommend bereavement counseling to others	5	5
Recommending others to seek help faster	Participants suggesting others to seek bereavement counseling as soon they are able to	1	1
Referral of bereavement service	Participants making references to individuals or services who have referred them the bereavement services they accessed	6	8
Resources provided by counseling service	Participants referring to resources provided by the counseling services they accessed	1	3
Role of bereavement counseling in helping to cope	Participants discussing the role of the bereavement counseling services in helping them cope with widowhood	0	0
Bereavement counseling not beneficial	Participants suggesting that they did not find bereavement counseling services beneficial for them primarily due to the format and content of the sessions	1	2
Already aware of information	Participants suggesting they were already aware of the information being presented at the counseling service	1	3
Not used to seeking advice	Participants suggesting not finding the counseling service beneficial as they are not used to seeking advice from others	1	1
Bolstering faith	Participants suggesting that the counseling service has helped in bolstering their faith	1	3
Increased sense of resiliency	Participants suggesting that the counseling service has helped in increasing their sense of resiliency	1	15
Making connections with others	Participants suggesting that the counseling service has helped them in making connections with	2	4

Name	Description	Files	References
	others who accessed the service		
Providing guidance	Participants suggesting that the counseling service has helped in providing them guidance on how to cope with the loss of their spouse	1	9
Reducing feelings of sadness	Participants suggesting that the counseling service has helped in reducing feelings of sadness after the loss of their spouse	1	1
Satisfaction with counseling service	Participants suggesting the counseling services they accessed was useful and helpful for them	4	4
Support provided by bereavement counseling	Participants referring to support provided to them by the counseling services they accessed prior to the loss of their spouse	1	2
Surrounded by others with similar experiences	Participants suggesting that being surrounded by others with similar experiences during bereavement counseling was helpful in their coping process	1	2
Types of counseling service	Participants referring to the types of counseling services they accessed	2	6
Talking and sharing	Participants referring to individuals talking about and sharing their experiences with one another in the counseling service and about different topics on grief	3	9
Uncertainty about accessing counseling	Participants referring to feeling uncertain about accessing counseling	1	2
Acknowledgment of Resiliency	Participants suggesting that acknowledging their personal journey of resiliency as a helpful coping strategy	1	2
Alternative strategies used to cope with bereavement	Participants suggesting alternative strategies they use to cope with bereavement	1	1
Acupuncture for grief	Participants suggesting using acupuncture for grief to help them cope	2	5

Name	Description	Files	References
Fortunetelling	Participants suggesting the use of fortunetelling to help cope with bereavement	1	2
Homeopathy	Participants suggesting using homeopathy to help cope with bereavement	1	1
Jungian analysis	Participants suggesting the use of Jungian analysis to help cope with bereavement	1	1
Meditation and yoga	Participants suggesting the practices of meditation and yoga to help with coping	1	5
Artifacts of spouse to help cope or adjust	Participants suggesting going through physical artifacts of their spouse to help in coping	2	6
Avoidance strategy	Participants making suggestions on avoiding thinking about the loss of their spouse in order to confront situations that they are currently dealing with Quote: “Deal with what's in front of you not what you can't control	1	14
Avoiding relationships	Participants making suggestions on avoiding relationships to avoid having to experience the loss of a spouse	1	7
Building on your own resources	Participants referring to building on their own resources to help them cope	1	1
Carrying on and being happy	Participants referring to carrying on and being happy by focusing on their own interests and well-being to help them cope	2	3
Combination of strategies helpful in coping	Participants suggesting that a combination of strategies such as yoga and meditation are helpful in coping with bereavement	1	2
Coping on your own	Participants suggesting having coped with bereavement on their own using their personal experiences, profession and belief systems to cope	2	2

Name	Description	Files	References
Deciding against suicide	Participants referring to deciding against committing suicide after the loss of their spouse due to the strong impact it would have on their families	2	2
Do what you want to do	Participants referring to doing activities one enjoys to help cope with bereavement	2	5
Events organized by church	Participants referring to events organized by the church helping to keep widowed older adults connected to other older adults	3	6
Events organized by the residence	Participants referring to events organized by their residences helping to connect them to other residents in their building	3	8
Exploration of coping methods or strategies	Participants suggesting that exploring various coping methods or strategies such as acupuncture and homeopathy as helpful in coping	1	3
Having no choice in adjusting	Participants suggesting ‘having no choice’ in coping with the loss of their spouse	1	1
Independence	Participants suggesting their independent personalities helping them cope	5	14
Interests or hobbies	Participants suggesting their interests and involvement in hobbies to help them cope	1	1
Building connections with friends or Interacting with others	Participants suggesting having an interest in building connections with friends or interacting with others	6	20
Community involvement	Participants suggesting their involvement with the community as helpful in coping	5	16
Contributing to research	Participants suggesting their interest in participating in research studies	1	3
Driving	Participants suggesting driving as a hobby	2	4

Name	Description	Files	References
Music	Participants suggesting music helping them cope with bereavement	1	4
Involvement through church choir	Participants suggesting being involved with music through the church choir	1	3
Listening to music	Participants suggesting listening to music to help cope with bereavement	2	5
Participation in church classes	Participants suggesting participating in church classes to help cope	1	2
Physical activity	Participants suggesting becoming engaged in physical activities to help them cope	4	17
Reading	Participants suggesting reading books to help cope	1	3
Shopping	Participants suggesting engaging in activities such as shopping to help cope	1	1
Swimming	Participants suggesting engaging in activities such as swimming to help cope	1	2
Travelling	Participants suggesting traveling to help cope	5	8
Traveling as a means to divert	Participants suggesting traveling as a means to divert them from reflecting on the loss of their spouse	1	1
Visiting family	Participants suggesting visiting family members as a means to cope	1	3
Visiting places of worship	Participants suggesting visiting places of worship to help them cope	5	7
Volunteering or helping/supporting others	Participants suggesting volunteering or helping/supporting others to help them cope	7	28
Slowing down or ceasing volunteering	Participants suggesting slowing down volunteering activities either due to age or becoming pre-occupied with other engagements	2	4

Name	Description	Files	References
Volunteering at church	Participants suggesting volunteering at church to help them cope	3	11
Volunteering at the hospice	Participants suggesting volunteering at the hospice to help them cope	1	13
Watching television	Participants suggesting watching television as a hobby	1	2
Keeping oneself occupied	Participants suggesting keeping themselves occupied or 'busy' to help them cope	5	11
Living day by day	Participants suggesting living day by day or in the present moment to help them cope	1	1
Maintaining healthy living	Participants suggesting maintaining a healthy lifestyle to help them cope	2	5
Managing finances	Participants suggesting having coped by managing their financial resources	2	7
Motive to get going	Participants suggesting having a motive or reason to get up as a strategy to cope	1	7
Feeling needed	Participants suggesting feeling needed by their families to help cope with bereavement	1	2
Normalizing experiences of loss	Participants referring to individuals normalizing their experiences of loss as a helpful coping strategy	1	4
Personal philosophies	Participants referring to various personal philosophies that have helped in coping after the loss of their spouse	0	0
Acceptance	Participants suggesting that their personal philosophy of accepting situations was helpful in coping with the loss of their spouse	1	18
Contentment	Participants suggesting that their personal philosophy of being content was helpful in coping with the loss of their spouse	1	5
Faith	Participants suggesting that their personal faith has helped them in	5	29

Name	Description	Files	References
	coping with the loss of their spouse		
Positive attitude	Participants suggesting that their positive outlook has helped in coping with the loss of their spouse	1	9
Pets as therapy	Participants making references to the use of pets in helping them and other older adults cope	2	9
Planning daily activities	Participants suggesting planning or structuring daily activities to help them cope	1	4
Pursuing relationships after loss of spouse	Participants suggesting pursuing relationships after the loss of their spouse to help them cope	1	1
Re-inventing myself	Participants referring to re-inventing themselves or starting fresh again to help them successfully cope with bereavement	1	4
Social Support	Participants suggesting the instrumental support of their family and friends in helping them cope with bereavement	0	0
Contact with family and friends	Participants referring to contacting their family and friends	0	0
Contact with family	Participants referring to contact with their family members in helping them cope	19	75
Contact with grandchildren	Participants referring to contact with their grandchildren in helping them cope	8	23
Contact with friends	Participants referring to contact with their friends in helping them cope	14	39
Support of family in helping to cope or adjust	Participants referring to their family's emotional and tangible support in helping them to cope or adjust to the loss of their spouse	15	122
Support of friends in helping to cope or adjust	Participants referring to their friends emotional and tangible support in helping them to cope	20	107
Support of others in helping to cope or adjust	Participants referring to other individuals support in helping them cope such as neighbors	1	2

Name	Description	Files	References
Support provided by spouse	Participants referring to the support provided by their spouse	2	3
Support provided to family and friends	Participants referring to providing support to family and friends	4	11
Strategies family members use for coping	Participants referring to strategies family members use to cope with the loss of their spouse	2	5
Taking control of one's life	Participants referring to taking control of their lives to help cope with bereavement such as engaging in yoga, meditation and physical activity	1	1
Talking about deceased spouse	Participants referring to talking about their deceased spouse in helping to cope with their loss	1	1
Working	Suggestions on the participants occupation giving them an outside interest	2	4
Writing or journaling	Participants suggesting writing or journaling their thoughts as therapeutic or helpful in coping with the loss of their spouse	2	9

Appendix B: Recruitment Poster

DEPARTMENT
OF GERONTOLOGY

PARTICIPANTS NEEDED FOR
RESEARCH ON *Widowhood*

We are looking for volunteers ages 65-85 to take part in a study on mental health and loneliness among widowed older adults.

As a participant in this study, you will be asked to participate in an interview where you will be asked questions on your widowhood experiences.

Your participation is **entirely voluntary** and would take up approximately **1-1.5 hours** of your time. By participating in this study you will help us to better understand the impact of widowhood on the mental health and well-being of widowed adults.

In appreciation for your time, you will receive
a $5 Tim Horton's gift card.

To learn more about this study, or to participate in this study,
please contact:

Principal Investigator:
Bonita Nath
[…]
[…]

This study is supervised by: Dr. Andrew Wister, PhD, Department of Gerontology, Simon Fraser University

Appendix C: Consent Form

DEPARTMENT
OF GERONTOLOGY

Consent Form
Department of Gerontology, Simon Fraser University • Vancouver, B.C

Title of Study: **Mental Health and Perceived Loneliness Among Widowed Older Adults: Exploring the Effects of Gender and Social Support**

Investigators:

Prinicipal Investigator:	Bonita Nath (Student)	**Phone:**	**[…]**	**Email:**	**[…]**
Supervisor:	Andrew Wister, PhD	**Phone:**	**[…]**	**Email:**	**[…]**
Committee member:	Barbara Mitchell PhD	**Phone:**	**[…]**	**Email:**	**[…]**
Committee member:	Atiya Mahmood, PhD	**Phone:**	**[…]**	**Email:**	**[…]**

Introduction

- You are being asked to be in a research study about the impact of widowhood among older adults.
- We ask that you read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of Study

- The purpose of the study is to explore the relationship between poor mental health and loneliness among widowed older people.

Description of the Study Procedures

- If you agree to be in this study, you will be asked to participate in an interview where you will answer a series of questions on your widowhood experiences. The interview would take up approximately **1-1.5 hours** of your time and will be conducted in one sitting or more if needed.

Risks/Discomforts of Being in this Study

- There are minimal to no risks involved in participation in the study. The only minimal risks that may arise from participation in the study are questions that may cause emotional discomfort. In this event, the interviewer will stop interviewing you.

Benefits of Being in the Study

As a token of appreciation, you will be receiving a $5 Tim Horton's gift card.

Confidentiality

- We will not be collecting any information about your identity in the study.
- The records of this study will be kept strictly confidential and will be stored securely in a password-protected file on the primary researcher's computer. Only the investigators stated on this form will have access to your contact information and interview data, for the purposes of the study. Interviews will also be recorded on audio strictly for the purposes of analyzing the study data, and will be accessed by members of the research team. The recordings will be destroyed when the study is completed along with the interview data.

Right to Refuse

The decision to participate in this study is entirely up to you. You may refuse to take part in the study without affecting your relationship with the investigators of this study. Your decision will not result in any loss or benefits to which you are otherwise entitled. You have the right not to answer any single question during the interview. Please be aware though that you will not be able to withdraw from the study once data has been collected from you.

Right to Ask Questions

- You have the right to ask questions about this research study and to have those questions answered by me before, during or after the research. If you have any further questions about the study, at any time feel free to contact me, Bonita at **[…]** or by telephone at **[…]**.

Concerns or Complaints

- If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, you may contact Dr. Jeffrey Toward, Director, Office of Research Ethics at **[…]** or **[…]**.

After the study

- After the study is completed, a report on the findings will be written. Your name will not be disclosed in the report.

Consent

- Your signature below indicates that you have decided to volunteer as a research participant for this study, and that you have read and understood the information provided above. You will be given a signed and dated copy of this form to keep, along with any other printed materials deemed necessary by the study investigators.

Participant's Name (print): _____

Participant's Signature: _____ Date: _____

Investigator's Signature:		Date:	

Appendix D: Interview Guide

Guiding Questions for participants:

General

Demographics

I. Can you please tell me what is your current age?

II. Only if comfortable answering: What is your gender and sexual orientation?

III. Please describe your ethnic identity.

IV. How long have you been in staying in Canada?

V. What is your education level?

VI. How would you describe your current household status?

   a. Do you own a home/rent?

How long were you married?

When did you lose your spouse?

How does it feel to be without him or her in your life?

Prior to widowhood

Living Arrangement:

1) Whereabouts did you live before your spouse passed away?
   a. Were you living in this place when he/she passed away?
      i. Who else lived in this house/apartment?
      ii. How long have you lived here?

2) Can you tell me a little bit about your life before you lost your spouse?
   a. How did you meet your spouse?
      i. I would like to hear about your married life. Can you share some important events and memories with me?

Widowhood experience and adjustment

3) Can you talk about some of the challenges you faced initially when you lost your spouse?
    a. What were some of the major changes you noticed in your day-to-day life?
        i. What were some of the changes in your physical and mental health/well-being?
        ii. Did your relationships with other family members/friends change as a result?
        iii. How did you cope with these challenges/How did you adjust?
            1. How long did it take for you to adjust?

Social Support

Support of family/friends

4) Can you talk about the role of your family and friends in helping you cope?
    a. In what ways did they help in reducing feelings of loneliness, grief after the loss of your spouse?
    b. Can you tell me how they supported you after the loss of your spouse?
        i. What types of support did they provide you with?
        ii. How often are they in contact with you?
            1. Are you in contact with them on a weekly/monthly basis?
            2. Do you have any close family or friends that you regularly stay in touch with (either at this center or outside of this center)?

Role of the bereavement center/counseling service in coping

5) How often do you visit this bereavement center/counseling service?
6) How long have you been visiting this center/counseling service?
7) What kinds of programs/services do you access at this center?
    a. Which of these services do you find most useful/beneficial to you?
8) Were you referred to this center/counseling service by any one?

9) Are there any other centers/counseling services you visit besides this one at the moment?
    a. If so, which ones are they?
10) Can you talk about the role of this center/counseling service in helping you cope?
    a. In which ways did this center help you cope?
        i. What types of support has this center provided you with that helped you cope?